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Danger Ideation Reduction Therapy (DIRT) for treatment-resistant compulsive washing

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Abstract

Five intractable cases of obsessive–compulsive disorder were treated with the Danger Ideation Reduction Therapy (DIRT) program. All five cases: (1) had displayed excessive washing/cleaning behaviour for at least 10 years; (2) had failed to respond to a minimum of two separate, 12-week drug trials with serotonergic agents; (3) failed to respond to at least 15 sessions of exposure and response prevention at the beginning of the present trial, and; (4) satisfied the DSM—IV criteria for OCD with Poor Insight. DIRT was conducted in 14, weekly, individual sessions or until, in the judgement of the treating clinician: (1) clinically significant gains were apparent with minimal symptomatology remaining, and (2) clients displayed a sound grasp of the cognitive model underpinning DIRT procedures. At post-treatment, substantial reductions in scores on the Padua Inventory (PI), Maudsley Obsessional–Compulsive Inventory (MOCI), Beck Depression Inventory—II (BDI—II) and two global rating scales were apparent for four of the five subjects. These improvements were maintained at 4-to-6 month follow-up, with four of the five cases meeting Jacobson and Truax's (1991) criteria for 'recovery' on the MOCI and the PI by this assessment stage. While one subject remained non-responsive, the present findings suggest that DIRT may be a viable option for treatment-resistant cases of compulsive washing. The theoretical implications of the findings are discussed. © 2001 Elsevier Science Ltd. All rights reserved.

Keywords: Obsessive-compulsive disorder; Compulsive washing; Threat-expectancy; Exposure; DIRT

1. DIRT for treatment-resistant compulsive washing

At present, the treatments of choice for obsessive–compulsive disorder (OCD) are serotonin re-uptake inhibiting medications, of which clomipramine remains the most well researched, and

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exposure with response prevention (ERP). Unfortunately, both these treatments have serious shortcomings that limit their therapeutic effectiveness. While drug therapy has generally been considered to be valuable (Abramowitz, 1997), not all studies have reported highly favourable outcomes. The Clomipramine Collaborative Study Group (1991) found that at the end of 10 weeks of clomipramine treatment, 45% of patients did not meet the authors' criterion for clinically significant improvement (i.e. a minimum of 35% symptom reduction). These results appear typical of the pharmacological approach to the treatment of OCD. As Jenike (1990) argues, OCD tends to respond to medication only partially, usually with between 30% and 60% symptom reduction. OCD patients tend to remain chronically symptomatic despite the best pharmacological interventions (White & Cole, 1990) and relapse has often been noted with cessation of treatment (Rasmussen & Eisen, 1997). In addition, between 10% and 20% of patients refuse pharmacotherapy or cease taking medications because of side effects (Rasmussen, Eisen, & Pato, 1993).

Substantial inadequacies in the behavioural treatment of OCD have also been identified. When clients who refuse to commence treatment, or drop-out during treatment, are taken into account, the true 'success' rate of ERP may be as low as 50% (Foa, Steketee, Grayson, & Doppelt, 1983; Keijsers, Hoogduin, & Schaap, 1994). Foa et al. (1983) have suggested that one of the reasons for the high refusal/drop-out rate associated with ERP is the "lack of courage to undergo a stressful treatment" (p. 14). The present authors agree. Given that ERP requires the client to actively seek out and confront the stimuli which provoke high levels of anxiety, a substantial refusal/drop-out rate should not be surprising.

However, even among those who comply with the demands of ERP, a group of sufferers who fail to respond can be identified. This group includes OCD patients who appear to believe that their fears are largely realistic and that the rituals associated with these fears may actually prevent the occurrence of disastrous consequences (Foa et al., 1983). Foa (1979) has labelled these OCD individuals as manifesting 'overvalued ideation'. A number of follow-up studies (Baer, 1993; Bruce & Stevens, 1992; Griest, 1990; Rachman, 1983; Thyer, 1987) have confirmed Foa's (1979) claim that individuals presenting with overvalued ideation will tend to exhibit a poor response to the ERP treatment regime. In order to remedy the failure of ERP with this group of obsessive-compulsives, Foa (1979) has suggested that a more focussed attempt to change beliefs should be made prior to beginning exposure-based treatment.

While serotonergic medication and ERP have dominated the landscape of OCD interventions over the past 30 years, a variety of cognitive procedures has recently been developed. Some of these new treatments have arisen out of demonstrations that biased reasoning styles may account for the variability in OCD symptomatology observed in experimental paradigms in the laboratory. In the case of compulsive washing, for example, Jones and Menzies (1997a, 1998b) have demonstrated that: (1) threat expectancies are highly correlated with anxiety, urge to wash, avoidance behaviour and duration of washing in behavioural avoidance tests; (2) inflated personal responsibility, and other cognitive variables, do not remain significantly correlated with washing phenomena when threat expectancies are held constant in these tasks; (3) instructions designed to increase threat expectancies prior to behavioural avoidance tests typically increase anxiety, urge to wash, avoidance behaviour and duration of washing, and (4) instructions designed to decrease threat expectancies prior to behavioural avoidance tests typically decrease anxiety, urge to wash, avoidance behaviour and duration of washing.

In line with these findings, Jones and Menzies (1997b) developed Danger Ideation Reduction

Therapy (DIRT) to explicitly target threat-related attitudes and beliefs. Components of DIRT include attentional training, filmed corrective interviews, corrective information, cognitive restructuring, expert testimony, microbiological experiments and a probability of catastrophe assessment task (see further Jones & Menzies, 1997b; Jones & Menzies, 1998a), but do not include exposure, response prevention, behavioural experiments or medication. In the first trial of this new approach, three obsessive–compulsive patients received between six and ten, 1-hour, weekly sessions of DIRT (Jones & Menzies, 1997b). Substantial reductions on all outcome measures were experienced by all subjects at post-treatment. Post-treatment scores on the Maudsley Obsessional–Compulsive Inventory (MOCI) (Hodgson & Rachman, 1977) and the Padua Inventory (PI) (Sanavio, 1988) were lower than typical group means for subjects receiving ERP in clinical outcome studies (e.g. Emmelkamp & Beens, 1991) and were similar to scores obtained by ‘normal’ control subjects in several reports (e.g. Sternberger & Burns 1990, 1991). These improvements were maintained at 3 month follow-up in all subjects (Jones & Menzies, 1997b). In a second trial, 21 OCD sufferers with washing/contamination concerns were randomly allocated to either: (1) eight, 1-hour, weekly, group sessions of DIRT, or; (2) a wait-list control condition. As expected, post-treatment reductions in symptom scores were significantly greater in the DIRT condition than in the control condition for all measures (Jones & Menzies, 1998a).

In addition to the therapeutic effectiveness of the DIRT package, this treatment appears to have several potential advantages over the traditional behavioural and pharmacological treatment approaches. First, unlike ERP, DIRT does not require the patient to confront their feared stimuli. Since no exposure is required in any of the DIRT procedures the requisite ‘courage’ to confront aversive stimuli is eliminated. Given the high rates of treatment refusers or drop-outs, this is of considerable benefit. Second, unlike pharmacological treatments, DIRT is not associated with any physical side effects, again eliminating a common cause of treatment refusal/drop-out/failure. Third, it has been hypothesised that DIRT may benefit treatment-resistant cases of OCD with overvalued ideation, since DIRT is designed to specifically target excessive or overvalued beliefs in harm/threat. For this reason, Jones and Menzies (1997b) have hypothesised that DIRT may produce unique benefits for OCD sufferers with Poor Insight.

In sum, it can be argued that DIRT may represent a viable treatment option for intractable cases of compulsive washing. The present study sought to provide an initial examination of this possibility. Five cases of OCD were treated with the DIRT program. All five cases: (1) had displayed excessive washing/cleaning behaviours for at least 10 years; (2) had failed to respond to a minimum of two separate, 12-week drug trials with serotonergic agents; (3) failed to respond to at least 15 sessions of exposure and response prevention at the beginning of the present trial, and (4) satisfied the DSM—IV criterion for OCD with Poor Insight. It was expected that, despite the failure of traditional treatments and the presence of Poor Insight, DIRT would be followed by substantial reductions in scores on the Padua Inventory (PI), Maudsley Obsessional–Compulsive Inventory (MOCI), Beck Depression Inventory—II (BDI—II) and on two global rating scales in all subjects. Moreover, it was hypothesised that, following DIRT, subjects would meet Jacobson and Truax’s (1991) two-fold criteria for recovery. That is, post-DIRT and follow-up scores on the PI, MOCI and BDI—II would: (1) be statistically reliably lower than pre-DIRT scores; (2) suggest that the subjects were statistically more likely to be in the functional (i.e. normal) population than in the dysfunctional (i.e. OCD) population.

2. Method

2.1. Subjects

Five obsessive–compulsive patients whose primary concern involved washing/cleaning were offered the DIRT package following failure in standard ERP (see treatment description below). Initial intake interviews with the Director, Anxiety Disorders Clinic, the University of Sydney (third author) confirmed that all subjects met DSM—IV (APA, 1994) criteria for OCD with Poor Insight. The third author is a clinical psychologist with more than 15 years experience in the diagnosis and cognitive–behavioural management of the Anxiety Disorders in both children and adults.

Subject L.B. was a 45-year-old woman with a 27-year history of excessive concerns about contamination and related washing. Subject T.L. was a 37-year-old male with a 25-year history of OCD that began with tapping and counting rituals in response to intrusive thoughts centering on harm coming to his mother. This was followed by several years of door and lock checking in response to fears of robbery and assault. He had a 15-year history of washing behaviours, with thoughts of contamination and disease representing his major current obsessive theme. Subject A.G. was a 38-year-old woman with at least a 20 year history of washing/cleaning behaviours. She was somewhat uncertain about when the problem began but could clearly remember excessive cleaning of kitchen benchtops by the age of 18. This behaviour had remained prominent and she had stopped cooking all food in her present kitchen (because of the possibility of bacterial infection) 3 years ago. Subject S.C. was a 62-year-old woman with a 50-year history of OCD involving blasphemous thoughts, checking behaviours and, for the last 12 years, excessive concerns about contamination and related washing. Subject H.J. was a 29-year-old woman with a more recent history of OCD. Despite a ‘lifetime’ of concern about cleanliness, her contamination-related obsessions and cleaning compulsions had not become time-consuming or interfered with her normal functioning until 10 years earlier.

All subjects had failed, according to self-report, to benefit from at least two attempts at long-term treatment (i.e. greater than 12 weeks) with serotonergic medication in the past. One subject was taking a serotonin reuptake inhibitor at the beginning of the present trial. Subject S.C. had been taking Zoloft (setraline hydrochloride) for 25 weeks prior to the initial appointment. A post-treatment interview confirmed that the dosage taken, as requested, had remained constant throughout the present trial of ERP and DIRT.

2.2. Procedure

2.2.1. Assessment

Subjects were assessed 1-week pre-ERP, 1-week post-ERP (pre-DIRT), 1-week post-DIRT and at a 4–6 month follow-up with the following battery of measures.

2.2.1.1. Maudsley Obsessional–Compulsive Inventory (MOCI) This questionnaire, developed by Hodgson and Rachman (1977) is a 30-item, self-report, true–false scale designed to measure the total frequency of OCD symptoms. A total score as well as washing, checking, slowness and doubting subscales scores may be determined. The MOCI remains one of the most popular meas-

ures of OCD and there is considerable evidence that the MOCI can register changes in symptom severity.

2.2.1.2. Padua Inventory (PI) This 60-item self-report questionnaire was developed by Sanavio (1988). Subjects indicate the strength of their endorsement of items on a 0 (not at all) to 4 (very much) scale giving a total maximum score of 240. Because of the breadth of items of the scale, it has become a popular instrument in the assessment of subclinical and student analogue groups as well as clinical cases of OCD.

2.2.1.3. Beck Depression Inventory—II (BDI—II) This 21-item self-report questionnaire measuring the severity of depressive symptoms was developed by Beck (1996). It remains the most popular measure of depression.

2.2.1.4. Self-rating of severity (SRS) This 9-point self-rating of severity was adapted from the measure developed by Marks and Matthews (1979) for use with phobic clients. As used by Jones and Menzies (1998a), subjects respond to the following question: “How would you rate the present state of your obsessive–compulsive symptoms on the scale below?” On the scale, 0 represents no OCD present, while the maximum score of 8 represents a very severe, disturbing or disabling OCD present.

2.2.2. Global-rating of severity

This 5-point scale was used in the manner described by Michelson (1986) and Menzies and Clarke (1995). The clinician rated the severity of each subject’s condition from 1, representing no complaints and normal activity, up to a maximum of 5, representing severe dysfunction with work, role or social activities either radically changed or prevented.

2.3. Treatment

2.3.1. General aspects

Treatment was carried out in weekly, 1-hour, individual sessions. All sessions, in both ERP and DIRT, were conducted by the Director, Anxiety Disorders Clinic, the University of Sydney (third author). Initially, all subjects received ERP. ERP treatment was terminated, after a minimum of 15 sessions, when the subject: (1) had failed to make progress, in the opinion of both the treating clinician and the subject, for a period of 4 consecutive weeks, and; (2) had, at no point in treatment, reported a weekly self-rating of severity score that was at least 50% lower than their intake score. Subjects S.C., H.J., A.G., L.B. and T.L. received 23, 21, 15, 17, and 20 sessions of ERP respectively.

2.3.2. Exposure and Response Prevention (ERP)

ERP was based on the program described by Andrews, Crino, Hunt, Lampe, and Page (1994). In the first session a rationale and description of the method was presented. The role that avoidance and ritualised behaviour may play in the maintenance of the disorder was emphasised. From the second session subjects were required to confront internal and external triggers while preventing cleaning/washing behaviours until their anxiety decreased to levels that were not regarded as

excessively distressing (arbitrarily defined as an anticipated anxiety level of less than 20 on a 0–100 subjective units of distress scale). At this point, depending on the nature of the stimulus/activity, some moderate washing behaviour was sometimes allowed (e.g. in response to handling garden soil etc.). The extent of washing/cleaning behaviours was reduced across sessions. The situations/activities selected for exposure and response prevention were those deemed by subjects to be ‘moderately’ difficult, which was operationally defined to the subjects as an anticipated anxiety level of between 50 and 70 points. Though no strict hierarchy was used, a graded approach was achieved by gradually increasing the difficulty of activities across sessions. Initially, the therapist played an active role in directing and leading the subjects into these exposure tasks. However, by the fourth session active assistance was being withdrawn, with subjects seeking out obsessive–compulsive triggers on their own.

Homework assignment sheets were supplied on which subjects recorded: (a) the situations used for ERP; (b) the peak anxiety level experienced (0–100); (c) minutes spent in the situation/activity; (d) final anxiety level (0–100) prior to terminating the session; (e) difficulties encountered in the session. Each clinic session ended with the planning of daily homework activities for the coming week.

2.3.3. *Danger Ideation Reduction Therapy (DIRT)*

One week after failure with ERP all subjects were reassessed with the battery of measures given at pre-treatment. All five subjects accepted the offer of trialling an alternative treatment and all five subjects began DIRT the following week. DIRT was conducted in 14, weekly, individual sessions or until, in the judgement of the treating clinician: (1) clinically significant gains were apparent with minimal symptomatology remaining, and (2) clients displayed a sound grasp of the cognitive model underpinning DIRT procedures. Subjects S.C., H.J., A.G., L.B. and T.L. received 14, 12, 14, 9, and 14 sessions of DIRT respectively.

During the first session of DIRT a rationale and description of the method was presented. The treatment rationale demonstrated that the way situations are perceived can affect emotions. It was argued that feared stimuli were not in themselves anxiety-provoking, but that anxiety was due to maladaptive beliefs and thoughts resulting in increased subjective estimates of the probability and severity of illness/disease. Subjects were told that success in the DIRT package depends on cognitive change preceding behavioural change. Subjects were told that when cognitive change occurs, behavioural change naturally follows — therefore, they need not seek out exposure opportunities. Thus, subjects were taught that they could avoid anxiety/distress in this treatment regime since recovery does not depend on exposure-like procedures. Throughout the treatment, subjects were explicitly reminded to avoid testing their OCD behaviours and warned against deliberately seeking out behavioural experiments and exposure-like tasks. Subjects’ behaviour was reviewed during the weekly DIRT sessions to ensure that exposure exercises were not taking place.

DIRT, as described by Jones and Menzies (1997b), consists of the following six components.

2.3.3.1. *Cognitive restructuring* This component combined elements of systematic rational restructuring (Goldfried & Goldfried, 1980) and rational–emotive therapy (Ellis, 1962) and was modelled on the procedures described by Mattick, Peters, & Clarke (1989) and Menzies and Clarke (1995). Subjects identified their irrational thoughts related to contamination and were asked to re-evaluate these thoughts, changing them to be more realistic and appropriate to the demands

of the situation. Once constructed, subjects were asked to rote-learn their reappraisals by reading, copying and further elaborating them on a daily basis for 15 min. In later sessions, subjects were shown how to apply their reappraisals by adapting them to novel situations.

2.3.3.2. Filmed interviews A series of 10-min filmed interviews with various workers who had regular contact with contamination-related stimuli were presented. Each interviewee described in detail their repetitive contact with OCD-related stimuli (e.g. bodily fluids, dirt, animal hair, money). The absence of work-related illnesses in each interviewed subject was highlighted. Professionals interviewed included nurses, cleaners, bank tellers, gardeners, printers and laboratory workers.

2.3.3.3. Microbiological experiments Discussion of the results of a series of microbiological experiments concerning contamination formed the basis of one 60 min treatment session. The experiments had been previously conducted in conjunction with the Microbiology Department of the University of Sydney. The experiments involved the authors ‘contaminating’ one hand by touching a particular stimulus commonly found to be anxiety provoking to OCD-washers. The second hand, which did not come into contact with the stimuli, acted as a control. The tasks included shaking hands with 39 people, stroking a cat, touching a plastic implement which had been used to scoop out a cat litter tray, touching the lining of a garbage bin and touching the doors of a public toilet. The number and type of microorganisms present on the control hand were analysed and compared with those on the hand which had performed the various tasks. The microflora were isolated from fingerprints on microbiological agar plates (sheep blood agar plates) and the plates were incubated for 24 h at 37°C. The number of organisms growing on the plates at each fingerprint site were counted and ascertained for potential pathogenicity. After such analysis none of the colonies that grew on the blood plates showed any haemolytic effect on the blood in the medium. No potentially pathogenic organisms were isolated on either the control or the task plates. The microbiologist concluded that none of the tasks involved contamination of the hand with any organisms that were other than normal commensal flora of the skin. A two-page report summarising the results of these tests was given to each subject. Discussion of the results centred on challenging subject’s previous excessive risk estimates associated with these tasks.

2.3.3.4. The probability of catastrophe As described by Hoekstra (1989), this procedure involved comparing subject estimates of the probability of a negative outcome with an estimate derived from an analysis of the sequence of events that might lead to the feared event. Behaviours, such as throwing out the garbage, were broken down into the sequence of events required for contamination or illness to occur (e.g. bacteria present on garbage bin, bacterial transfer to hand, bacteria entering the body, initial immune system failure). Probability estimates for each step in the sequence were given by the subject. These were multiplied together to give an estimate of the likelihood of illness which, in all cases was much smaller than the subject’s initial global estimate. Discrepancies between subject’s global estimates and that obtained through the probability sequencing task were highlighted and discussed. Homework consisted of applying this method to one novel situation each week.

2.3.3.5. Corrective information Each subject received a list of facts related to illness and death rates in various occupational groups (e.g. the number of health care workers who had occupational contracted Human Immunodeficiency Virus). The information highlighted common misconceptions about illness and disease and the ease with which a variety of conditions can be contracted.

Additional information was provided to subjects concerning the problems inherent with excessive hand-washing. This included a one-page report from the Department of Microbiology, the University of Sydney which stated, in part, that:

Vigorous hand-washing will reduce the numbers of bacteria found on the skin but will not eliminate them because the microorganisms found deep within the pores and follicles will re-establish the population. Infections of the skin usually arise at a site where there is minor trauma where the integrity of the skin has been interrupted. Vigorous washing can damage the integrity of the skin causing cracks and fissures thus breaking down the protective barrier to infection. These cracks can become the portal of entry for pathogens which have the potential to cause deep-seated infections.

The implications of this report, and all additional information given to subjects, for handwashing practice were discussed.

2.3.3.6. Attentional focusing This procedure, described in detail by Clarke and Wardman (1985), involved a focusing task that aimed to reduce the frequency of threat-related intrusive thoughts by increasing the subject's ability to attend to alternative cognitive targets in a rhythmic breathing exercise. Subjects were taught to focus on a series of numbers while breathing in and to focus on the word 'relax' while breathing out. Subjects were instructed to breathe normally and not to slow or speed up their respiration rate. Subjects initially trained with eyes closed in a quiet location and with minimal noise and distraction. As training progressed across weeks, subjects were instructed to increasingly complete their daily focusing sessions in noisier environments with eyes open. Daily practice consisted of two, 10-min focusing sessions. This technique has recently been shown to reduce intrusive danger-related thoughts in both analogue and clinically anxious groups (Sahebi & Menzies, 1997).

2.4. Data analyses

In order to test the hypothesis, a *reliable change index* (RC) (as described by Jacobson, Follette, & Revenstorf, 1984) was calculated for each subject on the PI, MOCI and BDI—II, for each stage of treatment. The clinical significance of change scores was calculated using Type C cutoff points (see further Jacobson et al., 1984). These are preferred when dysfunctional and functional population distributions overlap. OCD population means and standard deviations were taken from samples described by Hodgson and Rachman (1977) for the MOCI, Sanavio (1988) for the PI, and Jones and Menzies (1998a) for the BDI—II. Normal population means and standard deviations were taken from samples described by Dent and Salkovskis (1986) for the MOCI, Sanavio (1988) for the PI, and O'Hara, Sprinkle, and Ricci (1998) for the BDI—II. Each subject was classified as recovered, improved but not recovered, or unchanged/deteriorated in accordance with the criteria of Jacobson and Truax (1991). A subject was regarded as recovered, on a given

dependent measure, at any treatment stage, if: (1) $RC > 1.96$, and; (2) their score was statistically more likely to have been drawn from the functional (i.e. normal) population than the dysfunctional (i.e. OCD) population. A subject was regarded as improved but not recovered, on a given dependent measure, at any treatment stage, if: (1) $RC > 1.96$, but; (2) their score was not statistically more likely to be from the functional than the dysfunctional population. A subject was regarded as unchanged or deteriorated if $RC < 1.96$ (see further Jacobson & Truax, 1991).

3. Results

Pre-ERP, post-ERP (pre-DIRT), post-DIRT and 4–6 month follow-up data for the MOCI, PI and BDI—II are presented in Table 1. As can be seen in the table, substantial support for the hypothesis was obtained. On the MOCI, four of the five subjects (who were unchanged by ERP), met Jacobson and Truax's (1991) twofold criteria for recovered following DIRT. These changes were maintained at follow-up. On the PI (despite no improvement following ERP), three of the five subjects were classified as recovered following DIRT, with a fourth subject moving from a classification of 'improved but not recovered' to a classification of 'recovered' by follow-up. On the BDI—II, three subjects met the criteria for recovered by follow-up.

Figs. 1 and 2 present the across subjects, multiple-baseline, weekly self-rating and clinician (global) rating of severity scores across the entire trial. As can be seen in both figures, consistent reductions in scores, for four of the five subjects, are only evident upon the introduction of the DIRT package.

4. Discussion

As expected, DIRT was associated with large reductions in OCD symptom severity in the majority of subjects. Post-DIRT treatment scores were substantially lower than post-ERP treatment scores for four of the five cases studied. These four cases met Jacobson and Truax's (1991) criteria for recovery on the MOCI and the PI by follow-up, despite failing to improve with ERP treatment. While the present design does not allow definitive statements about the causality of these changes to be made, the absence of any consistent improvement across 15–23 weeks of ERP strongly suggests that the DIRT package was the principle cause of the improvements obtained. It must be remembered that the present design is a true across-subjects multiple baseline experiment, with a staggered termination of ERP and subsequent introduction of DIRT. This substantially strengthens the level of inference about causality that can be drawn from the present case series.

The success of DIRT in the present study is particularly exciting for a number of reasons. First, the subjects in the present trial may all be regarded as treatment-resistant cases. Each had reported several previous failures to benefit from serotonergic medication. Each had failed to benefit from the standard behavioural treatment (i.e. ERP) of the Anxiety Disorders Clinic, the University of Sydney. Each had been identified as having Poor Insight. All of these features indicate a high level of symptom intractability with an associated poor prognosis. Despite this, DIRT was able to substantially reduce symptomatology in four of the five cases in 14 sessions or less. Second, DIRT was able to achieve these gains without the risk of medication-related side-effects and

Table 1
Questionnaire outcome data and classification of clients based on the twofold criteria of Jacobson and Truax (1991)

Measure	Subject	Testing stage and classification				Follow-up	Classification	
		Pre-ERP	Post-ERP (Pre-DIRT)	Classification	Post-DIRT			
MOCI	AG	16	18	Unchanged or deteriorated	9	Recovered	6	Recovered
	LB	16	15	Unchanged or deteriorated	7	Recovered	6	Recovered
	TL	15	14	Unchanged or deteriorated	16	Unchanged or deteriorated	16	Unchanged or deteriorated
	HJ	14	15	Unchanged or deteriorated	7	Recovered	4	Recovered
	SC	18	18	Unchanged or deteriorated	5	Recovered	6	Recovered
PI	AG	98	90	Unchanged or deteriorated	52	Recovered	41	Recovered
	LB	128	137	Unchanged or deteriorated	76	Improved but not recovered	62	Recovered
	TL	107	101	Unchanged or deteriorated	109	Unchanged or deteriorated	116	Unchanged or deteriorated
	HJ	113	118	Unchanged or deteriorated	63	Recovered	69	Recovered
	SC	135	130	Unchanged or deteriorated	60	Recovered	56	Recovered
BDI-II	AG	6	10	Unchanged or deteriorated	7	Recovered	6	Recovered
	LB	5	5	Unchanged or deteriorated	4	Unchanged or deteriorated	3	Unchanged or deteriorated
	TL	18	16	Unchanged or deteriorated	17	Unchanged or deteriorated	16	Unchanged or deteriorated
	HJ	13	11	Unchanged or deteriorated	10	Unchanged or deteriorated	8	Recovered
	SC	10	12	Unchanged or deteriorated	9	Recovered	6	Recovered

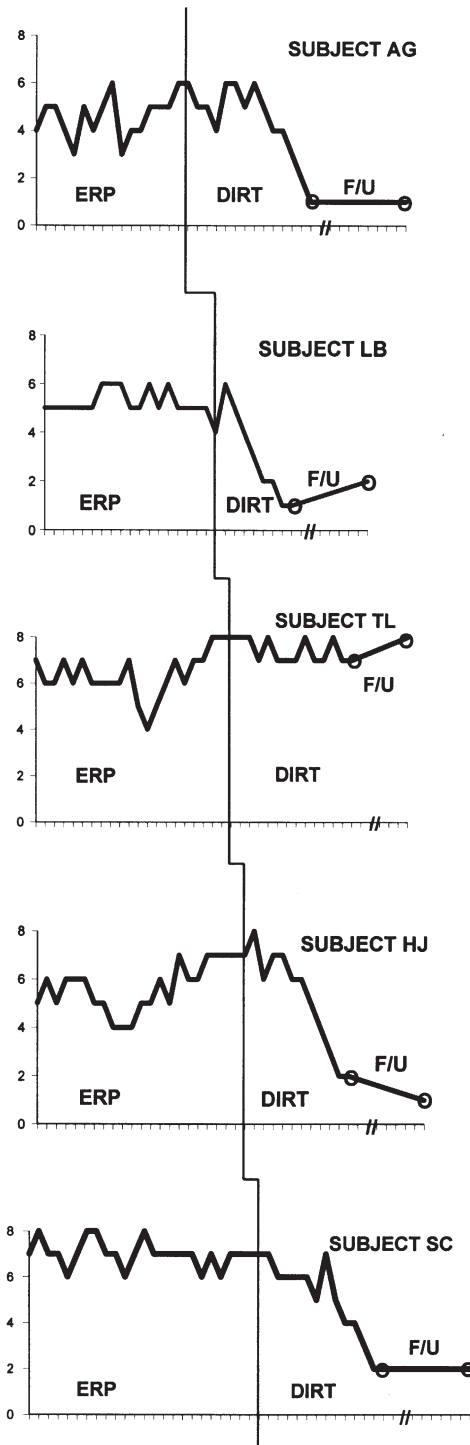


Fig. 1. Self-rating of severity (0–8) across weekly sessions.

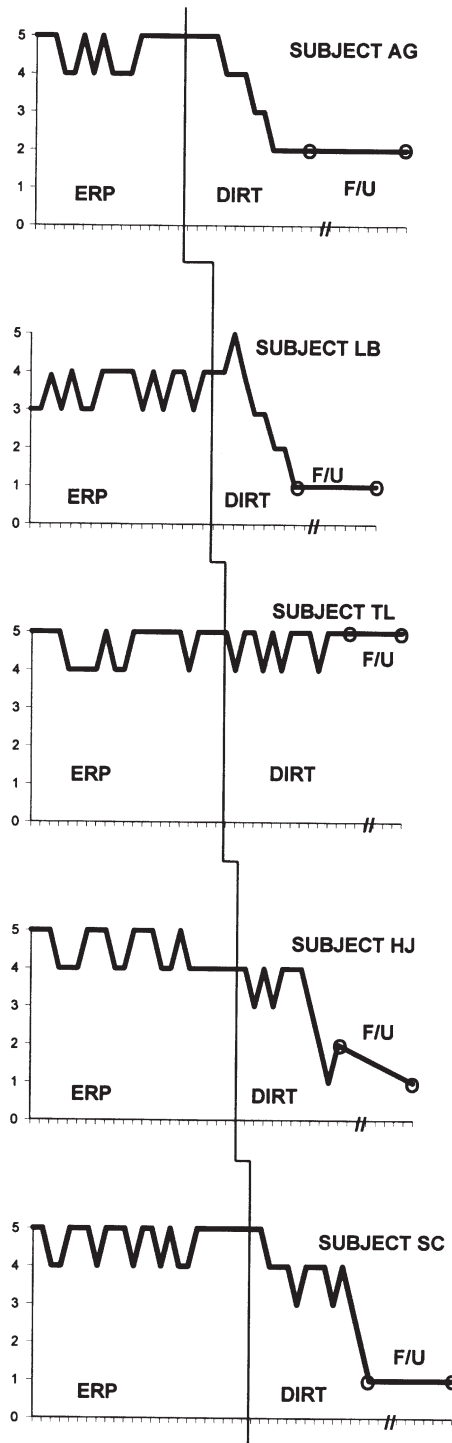


Fig. 2. Global assessment of severity (1–5) across weekly sessions.

without the need to expose subjects to substantial anxiety and distress. Third, as in previous reports, DIRT was not associated with treatment-refusal or drop-out.

In addition, the present trial provides further evidence that: (1) Poor Insight may interfere with ERP-based approaches to OCD, and; (2) targeting threat expectancies is crucial in reducing OCD symptomatology in individuals with poor insight. Jones and Menzies (1997a, 1998b) identified threat expectancies as the most likely mediator of washing/cleaning behaviours. The DIRT package was designed to specifically target these threat-related attitudes and beliefs. The results from this study are consistent with threat-based, cognitive models of OCD and support the notion that danger expectancies and overvalued ideas are reduced as a consequence of the DIRT program.

Of course, one could question the identification of overvalued ideation and Poor Insight in the present study. It must be remembered that no formal measure of insight or overvalued ideation was used. One might be tempted to argue that the rapid improvements in symptomatology experienced by subjects in the DIRT program suggest that these individuals did not suffer from Poor Insight at all. However, in our view, such a proposition seems inherently flawed. For surely the question of the rapidity of symptom change in cases of Poor Insight, using the DIRT package, is an empirical one. This was the very purpose of the present study. Further, as stated above, the finding that DIRT produces efficient change in cases of Poor Insight should not be entirely surprising, given that the treatment package explicitly targets overvalued, threat-based ideas. While no formal measure of insight was used in the present study, it is worth noting that our clinic identification rate of Poor Insight in OCD over the past 2 years is only 10%. This compares with reviews of epidemiological research suggesting that up to 25% of OCD subjects meet DSM—IV criteria for Poor Insight (e.g. Eisen, Phillips, & Rasmussen, 1999). We would suggest, therefore, that the identification of Poor Insight in our clinic tends, if anything, to be conservative. All five individuals satisfied our most experienced diagnostician that they did not recognise that their obsessions and compulsions were excessive or unreasonable.

One potential methodological weakness of the present study should be discussed. In contrast to the comprehensive and broad use of well-validated questionnaires in the present report, no behavioural avoidance tests (BATs) were employed in this research. It might be argued that the exclusive use of self-report measures with a cognitive treatment package ignores the need to demonstrate behavioural change. However, it should not be assumed that self-report measures are exclusively assessing the verbal-cognitive dimension of anxiety. We would argue that the MOCI is largely a behaviour checklist (e.g. I avoid using public telephones, I use only an average amount of soap, I do not take a long time to dress in the morning, I do not tend to check things more than once). The substantial reductions experienced by subjects on the MOCI would not be expected without dramatic improvements in compulsive behaviour. While we agree that the inclusion of a BAT may have allowed more definitive statements about behaviour change to be made, constructing a reliable and valid BAT for an OCD sample is often a difficult business. BATs are easy to construct for phobic samples, particularly the specific phobias with narrow, homogeneous sets of concerns (e.g. spiders). Establishing a valid BAT for an OCD sample can be difficult because subjects may present with a heterogeneous array of symptoms. Still, we agree that the inclusion of BATs in future research on the DIRT package would more clearly explicate the nature and extent of behavioural change experienced by subjects.

Other interpretations of the present data should also be considered. First, since the present study tests a sequential combination of ERP and DIRT, it might be argued that subjects engaged in

ERP-type exercises when their threat estimates decreased during DIRT treatment. That is, DIRT may have facilitated behaviour change by enabling subjects to utilise their prior ERP training. However, this interpretation is problematic for at least two reasons. First, as previously stated, participants in DIRT were explicitly warned against deliberately seeking out behavioural experiments and exposure-like tasks. Subjects' behaviour was reviewed during weekly sessions to ensure that exposure exercises were not taking place. Second, two previous studies have demonstrated that DIRT is effective without prior ERP (Jones & Menzies, 1997b, 1998a). It is simply not parsimonious to explain the effectiveness of DIRT in terms of the prior ERP training in the present study.

Another possible interpretation of the present findings is that the subjects, rather than being intractable cases, simply received an inadequate or deficient ERP program at the beginning of the trial. The present ERP package did not include a formal fear hierarchy, did not include any attempt to challenge threat expectancies, and focussed on moderately difficult (rather than easily achievable) exposure tasks. Given these features, one might suggest that the ERP package employed at the Anxiety Disorders Clinic, The University of Sydney is a particularly gruelling program likely to be associated with a high rate of treatment refusal, drop-out or failure. However, clinical outcome data at our unit suggests that this is not the case. The drop-out/refuser rate from our ERP program is a low 9%, compared to published rates from other ERP programs in the range of 20–30% (Marks, Hodgson, & Rachman, 1975). Further, the mean post-ERP MOCI score in our unit for the past two years has been a low 6.8, which is comparable to (or lower than) typical post-ERP MOCI means in the majority of reports in the literature. Our ERP program, as stated earlier, is based on the highly successful and widely used ERP program of the Clinical Research Unit for Anxiety Disorders and St Vincent's Hospital, Sydney (Andrews, Crino, Hunt, Lampe, & Page, 1994). In addition, as already stated, the treating clinician in the present study was the most experienced therapist in our unit. Finally, it should be remembered that there is a simple (and far more parsimonious) explanation for the failure of ERP with the present subjects. As discussed above, the presence of Poor Insight has been linked to poor outcomes with ERP for over 20 years. This remains the most likely cause of the difficulties experienced by all 5 subjects in the ERP phase of the present study.

In summary, while other interpretations may be offered, the most likely account of the present data is that a highly successful ERP package, in the hands of a highly experienced clinician, failed to assist five individuals with OCD and Poor Insight, four of whom subsequently responded to the DIRT package. Of course, despite the superiority of DIRT over ERP in the present study, it must be acknowledged that ERP remains the treatment of choice for compulsive washing/cleaning behaviour. Only a randomised, controlled trial will determine whether DIRT represents a viable alternative to the standard behavioural approach. Certainly, on the strength of the present findings, DIRT appears to offer substantial promise for the management of treatment-resistant presentations of the disorder. This finding, in and of itself, represents a major breakthrough in the management of OCD.

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