MARK H. FREESTON

CARACTÉRISTIQUES ET TRAITEMENT DE L'OBSESSION SANS COMPULSION MANIFESTE

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AVANT PROPOS

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RÉSUMÉ

Malgré les progrès substantiels de l'approche cognitive-béhaviorale dans le traitement du Trouble obsessionnel-compulsif (TOC), les obsessions sans compulsion manifeste demeurent un défi pour le clinicien. Les trois présentes études constituent une première description détaillée d'un échantillon important composé de 29 patients souffrant du trouble obsessionnel sans compulsion manifeste. La première étude confirme que les patients utilisent un vaste répertoire de stratégies pour chasser la pensée et pour diminuer le malaise. La deuxième démontre que l'évaluation des pensées varie en fonction des fluctuations de l'état émotionnel. La troisième étude montre qu'un traitement basé sur l'exposition, la prévention de la réponse et la restructuration cognitive produit des gains thérapeutiques cliniquement et statistiquement significatifs. Elle démontre clairement que la thérapie cognitive-comportementale est efficace pour des patients souffrant de pensées obsessionnelles alors que ceux-ci furent longtemps considérés comme réfractaires au traitement. Ces études fournissent un appui empirique aux modèles théoriques formulés pour expliquer le Trouble obsessionnel-compulsif. Les implications théoriques et cliniques sont discutées.

Mark Freeston, M.Ps.
Étudiant au doctorat

Robert Ladouceur, Ph.D.
Directeur de recherche

RÉSUMÉ

Malgré les progrès substantiels de l'approche cognitive-béhaviorale dans le traitement du Trouble obsessionnel-compulsif (TOC), les obsessions sans compulsion manifeste demeurent un défi pour le clinicien. Les trois présentes études constituent une première description détaillée d'un échantillon important composé de 29 patients souffrant du trouble obsessionnel sans compulsion manifeste. Elles s'inspirent d'un modèle cognitif-béhavioral (Salkovskis, 1985) qui propose que l'obsession est déclenchée par un stimulus interne ou externe ou encore qu'elle survient de façon spontanée. La pensée obsédante est alors évaluée subjectivement par l'individu en fonction de ses croyances. La majorité des gens lui attribue une signification banale mais certains lui confèrent des implications importantes. Dans ce cas, l'individu utilisera le plus souvent une ou plusieurs stratégies pour chasser la pensée; ces actions cognitives ou manifestes sont des activités neutralisantes et volontaires. La première étude confirme que les patients utilisent un vaste répertoire de stratégies pour chasser la pensée et pour diminuer le malaise. La plupart de ces stratégies ne sont pas, comme on pouvait s'y attendre, des rituels cognitifs ni même des tentatives de réparer des torts éventuels, mais elles prennent plutôt la forme de stratégies d'adaptation. Cette étude souligne l'importance d'adopter une définition plus large de la neutralisation. La deuxième étude établit que l'évaluation des pensées varie en fonction des fluctuations de l'état émotionnel et qu'elle est associée au nombre d'événements négatifs quotidiens rapportés par l'individu. Ces résultats constituent la première démonstration

empirique de tels liens. La troisième étude montre qu'un traitement basé sur l'exposition, la prévention de la réponse et la restructuration cognitive est efficace et que les gains se maintiennent au suivi de six mois. Les résultats démontrent clairement que la thérapie cognitive-comportementale est efficace pour des patients souffrant de pensées obsessionnelles alors que ceux-ci furent longtemps considérés comme réfractaires au traitement. Ces études fournissent un appui empirique aux modèles théoriques formulés pour expliquer le Trouble obsessionnel-compulsif. Les implications théoriques et cliniques sont discutées.

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Mark Freeston, M.Ps.
Étudiant au doctorat

Robert Ladouceur, Ph.D.
Directeur de recherche

ABSTRACT

Despite significant progress in the cognitive-behavioral treatment of Obsessive-Compulsive Disorder (OCD), obsessions without overt rituals remain a challenge for clinicians. The three studies presented here are a detailed description of 29 patients with obsessive thoughts without overt compulsions. The studies are based on a cognitive-behavioral model of OCD (Salkovskis, 1985) that states that obsessive thoughts are triggered by internal or external stimuli or may occur spontaneously. The thoughts are appraised by the individual as a function of personal beliefs. Most people conclude that the thought has no particular significance but some conclude that the thought has important implications. In this case there is more chance that the individual will use one or more strategies to remove the thought. These covert or overt actions are voluntary neutralizing activities. The first study confirms that patients use a large repertoire of strategies to remove the thought and decrease discomfort. The majority of these strategies are not cognitive rituals or even attempts to undo possible harm: they may best be described as coping strategies. This study highlights the importance of adopting a broad definition of neutralization. The second study shows that the appraisal of the thought varies as a function of mood state and is associated with the number of negative daily life events reported by the individual. It is the first empirical demonstration of the links between these variables. The third study shows that a treatment based on exposition, response prevention, and cognitive restructuring is effective and that treatment gains were maintained at six months. Results clearly demonstrate that cognitive-

behavior therapy is effective for patients with obsessive thoughts only, a group of patients who have long been believed to be refractory to treatment. These studies provide empirical support for theoretical models of OCD. The theoretical and clinical implications are discussed.

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CHAPITRE 1

INTRODUCTION GÉNÉRALE

Malgré les progrès substantiels de l'approche cognitive-béhaviorale dans le traitement du Trouble obsessionnel-compulsif (TOC), les obsessions sans compulsion manifeste demeurent un défi pour le clinicien. Si le taux de réussite pour les formes plus connues comme les compulsions de nettoyage et de vérification, atteint 76% (Hiss, Foa, & Kozak, 1994), il n'existe pas de traitement éprouvé pour les pensées obsessionnelles, présentes chez environ 20% des patients consultant pour un Trouble obsessionnel-compulsif (Baer & Minchinello, 1990; Emmelkamp, 1982; Hoogduin, de Haan, Schapp, & Arts, 1987; Marks, 1987; Rachman, 1985). Des auteurs estiment que la présence de pensées obsessionnelles serait plus élevée dans la population générale et qu'elles surviendraient chez plus de 50% des personnes qui rencontrent les critères du TOC (Weissman et al., 1994). La prévalance à vie du Trouble obsessionnel-compulsif étant de 1.9% à 2.5% (Weissman et al., 1994), les obsessions sans compulsion manifeste peuvent ainsi affecter environ une personne sur cent.

Il est surprenant que cette forme du TOC soit encore méconnue. En effet, déjà en 1958, Wolpe distingue la pensée anxiogène, qui augmente l'anxiété, de la pensée rassurante qui diminue l'anxiété. Plus tard, Rachman (1971; 1976; 1978; 1981; Rachman & de Silva, 1978) décrit et analyse ces obsessions et amorce un programme de recherche sur leur équivalent dans la population normale, soit l'intrusion cognitive ou «l'obsession normale». Il affirme qu'en présence de

certains facteurs prédisposants, les intrusions non voulues sont générées par le stress et/ou les perturbations de l'état émotionnel. Les intrusions sont déclenchées par des stimuli externes ou surviennent spontanément. Elles deviennent des "stimuli nocifs internes" qui peuvent contribuer à une détérioration de l'état émotionnel et à une sensibilité accrue au stress. Les obsessions persisteront à cause de l'échec du contrôle cognitif jumelé à la résistance des obsessions à l'habituation normale. La personne s'engage dans un comportement d'évitement (manifeste ou privé) afin de soulager l'inconfort subjectif qui accompagne ses obsessions. Les comportements d'évitement, procurant une baisse temporaire d'inconfort, sont ainsi renforcés et peuvent acquérir des propriétés obsessives. Rachman classifie ces comportements en deux groupes: (1) la neutralisation, qui a pour but de réparer des torts que la personne a peur de commettre ou d'avoir commis et (2) des comportements moins reliés au contenu de l'obsession et qui prennent la forme de stratégies d'adaptation (coping strategies) (Rachman & de Silva, 1978). Ce chercheur réalise une première description de ces comportements mais il se base sur un échantillon clinique très limité dont la majorité des sujets ont aussi des compulsions manifestes (Rachman & de Silva, 1978).

Rachman et Hodgson (1980) identifient cinq facteurs prédisposant au trouble obsessionnel: (1) un état émotionnel dysphorique, (2) l'exposition au stress, (3) une définition personnelle de ce qui est inacceptable, (4) une hypersensibilité aux indices externes de danger et de menace, et (5) une tendance à être

"dysthymique, névrotique et introverti" (p. 268). Ils ajoutent qu' "une sensibilité accrue à la perturbation combinée à une attention élevée à la stimulation interne constituent un facteur prédisposant qui favorise le développement des obsessions".

Rachman et ses collègues proposent des traitements basés sur l'exposition aux stimuli anxiogènes. Ils s'avèrent toutefois peu efficaces (Emmelkamp & Giesselbach, 1981; Emmelkamp & Kwee, 1977; Gurnami & Vaughn, 1981; Likierman & Rachman, 1982; Stern, 1978) malgré des assises théoriques plus solides que le traitement de choix de cette époque, l'arrêt de la pensée (voir Beech & Vaughn, 1978). Même si le travail de Rachman n'a pas produit à court terme de traitement efficace, son apport sur les plans de la description et de l'analyse du TOC ainsi que le courant de recherche qu'il a lancé ont fourni une base essentielle pour les développements subséquents.

Se fondant en partie sur les travaux de Rachman et de Beck (Beck, 1976; Beck, Rush, Shaw, & Emery, 1979), Salkovksis (1985) propose un modèle théorique bien articulé de ce trouble (Beck, 1976; Beck, Rush, Shaw, & Emery, 1979). Ce modèle gravite autour de trois éléments, l'intrusion cognitive ou pensée obsédante, l'évaluation subjective (cognitive appraisal) et la neutralisation. Examinons d'abord l'intrusion cognitive qui est, par définition, une pensée involontaire. Déclenchée par un stimulus interne ou externe ou arrivant de façon spontanée, elle est un phénomène expérimenté par la majorité des personnes (Freeston, Ladouceur, Thibodeau & Gagnon, 1991; Niler & Beck, 1989; Rachman & de Silva, 1978; Salkovskis & Harrison, 1984).

L'intrusion cognitive se manifeste sous la forme d'une pensée, d'une image, d'un doute ou d'une impulsion d'origine interne. Chez la personne atteinte du TOC, l'intrusion sera répétitive, persistante, difficilement contrôlable et perturbera son activité. Les principaux thèmes retrouvés sont la mort, la disparition d'un proche, la violence, l'agressivité inacceptable, de même que les cognitions relatives aux conduites sexuelles et à la contamination (Rachman & de Silva, 1978). On observe que la population normale et les obsessionnels présentent des thèmes équivalents (Freeston et al., 1991; Rachman & de Silva, 1978).

Lorsque l'intrusion survient, elle est évaluée subjectivement par l'individu en fonction de ses croyances. Parmi ces dernières, mentionnons l'interprétation de la présence et du contenu de la pensée. La majorité des gens lui attribue une signification banale mais certains lui confèrent des implications importantes. Il arrive que cette évaluation perturbe l'état émotionnel et dicte la mise en oeuvre d'une action particulière (Freeston et al., 1991; Salkovskis, 1985; 1989). Selon Salkovskis (1985; 1989), si l'évaluation fait appel à la responsabilité excessive face à soi ou aux autres, les risques que l'individu utilise une ou plusieurs stratégies pour chasser la pensée augmentent. Ces actions cognitives ou manifestes sont des activités neutralisantes et volontaires. Chez les personnes souffrant d'une forme plus connue du TOC, la neutralisation correspond aux comportements de nettoyage, de rangement ou de vérification. L'analyse détaillée de l'obsession sans compulsion manifeste met en

lumière la distinction entre l'intrusion cognitive ou pensée obsédante, qui est involontaire et représente le stimulus, et la pensée neutralisante, qui est volontaire et représente la réponse.

Salkovskis (1985) postule que l'état émotionnel est une variable médiatrice qui aurait un effet à trois niveaux. Ainsi, l'état émotionnel (1) augmenterait le nombre d'intrusions spontanées liées à cet état, (2) augmenterait le nombre de stimuli potentiels susceptibles de provoquer les intrusions et (3) stimulerait l'activation des schèmes dysfonctionnels à la base de l'évaluation des intrusions. Si l'auteur ne discute pas directement le rôle des événements quotidiens responsables des fluctuations de l'état émotionnel, il les aborde lorsqu'il traite du processus de rechute. Les facteurs provoquant la rechute sont souvent ceux qui "servaient auparavant à exacerber le problème obsessionnel, à savoir le stress et l'anxiété dus à d'autres sources externes, l'humeur dépressive, les responsabilités additionnelles et la fatigue (Salkovskis, 1989b, p. 75)".

Le traitement qui découle de ce modèle théorique est l'exposition aux pensées obsédantes avec prévention de la réponse de neutralisation (Salkovskis, 1985; Salkovskis & Kirk, 1989; Salkovskis & Westbrook, 1989). Outre l'utilisation de stratégies cognitives visant à faciliter l'acceptation de l'exposition du patient, Salkovskis propose aussi de modifier les idées surévaluées, les états émotionnels exacerbant les obsessions, la peur de changer et la responsabilité pathologique (ou son évitement) (Salkovskis & Warwick, 1985, 1988; Salkovskis & Westbrook, 1987). Cependant, peu d'études ont évalué

ce traitement prometteur qui devra être soumis à des essais expérimentaux.

Trois observations de Rachman et de Salkovskis sont à la base du présent travail. Premièrement, la neutralisation joue un rôle central dans le maintien du trouble obsessionnel, mais elle reste peu étudiée. Deuxièmement, le caractère variable de l'état émotionnel et l'effet de tels changements sur l'évaluation des intrusions cognitives expliqueraient des observations cliniques telles que le début du trouble, la gravité fluctuante des symptômes et les rechutes. Mais encore une fois, aucune étude empirique n'a confirmé le bien-fondé de cette position. Troisièmement, malgré les arguments théoriques sur lesquels repose le traitement suggéré, des recherches méthodologiquement bien contrôlées sont toujours attendues.

Les trois études présentées ici s'inscrivent dans la tradition de recherche tracée par Rachman et Salkovskis; elles ont pour but premier de contribuer à pallier l'absence d'une base empirique solide. Freeston et ses collègues ont déjà étudié le phénomène de la neutralisation auprès de populations cliniques et non cliniques (Freeston, Ladouceur, Gagnon, & Thibodeau, 1991; Freeston, Ladouceur, Provencher & Blais, sous presse; Freeston, Ladouceur, Thibodeau, & Gagnon, 1991; Freeston & Ladouceur, 1993). Dans la poursuite de cette analyse, le deuxième chapitre présente une entrevue structurée menant à la description détaillée des stratégies utilisées par des patients souffrant du TOC. Le troisième chapitre fait état d'une étude ayant pour but de préciser la relation entre l'état émotionnel et

l'évaluation subjective, lien qui n'a pas encore été démontré pour le Trouble obsessionnel-compulsif. En s'inspirant des travaux de Salkovskis, Ladouceur et ses collègues ont développé un traitement cognitif-béhavioral comprenant l'exposition, la prévention de la réponse et la restructuration cognitive. Ils ont démontré l'efficacité de ces techniques en utilisant des protocoles expérimentaux à cas unique (Ladouceur, Freeston, Gagnon, Thibodeau, & Dumont, 1993, sous presse). Le quatrième chapitre décrit un essai contrôlé dont le but est d'évaluer l'efficacité de ce traitement à l'aide d'un groupe de contrôle (liste d'attente). Finalement, le cinquième chapitre discute brièvement les principaux résultats obtenus, leurs implications théoriques et cliniques, et présente des futures avenues de recherches.

CHAPITRE 2

QUE FONT LES PATIENTS FACE À LEURS PENSÉES OBSESSIONNELLES?

Résumé

Les modèles actuels du Trouble obsessionnel-compulsif accordent un rôle central à la neutralisation dans le maintien de la pensée obsessionnelle. Les compulsions manifestes sont bien décrites dans la littérature, mais leurs équivalents cognitifs sont peu étudiés. Cette étude décrit en détail les stratégies de neutralisation utilisées par 29 patients souffrant de pensées obsessionnelles. Ils rapportent un répertoire important d'activités de neutralisation dont l'efficacité est, en moyenne, plutôt faible. La plupart des stratégies utilisées ne sont pas des rituels cognitifs ou des activités visant à réparer les torts, mais elles sont intentionnelles, exigent un effort et sont utilisées de façon stratégique. Ces résultats conduisent à une définition de la neutralisation qui inclut les rituels cognitifs, les tentatives de réparer les torts et les diverses stratégies d'adaptation. Les implications cliniques sont discutées et la prévention de la réponse qui cible toutes les formes de neutralisation est suggérée pour traiter les pensées obsessionnelles.

What Do Patients Do With Their Obsessive Thoughts?

Mark H. Freeston and Robert Ladouceur

Université Laval and Centre de Recherche Université Laval Robert-Giffard, Québec, CANADA

Running Head: STRATEGIES AND INTRUSIVE THOUGHTS

Abstract

Current models of Obsessive-Compulsive Disorder accord a key role to neutralization in the maintenance of obsessional thoughts. Although overt compulsions are well known and have frequently been described in the literature, their cognitive equivalents have not been described to any great extent. This study systematically described the repertoire of strategies used by 29 OCD patients with dominant obsessive thoughts. Extensive repertoires were reported, characterized by low to moderate mean efficacy in removing the thoughts. The majority of strategies were not cognitive rituals nor neutralization in the narrow sense of "attempts at putting right", even though they were effortful, intentional, and deployed in a strategic way. The results are discussed in terms of the need for a broad definition of neutralization that includes all strategies including coping strategies. Clinical implications are discussed and comprehensive response prevention is recommended for the treatment of obsessive thoughts.

What Do Patients Do With Their Obsessive Thoughts?

Up until the mid-eighties and the advent of the Epidemiological Catchment Area Survey (Myers et al., 1984; Robins et al., 1984) and other broadly based community studies, OCD was considered to be a rare disorder with estimates of the order of 0.05% (see Rasmussen & Eisen, 1992). Further, although there have always been reports of patients suffering from "ruminations", "pure obsessions" and similar phenomena where no overt compulsions are present (e.g. Rachman, 1971; 1976), this group has traditionally been considered rare with estimates such as 20-25% of obsessional patients (Emmelkamp, 1982; Marks, 1987; Rachman, 1985). Thus the common belief was that this specific form of OCD was a rare but clinically interesting variant and was highly resistant to treatment despite attempting a wide range of techniques that met with inconsistent success (see Beech & Vaughn, 1978; Foa, Steketee, & Ozarow, 1985).

During the eighties there were a number of significant breakthroughs. First, data from the US (Karno, Golding, Sorenson, Burnam, 1988) and now cross national epidemiological data from six countries have shown that Obsessive-Compulsive Disorder is much more prevalent than previously thought and recent estimates place the annual prevalence of OCD between 1.1 to 1.8% and lifetime rates between 1.9 to 2.5% (Weissman et al, 1994). Second, the same authors reported that the proportion of OCD cases not reporting compulsions (i.e. reporting obsessions only) may be as high as 50-60% although the structured interview used in these community studies may be

overinclusive for obsessions. Third, Salkovskis (1985), following on the earlier description, analysis and treatment recommendations for obsessional thoughts by Rachman and colleagues (Rachman, 1971, 1976, 1978; Rachman & de Silva, 1978; Rachman & Hodgson, 1980), provided a comprehensive model of obsessional thoughts and outlined a treatment approach (Salkovskis & Westbrook, 1989). These findings, together with a number of case reports and single case studies describing the successful treatment of obsessions by exposure changed the status of obsessions without overt compulsions (Headland & McDonald, 1987; Himle & Thyer, 1989; Hoogduin, de Haan, Schaap, & Arts, 1987; Ladouceur, Freeston, Gagnon, Thibodeau, & Dumont, 1993; in press; Martin & Tarrier, 1992; Moergen, Maier, Brown, & Pollard, 1987; Milby, Meredith, & Rice, 1981; Salkovskis, 1983; Salkovskis & Westbrook, 1989). Rather than a rare, treatment refractory variant of OCD, obsessions are now known to be a relatively prevalent form with interesting treatment possibilities that nevertheless remains poorly known.

The initial descriptive study of obsessions by Rachman and de Silva (1978) involved only eight clinical subjects (five reported overt compulsions) and has never been replicated: our knowledge as to what OCD patients do with their thoughts remains highly limited. This is somewhat surprising given the extensive writings of Salkovskis on the subject, the emergence of exposure and response prevention treatments, and the interest in many circles for the thought suppression paradigm as an analogue of OC behavior (see Clark &

Purdon, 1993; Salkovskis, 1989b). The goal of this study is to systematically describe strategies used by OC patients to counter their obsessions.

Historically cognitive rituals have been associated with obsessions without overt compulsions in the OCD literature and are considered to play the same role as overt rituals (Emmelkamp, 1987; Foa et al., 1985; Marks, 1987; Rachman, 1971; 1976; Salkovskis, 1985; Turner & Beidel, 1988). They have typically been defined in quite a narrow way. For example, "A cognitive ritual is defined as a mental act carried out in a specific fashion and consisting of a number of discrete steps" (Turner & Beidel, 1988, p. 3)". There is as yet no systematic description of cognitive rituals in the literature although case examples are abundant.

In the only descriptive study of cognitive responses to obsession to date, Rachman and de Silva (1978) distinguished between neutralization and coping mechanisms. The former, referring to "attempts at putting right" (Rachman, 1976), are acts intended to enable escape from or avoid the obsession. Neutralization thus refers to any act that may be "amendatory, neutralizing, reparative, corrective, preventive, or restorative" (Rachman & Hodgson, 1980, p. 273). Two out of the eight OCD patients and four out of the forty nonclinical controls reported some form of covert neutralizing activity. Coping strategies were not defined but some examples were given: saying "stop", distraction by singing, counting, or praying, and physical avoidance. Reassurance seeking was also included among the coping

mechanisms. All eight OCD patients and 23 out of 40 controls reported coping mechanisms.

Although not explicitly stated, it would seem that the difference between neutralizing activities and coping mechanisms lies at the level of the connection of the activity to the thought. In the first case, a neutralizing activity is connected by its subjective meaning to the thought and is believed to be able to prevent the consequence foreseen by the thought's content in some real causal way. In the second case, coping mechanisms are less specific and address the thought's presence, meaning, and associated discomfort. Although the neutralizing activities reported by Rachman and de Silva may meet the definition of a cognitive ritual, it is less evident that the coping mechanisms would do so.

The concept of neutralization is central to Salkovskis' writings about OCD and is variously defined in both a narrow sense much as Rachman first proposed and in a much broader way. In the first case he states that neutralization can be understood as "attempts to put things right, and avert the possibility of being blamed by self or others" (Salkovskis, 1985, p. 574). An even narrower definition states that neutralization is "voluntarily initiated activity which is intended to have the effect of reducing the perceived responsibility" (Salkovskis, 1989a, p. 678). At a broader level, he has stated that neutralization is "intentional and initiated as a result of the negative evaluation of an intrusive thought" (Salkovskis, 1989b, p55) and also that it is "anything which they try to do (which is intentional and/or

effortful)" (Salkovskis & Westbrook, 1989, p.153, original emphasis). Thus it is unclear at a theoretical level what constitutes neutralization.

The empirical work on neutralizing by Salkovskis appears to have assumed what neutralizing is without ever describing it. One unpublished study found that subjects who reported neutralizing behavior on a questionnaire also scored more highly on a measure of OC symptoms and had higher scores on belief ratings of attitudes about responsibility for harm (Salkovskis & Dent, 1989; cited in Salkovskis, 1989a). A laboratory task on subjects reporting frequent, distressing intrusive thoughts that were frequently neutralized showed that "using a neutralizing thought" resulted in more subsequent discomfort and a greater urge to neutralize or distract than a control condition using a backwards counting task (Salkovskis, Westbrook, Davis, Jeavons, & Gledhill, 1989, cited in Salkovskis, 1989a). It should be noted that the control condition was a distractor provided by the experimenter which was compared to a natural neutralizing response. Further, 41% of experimental and 17% of control subjects were eliminated because they did not complete the procedures satisfactorily. A more recent study (Salkovskis & Campbell, 1994) showed that suppression can result in increased intrusions and that distraction may play a moderating role. The effect of suppression has since been extended to a four day period (Trinder & Salkovskis, 1994). However, although these studies have the merit of using naturally occurring intrusive thoughts, the correspondence between suppression under experimental conditions and real life strategies is unknown.

Thus these studies provide indirect information on neutralization and its consequences without directly addressing the issue.

Previous questionnaire studies have examined the strategies used by non-clinical subjects to deal with their intrusive thoughts. Subjects endorsed several different strategies to deal with the thoughts and these were differentially associated with cognitive appraisal of the thoughts (Freeston, Ladouceur, Thibodeau, & Gagnon, 1991a; Freeston & Ladouceur, 1993). Through both cluster and factor analyses, we were able to form three broad groups of strategies from the nine specific strategies investigated (Freeston et al., 1991a). The first group represents minimum attention involving either no further action, i.e., doing nothing, or some form of self-reassurance. The second corresponds to sustained attention which involves thinking the thought through and seeking reassurance with another person. Here the thought is subject to further processing. The third group of strategies involved escape or avoidance and included replacing the thought with another, performing a mental or concrete action to remove the thought, throwing oneself into an activity, distracting oneself with surroundings, and thought stopping. Subjects in both effortful response groups reported more anxiety and more difficulty removing the obsessions than the minimum attention group. Subjects using escape/avoidance reported more sadness, worry, guilt, and disapproval and subjects using sustained attention reported more varied forms and more triggers than subjects reporting using minimum attention.

In a replication study (Freeston & Ladouceur, 1993), the link between appraisal and strategy use was made more explicit. Appraisals of high probability and low disapproval were associated with greater use of sustained attention strategies whereas appraisals of low probability and high disapproval were associated with greater use of escape/avoidance strategies. Further, greater use of minimal attention was associated with appraisals of low probability than with high probability and high disapproval. This line of study was continued with structured interviews in a non-clinical sample (Freeston, Ladouceur, Provencher & Blais, In press). It examined strategies used when intrusive thoughts occur as a function of potential discriminative stimuli (sequences, context, thought appraisal), mood state, and efficacy. Structured interviews identified strategies used by 53 normal subjects when the most frequent intrusive thought occurred. The seven major strategies used to cope with the thoughts were physical action, thought replacement, analyzing the thought, talking to others, thought stopping, attempts to convince that the thought has no importance, and doing nothing. Results suggest that the choice of a strategy is not random: some strategies were used in particular situations, in specific sequences, and according to the intensity and appraisal of the intrusive thought. All strategies were equally efficient (or inefficient) and efficacy was not associated with thought characteristics. Thought appraisal was related to mood intensity whereas depressed mood was associated with lower efficacy of strategies.

Our own clinical experience in treating a number of OCD patients without overt rituals (Ladouceur et al., 1993; In press) first confronted us with the repertoire of cognitive activities that are available. We observed a few cognitive rituals meeting the strict Turner and Beidel (1988) definition, several meeting Rachman's original definition of neutralizing as "attempts at putting right", but the vast majority of strategies seemed to fall within the group described by Rachman and de Silva (1978) as coping mechanisms. Further, a group of 14 such patients did not differ from matched non-clinical subjects on the number of escape-avoidance strategies used according to a questionnaire measure of strategies specifically developed for this purpose and largely based on the Rachman and de Silva (1978) study (Freeston, Ladouceur, Gagnon, & Thibodeau, 1991b). Although power was limited, it was surprising that few differences emerged. However, more detailed analysis revealed that three-quarters of the patients reported thinking it through compared to a third of the control subjects. Further, two-thirds of the patients reported seeking reassurance and saying "stop" while only a quarter of the controls did so. Finally, seven patients and two controls reported using a neutralizing strategy. All of these results reached significance at the .05 level, but were not significant once Bonferroni adjustments were applied. Five controls and two patients reported doing nothing and between two and four subjects in each group reported using self-reassurance, thought replacement, mental distraction, or distracting

activities. Thus, these findings support the idea that all subjects use coping strategies and that some subjects use neutralizing strategies.

Similar results were obtained by Purdon and Clark (1994) who compared subjects scoring above the 75th percentile (n = 69) of the Padua Inventory, a comprehensive measure of OCD symptoms, with subjects scoring below the 25th percentile (n = 64). No significant differences were found for reported use of a variety of strategies in response to narrowly defined ego-dystonic obsessional intrusive thoughts. In fact, 40-60% of subjects in both groups reported using distraction, neutralizing, self-reassurance, and reassurance from others whereas 70% of low scorers and 30% of high scorers reported doing nothing.

One striking feature with obsessional patients is the apparently structured way in which the different coping strategies are used. The choice of a strategy is not random. It seems to be determined by personal rules related to discriminative stimuli. Experience with both clinical populations and questionnaire and interview studies with the general population support the diversity and complexity of the responses to intrusive thoughts and obsessions. Given the role of neutralizing responses and thought control in models of OCD and the emerging popularity of cognitive response prevention in the treatment of obsessions, it becomes essential to know what patients actually do with their thoughts and what are the targets for response prevention. Failure to adequately identify all forms of anxiety-reducing responses will ultimately lead to non-functional exposure. The goal of the

present study was to collect naturalistic descriptions of strategies using a structured interview and to relate them to the experience of intrusive thoughts in terms of thought intensity and mood associated with the thought.

Method

Subjects

Twenty-nine patients diagnosed with Obsessive-Compulsive Disorder (DSM-III-R, APA, 1987) without overt compulsions participated in this study. They represent consecutive patients for our treatment program who completed the interview as part of pretreatment assessment. All were French-speaking Caucasians. There were 16 men and 13 women and 58.6% were married, 17.2% were divorced, and 24.2% were single. The average age was 35.8 years (range 22 to 53) and subjects had an average of 14.4 years of education (range 9 to 19). The mean duration of the illness was 9.4 years (range 1 to 39) and 83% had previously consulted for obsessional problems. Pretreatment scores on the Yale-Brown Obsessive Compulsive Scale (Goodman et al., 1989) indicated that all subjects had clinically significant OCD symptoms ($\underline{M}$ = 23.5, $\underline{SD}$ = 5.6). All subjects were interviewed by an experienced clinician using a semi-structured interview. The interview was recorded and a second clinician confirmed the diagnostic and inclusion criteria.

Instruments

Structured Interview. The structured interview used the most frequent thought identified in the Cognitive Intrusions Questionnaire (CIQ; Freeston et al., 1991a; Freeston & Ladouceur, 1993). The CIQ first asks subjects whether in the last month they had experienced intrusive thoughts, images, or impulses on six proposed themes or a seventh personal theme. Subjects were then asked to choose the most frequent thought. They then evaluate the thought on different dimensions (emotional reactions, appraisals, form, strategies used to counter the thought, etc.) using 9 point likert-type scales. We have used the CIQ extensively in both clinical and nonclinical samples and have demonstrated adequate reliability and validity (Freeston et al., 1991a; Freeston & Ladouceur, 1993). Once the most frequent thought has been identified the interview proceeds. Clear written directives were available to the interviewer. Subjects were asked to form the thought clearly at the start of the interview. The interviewer then used 10 probe questions based on the strategies assessed in the CIQ to elicit examples of strategies. Sub-questioning continued until operational descriptions were obtained for each strategy and further similar examples were sought. Once the repertoire had been established, each strategy was then assessed in detail. The following parameters were assessed: context, that is, whether the strategy was typically used in a particular situation (scored as yes when a specific location, activity, or social situation was provided), the intensity of the thought (rated on a five-point likert scale from 0, not at all, to 4, extremely), the typical mood state when the strategy was used (as

labelled by the subject), the mood intensity, and the immediate efficiency of the strategy (both rated on the 0 to 4 scale).

Interviewers

The interviewers were all trained clinicians and received four hours of training that included viewing a demonstration interview by the first author, conducting an audio-taped interview, and listening to and discussing the interview and two other interviews together with the other team members.

Procedure

Interviews lasted from about 40 minutes to two hours according to the complexity of the repertoire. All interviews were recorded to allow for reliability checks. Interview data were transcribed onto coding sheets. Data was retranscribed by a second independent rater for 17% of the interviews. Inter-rater agreement was 91% for the strategies used, 88% for the presence of a context, 82% for the intensity of the thought, 94% for the type of emotion, 86% for the intensity of the emotion, and 88% for the efficiency of the thought. Thus the reliability of the pooled data for the six dimensions was 88%. The type of strategy was then coded according to a grid describing 21 classes of behavior used with intrusive thoughts. The scoring grid has been described elsewhere and has proven reliability (Freeston et al., In press). Two independent coders independently rated 17% of the interviews and established a reliability of 89% agreement for the strategy type.

Results

Strategies

Subjects reported between 6 and 18 different strategies (M = 10.6, SD = 3.4). The strategies reported can be considered in two ways: the percentage of people reporting that they use a strategy and the number of times a given strategy is reported as a percentage of all reported strategies (Table 1). Seven types of strategy were used extensively according to both criteria: 1) Physical action, 2) Thought stopping, 3) Try to convince that thought is unimportant, 4) Thought replacement, 5) Talk about, 6) Do nothing, and 7) Analyze. These strategies were all used by at least half the subjects (with the exception of Analyze, reported by 48.3%) and each represented more than 5% of the total strategies. In fact these seven strategies accounted for 77% of all the strategies identified. It is interesting to note that 62.1% of subjects reported strategies that were not classifiable. They probably represent either idiosyncratic strategies that do not easily fall into categories, or strategies such as avoidance and transferring responsibility that were very infrequent in the non-clinical sample where the grid was developed.

Insert Table 1 about here

Note also the range and mean of the efficacy ratings given for each strategy. The efficacy of the most frequently used strategies varied greatly. It must be remembered that 2 corresponds to the mid-

point of the scale with 0 indicating not all efficient and 4 indicating extremely efficient. Only one strategy, Talking about the thoughts, reached a mean rating of 2 (fairly efficient). All of the seven major categories fell between 1.3 (Thought stopping) and 2.0. The unclassifiable strategies were rated among the more efficient strategies with a mean rating of 2.2. Many subjects reported a range for the efficacy which, in many cases, varied from 0 to 4. Thus a given strategy was sometimes highly successful whereas on other occasions the same strategy was no help at all.

Examples

To highlight the variable and idiosyncratic nature of the neutralization repertoires, three case examples are given (Table 2). All target thoughts were similar harming obsessions about losing control and attacking people. Although the same main groups of strategies are all present, there is a great deal of variability in the specific strategies used. Note also the efficacy is quite variable. In all three cases superficially similar strategies were used to deal with the thoughts. For example, all three used talking with others, but the function was different. The first never mentioned her thoughts or her upset - other people provided distraction only. The second used others to provide social support but did not seem to involve responsibility as he did not talk directly about the thoughts. The third, as well as calling people just to distract herself, specifically sought reassurance from her husband and from a psychiatrist (as well as using the memory of previous consultations) to try to convince herself that the thoughts

were harmless. Thus superficially similar strategies had different degrees of linkage to the thoughts.

Insert Table 2 about here

Variables linked to strategy use.

To explore strategy use as a function of other variables, all strategies falling into one of the seven major categories listed above were retained. This resulted in a sample of 235 strategies; twenty-nine subjects each contributed between 4 and 13 strategies to this pool (mean = 8.10). Although the observations in this pool are not strictly independent, analyzing them as such provides a solution to the problems caused by individual behavioral repertoires of varying size and content. Physical actions represented 31.5% of this reduced pool with the other six strategies each representing between 7 and 13%.

The presence/absence of a particular physical context was examined using the binomial test. A modified Bonferroni procedure was used to control type 1 error (Simes, 1986). Context here refers to the thought occurring in a particular situation that provides the means necessary for certain strategies (e.g. the presence or absence of other people, being at home enables certain activities), or alternatively prevents some strategies being used (e.g. being in class or with other people may prevent a very attention demanding strategy from being

used). The context was scored as present when the individual stated that the strategy use was associated with a specific context and provided at least one example of a specific location, activity, or social situation (Table 2). Only Physical actions were significantly associated with a context. However, power was limited by the small number of strategies where equivalent splits (approximately 30% vs 70%) were observed for Thought replacement, Talking about and Doing nothing. In these three cases the differences were not significant

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Insert Table 3 about here

For the seven strategies retained, analysis of variance was used for the three dimensions rated on the 0 to 4 scale, namely, thought intensity, emotion intensity, and strategy efficacy. There was a significant category effect for the thought intensity ratings (F (6, 228) = 2.57, $p<.01$); follow-up Tukey-Kramer analysis showed that the thought's intensity was significantly greater when subjects reported using Talking to someone, than when they reported Doing nothing (Table 3). A similar result was found for the intensity of the emotion (F (6, 228) = 3.94, $p<.01$). The Tukey-Kramer test showed that Talking to others was associated with a significantly higher emotional intensity than Doing nothing, Trying to convince oneself, and Thought replacement. Finally, the efficacy rating main effect was not significant.

Insert Table 4 about here

Mood

Mood was considered in two ways: type and intensity. First, mood was coded according to one of six categories using a grid developed for this purpose (Blais, Freeston, & Ladouceur, 1994): anxious (58%), depressed (23%), hostile (3%), neutral (0%), positive (11%), uncodable (6%). Strategies where the mood state was anxious or depressed were retained, resulting in 47 strategies used in depressed moods and 192 in anxious moods. Analysis of variance showed that the intensity of depressed mood was no more severe than the intensity of anxious mood. There did not seem to be any clear pattern of strategy use according to the type of mood. Neither the thought intensity nor the efficacy varied according to mood type. Next mood intensity ratings were considered. Mood intensity was moderately correlated with thought intensity (r = .65, p<.0001) but efficacy was unrelated to mood intensity.

Descriptive analyses

When the strategies were first coded according to the grid, the great majority (91.5%) fitted in well. However, a proportion of the strategies seemed qualitatively different from the bulk of the strategies observed in the non-clinical sample in that they seemed either bizarre or especially perseverant, or they seemed based on the premise that the obsessional thought was true. In short they had a clinical quality to them. Thus the strategies were examined a second time to describe those with an apparent clinical quality.

In terms of cognitive strategies, 23 subjects (79%) used a variety of strategies that went beyond simple thought replacement with non-specific positive thoughts, analysis, etc. Seven subjects "ran the film" in their heads, either to see what had happened, or in some cases, to see what might happen. Four subjects used magical phrases such as "In the name of Jesus Christ I cast out this thought! Out Satan!" and "I love life, I love the world". Seven used images to undo thoughts such as imagining one's children in safety, seeing one's body as healthy, and in one case pornographic films were used to generate heterosexual sexual images that were considered acceptable by the subject. Two used counting rituals and three repeated thoughts in their head (one repeated telephone numbers, the others repeated phrases such as "Forget it!" and "Cancel!". Three subjects reported mental tricks which for two subjects had been learnt from previous therapists: in one case the subject sent the "bad thoughts" off in a hot air balloon, in the second, the patient would "shrink the situation in the palm of my hand until it is controllable". The third subject sometimes forced himself to resolve ambiguities by "deciding between life and death" or "if someone held a gun to your head, how would you answer?" Other strategies used were praying (10 subjects), resigning oneself to one's fate (used exclusively with somatic obsessions, 4 subjects), and using information obtained from a specialist (e.g. Doctor, Psychologist, Psychiatrist) to convince oneself that one is not dangerous, crazy, suffering from an incurable disease, etc. (10 subjects). This last form lies somewhere between a cognitive strategy and reassurance seeking

because it always refers to previous consultation. The strategies described above made up only 33% of all cognitive strategies.

Most of the physically observable actions were various non-specific forms of distraction or attempts at relaxation. However, 59% used more specific strategies: there were eight subjects who reported avoidance in one form or another, six subjects who reported occasional checking or ordering behavior, and six who reported more extreme forms of distraction. These forms were doing sums on a calculator and hurting oneself (pinching, digging in fingernails, pulling hair), singing, matching clothes, writing out the obsessions (2 cases), and switching to a TV channel in a second language to increase the cognitive effort. Together, these strategies represented 23% of all physically observable strategies.

Direct reassurance seeking (7 subjects) or transfering responsibility (7 subjects) was reported by 41% of the sample. Eight subjects talked to others (parents, spouses, siblings, friends, colleagues) about their thoughts without directly seeking reassurance or trying to transfer responsibility. In all, 17 subjects (58.6%) involved other people in their neutralization.

Discussion

This study systematically described the repertoire of strategies used by patients with dominant obsessive thoughts. Extensive repertoires were reported, characterized by low to moderate mean efficacy in successfully removing the thoughts and equally important, large variations in efficacy were reported for a given category of

responses. Overall, the strategies reported were in proportions similar to strategies reported in the non-clinical samples. The clinical repertoires were somewhat larger (10.6 vs 8.0) but the same seven strategy groupings made up more than three-quarters of all strategies reported. The mean efficacy ratings were somewhat lower (1.3 - 2.0 vs 2.0 - 2.7) for the seven main strategies indicating that as may be expected, patients' attempts at coping with the thought were less efficient than non-clinical subjects.

Strategies involving an observable physical action were often associated with particular contexts which provided the material support necessary for the activity, for example, television, sport, reading, walking etc.. The most intense thoughts were associated with talking to other people whereas when thoughts were significantly less intense, patients reported that they could do nothing in response to the thought. Emotional intensity was significantly greater when subjects reported talking to others than when they did nothing, tried to convince themselves that the thought did not mean anything, or tried to replace the thought. Thus talking to someone, reported by 58.6% of the sample, was used for the most intense thoughts and emotions and was the only frequently used strategy to attain a moderate mean efficacy rating.

Identifiable mood states were coded in terms of mood type and there were surprising results. According to the clinical literature, anxious mood was the most frequent in one study (Farid, 1986), but hostility was also reported by many patients (see also Beech & Vaughn, 1978; Millar, 1983; Reed, 1985; Walker & Beech, 1969).

According to one account obsessional patients are inclined to suppress anger (Mellet, 1974). Although the current sample was moderately depressed[1], more than a half of mood states reported were anxious in nature (58%), less than a quarter were depressed (23%), and only 3% were hostile. This is in contrast with the non-clinical sample who reported proportionally less anxious moods (41%) and proportionally more depressed (28%) and hostile mood (11%). A number of factors may account for the predominance of anxious mood in the clinical sample. For example, subjects were describing strategies used in response to specific thoughts. Mood state thus refers to the emotion when the thought was present. As most obsessive thoughts result in perceptions of threat when inadequately appraised, anxiety-related emotions may indeed be an accurate reflection. Alternatively, some OCD patients may not be very good at distinguishing between different emotional states, thus labeling many intense emotions as anxiety, stress, etc. This explanation receives some support from the finding that non-clinical subjects used significantly more different words than clinical subjects when naming their emotional states (4.35 vs 3.30).

For the clinical sample, there were no differences according to mood type between strategy use, thought or mood intensity, or strategy efficacy. In addition to the differences in the moods reported between the samples, strategies used while depressed were less efficient than while anxious in the non-clinical sample only (Freeston et al., in press). There was no relationship between efficacy and mood intensity in either clinical or non-clinical samples. Thus in the clinical sample, differences related to mood type are not as clear as in the

non-clinical sample. As suggested earlier, this may be due to failure to distinguish between mood types or may reflect higher chronic levels of dysphoric mood on which acute anxious episodes are superimposed when obsessive thoughts occur.

The more detailed descriptive analysis of the strategies found that there are qualitative characteristics associated with some strategies used by clinical subjects. A few met formal characteristics of cognitive rituals, some corresponded to the earlier concept of neutralization, whereas most corresponded to coping mechanisms according to Rachman's descriptions (Rachman & de Silva, 1978). A number also clearly involved Salkovskis' idea of neutralizing as a means of decreasing subjective responsibility that characterizes his theoretical writings (Salkovskis, 1985, 1989a). However, these strategies only made up a third and a quarter of cognitive and physically observable strategies respectively. To state this another way, the large majority of strategies were not cognitive rituals or neutralization in a narrow sense, even though they were effortful, intentional, and deployed in a strategic way.

We previously stated that Salkovskis' original definition should be expanded to include other strategies that do not necessarily terminate exposure to the thought (Freeston et al., 1991a). A strategy may be used to change the thought's meaning without terminating contact with the thought. The current data certainly support this position and we would define neutralization as any voluntary, effortful cognitive or behavioral act that is directed at removing, preventing, or attenuating the thought or the associated discomfort.

These data are also relevant to recent changes in psychiatric nosology. One change in DSM-IV (APA, 1994) is that the definition of compulsions now explicitly includes mental acts: compulsions are "repetitive behaviors (..) or mental acts (..) that the person feels driven to perform in response to an obsession, or according to rules that must be applied rigidly" that "are aimed at preventing or reducing distress or preventing some dreaded event or situation; however these behaviors or mental acts are not connected in a realistic way with what they are designed to neutralize or prevent, or are clearly excessive" (p. 423). The inclusion of mental acts is certainly to be applauded but the current data suggest that it may not go far enough. Many forms of neutralization identified here do not meet the DSM-IV (APA, 1994) definition of a cognitive compulsion in that they may not be repetitive, "driven to perform... or according to rules (p. 423) ". However, this does not prevent a diagnosis of OCD as the various forms of neutralization described here meet the following diagnostic criteria for obsessions: "the person attempts to ignore or suppress such thoughts or impulses or to neutralize them with some thought or action" (p. 422).

Although there is a general consensus as to the importance of neutralizing behavior in OCD in general, a consensus that is certainly stronger where overt compulsions are concerned, there is less consensus concerning the exact role of neutralization and how its proscription leads to change. The classical accounts refer to habituation and indeed proponents of various forms of exposure with response prevention have generally provided a habituation-based

account (e.g. Likierman & Rachman, 1982; Rachman, 1976; Salkovskis & Westbrook, 1989). From this standpoint response prevention favors habituation by preventing early termination of exposure. However, the accumulating evidence from the thought suppression paradigm offers an alternative account where attempts to suppress result in enhancement and/or rebound effects (see Wegner & Erber, 1992). In this account, the desire to suppress certain thoughts results in internal hypervigilance for evidence that the thought is present. In order to know that the thought is not present, there is a continued search for any reminder of the thought which consequently triggers the thought. Response prevention in this account stops suppression from taking place, thus eliminating the need for the automatic target search that ultimately triggers the thought.

There are several attempts to formulate models of obsessions based on current cognitive theory. Salkovskis (1985, 1989a) proposed that neutralization reduces perceived responsibility. Thus, response prevention would serve to challenge beliefs about responsibility as a behavioral experiment. In an attempted integration of Wegner's and Salkovskis' positions, Clark and Purdon (1993) propose that beliefs about the need to control thoughts are critical in OCD. They suggest that the various neutralization strategies are only symptomatic of underlying beliefs about control and have no causal role. From this standpoint response prevention is only useful if it helps disconfirm beliefs about the need for control. Finally, Freeston and Ladouceur (1994a) propose that various types of inadequate appraisal of intrusive thoughts lead to the development and maintenance of OCD

including appraisals of responsibility, the need for thought control, the overestimation of danger, the moral implications, the dangerous consequences of anxiety, or any other idiosyncratic interpretation. Neutralization prevents these appraisals from being successfully challenged and may even strengthen the underlying beliefs by the "near miss" phenomena described by Salkovskis (1991). Here the non-occurrence of the feared consequences may be perceived as further proof of the validity of the underlying belief, for example, the need to keep control, or to be careful. From this perspective, response prevention together with exposure, provides a behavioral experiment that can challenge any or all of the inadequate appraisals.

Clinical considerations

Salkovskis (1991) has proposed a distinction between coping responses to anxiety, which are adaptive, and avoidant responses which maintain anxiety. He states that the first deal only with anxiety whereas the second deal with the threat. Some of the strategies described in the present study may be addressing the anxiety component, particularly the strategies that are less specific to the intrusive thought. Does this mean that only the more specific strategies should be targeted for response prevention? The answer may be yes if we could reliably distinguish between those that only dealt with anxiety and those that dealt with the perception of threat. In fact Salkovskis (1991) suggest that coping strategies may enhance cognitive change in as much as this reinforces an alternative non-threat based account of symptoms. In reality the distinction is difficult. Feeling less anxious, for example, may indirectly increase the

sense of control, thus decreasing the perception of threat. Further, we have proposed that the level of anxiety modulates the strength of beliefs and appraisals of threat (see Freeston and Ladouceur, 1994b). Thus although some strategies may be adaptive in that they only deal with anxiety, they may indirectly prevent underlying beliefs from being successfully challenged, either because they modify the appraisal or because anxiety levels do not rise to the critical levels necessary for activating the dysfunctional beliefs.

We currently recommend that all neutralizing strategies should initially be targeted for response prevention. Detailed behavioral assessment such as with the structured interview used here is obviously one way to increase the patient's awareness. In fact, when non-clinical subjects were reinterviewed two-weeks after the initial interview, they reported that the strategies were significantly less efficient (Ladouceur, Freeston, Blais, & Provencher, 1993). This type of awareness may certainly help subjects accept the rationale for response prevention. Self-monitoring of strategies for a week or more may also be useful and may highlight the "hit and miss" nature of many neutralizing strategies in removing the thought and decreasing the distress.

Response prevention of all neutralizing strategies will minimize the chances of a particularly undesirable situation arising. In this situation adequate responses (adequate appraisal, exposure, response prevention) are emitted under low-moderate anxiety but inadequate responses (inadequate appraisals, neutralization) still occur under high anxiety conditions. The adequate responses are coherent with a non-

threat based account of obsessions (e.g. these are only thoughts, they do not mean that I am dangerous) whereas the inadequate response occurs when the patient reverts to the threat-based account (e.g. thinking these thoughts means that I am dangerous). Once the alternative non-threat based model has been well established, anxiety-reducing coping strategies may be reintroduced as part of a relapse-prevention package, but not to deal specifically with obsessive thoughts. Exposure and response prevention during relapse seems to be the most effective way of reestablishing and maintaining the alternative non-threat model.

When planning treatment it is important to take the individual repertoire into account. Take the three cases presented in detail which describe strategies used in response to similar harming obsessions. The strategies used by the first were largely based around distraction, mostly with social activities[2]. The patient had become a social butterfly who often engaged in social activity with the sole purpose of escaping her thoughts. However as social activity is both normal and reinforcing, it was necessary to reschedule activities so that they were no longer contingent on thoughts. One way was through response delay: planned or unplanned social activities could not be engaged in immediately if a thought occurred. The patient waited 30 minutes before telephoning, going out etc. It was also necessary to schedule solitary activities and staying at home so that the thoughts could naturally occur and she could learn to tolerate them without distracting herself. In the second case, ritualized thought replacement strategies (repeating, counting, etc.) dominated, but the patient did not

ascribe any magical powers to these thoughts: they were simply convenient distractors. Tape loop exposure was highly effective but had to be supplemented by in vivo exposure as the patient avoided particular people who were the subject of the aggressive thoughts. The physical distraction (singing, TV, etc.), thought stopping, and internal dialogue were easily eliminated.

The third case was a little more complicated due to the patient's resourcefulness and desperation that resulted in a complex array of implicit alternative accounts of obsessive symptoms and related strategies. Reassurance seeking, elaborate mental strategies, physical means of distraction, prayer, and reliance on traditional and alternative medicine were associated with a large number of explanations of OCD: biological (serotonin uptake hypothesis), humanistic, inspirational, religious, and homeopathic interpretations all competed. At any given moment the current model dictated the response strategy. It was necessary to involve the husband (who was the psychiatrist's proxy in providing reassurance from the medical model), delicately reformulate the role of humanistic, inspirational, and religious beliefs and strategies (retaining only those that were not contingent on the occurrence or anticipated occurrence of thoughts), and, at the patient's suggestion, suspend the alternative medicine for the duration of the treatment. By eliminating the different responses, the patient could act coherently with the cognitive-behavioral account that served as a basis for treatment. She was then able to modify her beliefs about her aggressive thoughts and their implications. Thus response prevention targeted strategies linked to the thoughts,

distinguishing for example, praying for courage and strength to engage in therapy from praying for forgiveness and deliverance from the thoughts, and healthy living as a means to general health from healthy living as a means of preventing obsessions. Whenever there was doubt, the strategy was eliminated or suspended for the duration of the treatment.

We have seen cases where therapeutic strategies of various origins, including a Socratic dialogue learnt in a previous cognitive therapy, have become neutralizing strategies (see also Steketee, 1993). Further, when subjects develop adequate appraisals during the course of therapy they are sometimes confused as to whether their appraisal is a form of neutralization or not. To prevent confusion between adaptive or avoidant strategies, between adequate appraisals and possible neutralization we provide patients with the following rule of thumb: "If you are not sure if you neutralized or not, re-expose immediately - the worst that can happen is that the treatment will produce quicker results!".

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Correspondence should be addressed to Mark Freeston, Ecole de Psychologie, Université Laval, Québec, Canada, G1K 7P4

Foot Notes

[1] The mean Beck Depression Inventory Score for the sample was 21, indicating moderate depression.

[2] It is interesting to note that one of the strategies, going through her wardrobe to find possible combinations of clothes, seemed to have some link to a childhood ritual. She reported that at the age of 8, she spent a great deal of time ordering objects, particularly clothes and books. The choice of strategy in adulthood seems to have taken a previous comforting activity and modified it as a function of current interests (see also Salkovskis, 1985).

Table 1

Strategies Used to Control Intrusive Thoughts: Percentage of Subjects and of all Strategies, and Mean Efficacy.

	Strategy	% reporting strategy[1]	% of all strategies[2]	Mean efficacy	Efficiency range
1	Physical action	89.7	24.2	1.95	0-4
2	Thought stopping	75.9	8.2	1.29	0-3
3	Try to convince that it is unimportant	72.4	11.1	1.79	1-4
4	Thought replacement	69.0	11.4	1.84	0-3
5	Talk about the thoughts	58.6	10.5	2.03	1-4
6	Do nothing	55.2	5.7	1.77	0-3
7	Analyze	48.3	5.9	1.47	0-4
8	Religious strategy	34.5	2.9	1.56	0-4
9	Plan an action	20.7	2.6	1.57	1-3
10	Evaluate thought as unimportant	17.2	2.3	2.14	0-4
11	Relax or meditate	17.2	1.6	2.40	1-3
12	Visualize the thought	13.8	1.3	0.33	0-1
13	Act out the thought mentally	6.9	0.7	2.0	0-4
14	Verbal checking	3.5	1.3	2.00	1-4
15	Overt action to control activation	3.5	0.7	2.50	2-3
16	Think about it	3.5	0.3	3.00	
20	Unclassifiable	62.1	9.5	2.21	0-4

[1] N = 29

[2] N= 306

Table 2

Strategies Used With Obsessional Thoughts

a) Case 1 (Woman, 23 yrs, student, harming obsessions)

Strategy	Efficacy
Physical action	
Examines clothes to see what could go together	2
Listens to music	2
Sport	2
Thought replacement	
Thinks about pleasant things	3
Analyzes the thought	
Examines	1
Tries to understand	0
Talks to others	
Telephones friends	3
Socializes	3
Flirts	3
Thought stopping	
"Stop that, I must concentrate"	0-2
Does nothing	1
Other	
Applies stress management techniques	0-2

Obsessive Thoughts

Table 2 (continued)

b) Case 2 (Man, 28 yrs, factory worker, aggressive thoughts)

Strategy	Efficacy
Physical action	
Sings	1
Goes out (walks, drives)	2
Watches television	2
Thought replacement	
Counts days, steps	1
Repeats letters, names, telephone numbers	1
Pleasant thoughts (vacations etc.)	2
Thinks about how to dress for a party	1
Analyzes the thought	
Tries to find causes and reasons	0
Talks to others	
Talks with colleagues, parents to cheer himself up	2
Thought stopping	
"Stop!"	2
Tries to convince	
"It will go away, its not normal, its not me, I will be back to myself again"	1
"I've found a specialist, I'm lucky, its just a question of time"	1
Other	
Avoids or leaves situation	0-3

Table 2 (continued)

b) Case 3 (Woman, 29 yrs, government clerk, aggressive thoughts)

Strategy	Efficacy
Physical action	
Watches TV	0-4
Listens to music	0-4
Reads	1
Thought replacement	
Mental imagery - Sends fears away in a hot air balloon	3
Replaces with good thoughts	2
Gives herself a mental "kick in the pants"	3
Remembers passages from an inspirational self-help book	2
Thinks about future projects	0-3
Analyzes the thought	
Tries to find solutions	1
Talks to others	
Husband	2
Psychiatrist	1
Calls others just to chat	3
Tries to convince	
"It's a bad thought, it's not me, I'm not bad, it's a symptom"	1
Other	
Prays	3
Consults acupuncturist, masseur, or homeopath	3
Lies down and avoids the thought	2

Table 3

Context Associated with Strategies

Strategy		n	%	z
1	Physical action	61	70.5	3.07*
2	Thought replacement	30	68.3	1.83
3	Analyze	20	40.0	< 1
8	Talk about	29	69.0	1.86
11	Thought stopping	15	40.0	< 1
14	Try to convince oneself	13	53.8	< 1
16	Do nothing	25	32.0	1.60

* Significantly different from chance responding (50%) with Bonferroni correction modified by Simes (1986).

Table 4

Mean Thought Intensity and Emotion Intensity Associated With Each Strategy

Strategy		Thought Intensity		Emotion Intensity	
	n	M	SD	M	SD
Physical action	59	2.25	1.22	2.28	1.19
Thought replacement	32	2.00	0.98	2.17	1.07
Analyze	23	2.27	1.01	2.37	1.07
Talk about	32	2.71	1.04	2.94	1.11
Thought stopping	16	1.93	1.12	2.20	1.42
Try to convince oneself	12	1.41	0.67	1.27	0.64
Do nothing	27	2.03	1.09	1.96	0.97

CHAPITRE 3

L'ÉTAT ÉMOTIONNEL, L'ÉVALUATION COGNITIVE, LES ÉVÉNEMENTS QUOTIDIENS ET LA GRAVITÉ DES SYMPTOMES OBSESSIONNELS DANS LE TROUBLE OBSESSIONNEL SANS COMPULSION MANIFESTE

Résumé

Les modèles actuels du trouble obsessionnel-compulsif proposent que l'état émotionnel influence l'expérience subjective, l'évaluation cognitive et les conséquences des pensées obsessionnelles. Les relations entre l'état émotionnel, l'évaluation cognitive, les événements négatifs quotidiens et la gravité des obsessions furent examinées auprès de 27 patients souffrant du Trouble obsessionnel-compulsif. Chaque jour, les patients observent et enregistrent eux-mêmes (à trois reprises) leur état émotionnel afin de préciser les critères d'un état calme et ceux d'un état perturbé. Lorsque leur état émotionnel atteint l'un des critères préétablis, les patients remplissent des inventaires mesurant l'anxiété, la dépression, les croyances, l'évaluation cognitive et les événements négatifs quotidiens. Les résultats indiquent que cette manipulation naturelle de l'état émotionnel est associée à des différences significatives en regard de toutes les variables. Les sujets rapportent des différences importantes concernant les mesures d'anxiété et de dépression qui sont également associées aux différences en ce qui à trait à la gravité, l'évaluation cognitive et les croyances reliées aux obsessions. Enfin, les changements dans l'état émotionnel des sujets sont en relation avec le nombre d'événements négatifs quotidiens. Les implications théoriques et cliniques sont discutées.

Mood, Cognitive Appraisal, Daily Life Events and Obsessional Severity in OCD Without Overt Compulsions

Mark H. Freeston and Robert Ladouceur

Université Laval and

Centre de recherche Université Laval Robert-Giffard

Running Head: MOOD AND OBSESSIONS

Abstract

Models of obsessive compulsive disorder postulate the modulating influence of mood on the experience, appraisal, and consequences of obsessional thoughts. The relationship between mood, cognitive appraisal, daily life events and obsessional severity were studied among 27 patients with Obsessive-Compulsive Disorder with predominant obsessional thoughts and few or no overt rituals. Patients monitored their mood state three times a day to set criterion scores for calm and disturbed mood. When mood state reached predetermined criteria the patients completed measures of anxiety and depression, beliefs, appraisal, and daily hassles. The naturalistic mood manipulation was associated with significant differences on all measures. The subjects reported large differences on measures of anxiety and depression and these changes were associated with differences in obsession severity, appraisal of the obsession, and beliefs about obsessions. Further, the changes in mood were associated with changes in the number of daily hassles reported. The theoretical and clinical implications are discussed.

Mood, Cognitive Appraisal, Daily Life Events and Obsessional Severity in OCD Without Overt Compulsions.

Clinical descriptions of OCD frequently include adverse mood states that are variously described as anxiety, discomfort, tension, depression, frustration, anger, irritability, hostility, and guilt (Farid, 1986a, 1986b; Marks, 1987; Manchanda, Sethi, & Gupta, 1979; Millar, 1983; Rachman & Hodgson, 1980; Reed, 1985). These are often assumed to be consequences of obsessions or compulsions. However, Beech and Vaughn (1978) point out "the significance of alterations in mood, particularly depression, in determining ritualistic behavior, including ruminations" (p. 12). Our own experience suggests that patients often report increases in obsessions following rather than preceding deteriorating mood state.

Some models of obsessional-compulsive disorder (e.g. Beech & Liddell, 1974; Rachman & Hodgson, 1980; Salkovskis, 1985; Warren & Zgourides, 1991) postulate a specific role for mood. In an early account, Beech and Liddell (1974) actually gave primacy to mood in a causal chain which ultimately resulted in the report of obsessions and observable rituals. In a bridge between behavioral and more cognitive accounts, Rachman and Hodgson (1980) identified dysphoric emotional state, exposure to stress, and a tendency to be "dysthymic, neurotic and introverted" as three of five predisposing factors for the development of OCD (the other two are a personal definition of what is unacceptable and a hypersensitivity to cues of threat and danger).

More recently Salkovskis (1985) postulated a modulating influence of mood on the experience, appraisal, and consequences of obsessional thoughts where it acts by increasing the number of mood-congruent intrusions, increasing the range of triggering stimuli, and stimulating the activation of dysfunctional schemata. Finally, Warren and Zgourides (1991) identify stress and associated negative affect as one of the factors influencing intrusions as well as identifying negative affect as a consequence of intrusions interpreted in light of irrational beliefs. Clinical experience and retrospective chart studies certainly support a close link between mood and obsessions (e.g. Black, 1974; Rachman & Hodgson, 1980; Ricciardi & McNally, 1992) but no direct empirical support exists as yet.

There has been a great deal of discussion over the last decade about the relationship between mood and cognition in the emotional disorders, and in depression in particular (see Ingram & Kendall, 1992). There is now some evidence that the cognitions typical of mood disorder are present only when the individual is in a negative mood state. There are two types of evidence available, the first concerns measures of irrational thinking assessed by measures of irrational beliefs and dysfunctional attitudes. The second concerns the tendency of anxious subjects to impose exaggerated threatening interpretations on ambiguous and/or negative events.

Madigan and Bollenbach (1986) found that normal subjects in an induced negative mood endorsed more irrational beliefs than subjects in induced neutral and happy moods. Among normal subjects, mood induction procedures (elated vs. sad) resulted in differential

endorsement of dysfunctional attitudes associated with depression (Miranda & Persons, 1988). More importantly, non-depressed subjects with a previous history of depression endorsed more dysfunctional attitudes, but only while in the induced sad mood. A further study with 47 depressed patients with diurnal mood variations showed that dysfunctional thinking increased when mood was worst and decreased when mood was best (Miranda, Persons, & Byers, 1990). Further, the natural mood-state dependence of dysfunctional thinking was also observed in non-depressed subjects with a previous history of depression, but not among never-depressed subjects (Miranda et al., 1990). Finally, Miranda (1992) reported that among subjects who were currently non-depressed, only those with a previous episode of depression reported more dysfunctional thinking as a function of the number of stressful life events. These three studies strongly suggest that dysfunctional attitudes are activated when people are in a depressed mood, and a previous history of depression combined with stress will activate these attitudes.

The subjective probability of negative events has been shown to increase with induced negative mood among normal subjects (Butler & Mathews, 1987; Constans and Mathews, 1993; Johnson & Tversky, 1983). Clinically anxious and depressed subjects believed that negative life events were more likely to happen to them than controls (Butler & Mathews, 1983). Likewise, anxious subjects interpreted ambiguous homophones in a more threatening manner (Eysenck, MacLeod & Mathews, 1987; Mathews, Richards, & Eysenck; 1989) and currently anxious subjects claimed to recognize more threatening

versions of previously presented ambiguous sentences (Eysenck, Mogg, May, Richards, & Mathews, 1991). Further, anxious subjects could generate more reasons why a negative event was likely to occur than controls (MacLeod, Williams and Bekerian, 1991).

Two recent studies are particularly important for this line of research. First, MacLeod and Cohen (1993) used a modified procedure and replicated the finding that high trait anxious subjects selectively impose threatening meanings on ambiguous information. More importantly they minimized the possibility of demand effects and confirmed that anxious subjects do in fact interpret more negatively, rather than simply selecting the more negative of alternative responses. Second, Constans and Mathews (1993) showed that although exposure to information about hypothetical negative events will specifically increase the subjective probability of those events, there is also a more global effect: the probability of other unrelated events with the same emotional valence will be biased non-specifically. Thus, judgements may be mainly influenced by mood state alone. These studies together show that mood can influence cognition in two ways. First, negative mood will increase endorsement of dysfunctional attitudes or beliefs. Second, mood will influence the judgment and interpretation of events.

If mood has been shown to influence cognition, where does the variation in mood state come from? Although major life events may be associated with the onset of OCD or with the start of the current episode (e.g. Khanna, Rajendra, & Channabasavanna, 1988; McKeon, Roa, & Mann, 1984; Rachman & Hodgson, 1980), minor life events or

hassles may be more important than previously expected. In fact in a series of 200 patients, Rasmussen & Eisen (1991) reported that 72% reported a waxing and waning course of illness and that "almost all patients reported that stressful life events worsened their obsessive compulsive symptoms" (p. 19). Life events may be seen as indirectly linked to worsening symptoms.

Among the most common events reported by a group of obsessional patients without overt compulsions as being linked to increased obsessions were being criticized, being ill, insufficient rest, insufficient sleep, fear of rejection, difficulty making decisions, unable to relax, stupid mistakes, too much responsibility, illness of a family member, noise, losing things, social obligations, thinking about the future, unexpected visits, too many things to do, not enough time, conflicts, and for women, menstrual problems (Freeston & Ladouceur, Unpublished data). Some of these are obviously closer to obsessional concerns than others, but suggest that a number of minor stressors are associated in the patients' eyes with fluctuations in symptoms.

Recently, Ristvedt, Mackenzie and Christenson (1993) reported on an instrument that measures cues that "if encountered would elicit or worsen symptoms" (p. 772). A group of 81 OCD patients completed the original 339 item list and the 75 most frequently endorsed items were retained for factor analysis. Three of the factors referred to house-proud behavior and specific triggers for ritualistic behavior such as cleaning and checking. The third factor, the most interesting for the present discussion, contains items related either to negative affect (feeling depressed, feeling angry) or situations likely to cause

negative affect (being late, being interrupted, being wrong, deadlines, etc.). This factor showed the most consistent pattern with the various indexes of psychopathology including self-reported OCD symptoms, lifetime incidence of Major Depression, GAD and panic attacks, previous psychiatric hospitalization, and concurrent Major depression and personality disorder. The authors conclude that "negative affect may play an active role in the pathological cycle of obsessive-compulsive thought and behavior for some patients (p. 727)".

Cognitive models of OCD involve different types of negative appraisals of obsessional thoughts including unacceptability (McFall & Wollersheim, 1979; Rachman & Hodgson, 1980; Warren & Zgourides, 1991), control (Clark & Purdon, 1993; Salkovskis, 1985, Rachman & Hodgson, 1980; Warren & Zgourides, 1991), responsibility (McFall & Wollersheim, 1979; Salkovskis, 1985, 1989; Rachman 1993; van Oppen & Arntz, 1994), and probability (Carr, 1974; McFall & Wollersheim, 1979; van Oppen & Arntz, 1994; Warren & Zgourides, 1991). Despite the role of appraisal in current models, the empirical support is mainly from non-clinical populations (e.g. Freeston, Ladouceur, Thibodeau, & Gagnon, 1991a; 1992a; Freeston & Ladouceur, 1993; Purdon & Clark, 1993; Reynolds & Salkovskis, 1991), general psychiatric samples (Clark, 1992) or small clinical samples of OCD patients (Freeston, Ladouceur, Gagnon, & Thibodeau, 1991b; 1992b). These results generally support the cognitive accounts showing that more negative appraisals, that is evaluating a thought as more unacceptable, more probable, as having more severe consequences including responsibility for the outcome, are associated with more troubling intrusive

thoughts and obsessions of clinical severity. Although there have been several attempts to develop measures of beliefs underlying these appraisals (Hoekstra, 1992; M Kyrios, personal communication, May 1994; Salkovskis, 1992), the only published validated scale is the Inventory of Beliefs Related to Obsessions (Freeston, Ladouceur, Gagnon, & Thibodeau, 1993).

One of the cardinal features of obsessions since the earliest psychiatric descriptions has been that the person can think rationally about their thoughts and thus see them as senseless (see Kozak & Foa, 1994 for a review). However, clinical accounts have often referred to overvalued ideation, obsessional-compulsive psychosis, and obsessions bordering on the delusional. One study retrospectively identified a series of 150 hospitalized patients with OCD of whom 14 (9.3%) had "delusions, hallucinations, and formal thought disorders" at some point of their illness but only two met criteria for Schizophrenia (Welner, Reich, Robins, Fishman & Van Doren 1976). Eisen and Rasmussen (in press) reported that of 475 OCD patients, 67 also showed hallucinations, delusions or thought disorder, but 27 of these patients with psychotic features only showed lack of insight and strong convictions about the obsessions. In fact DSM-IV (APA, 1994) explicitly recognizes a Poor Insight subtype of OCD. Thus, the ability to see the thoughts as senseless is no longer essential to a current diagnosis of OCD (past insight is still necessary).

Several studies have specifically addressed beliefs about obsessional symptoms among OCD patients specifically related to the extent that a thought was sensible or likely to occur or that a ritual

could prevent the feared consequence. An early study using a structured interview (Stern & Cobb, 1978), 9% of a group of 45 OC patients considered that their ritual was sensible. In a second study using a structured interview, Insel and Akiskal (1986) reported a range of ratings on senselessness, belief that some consequence will occur, resistance and judgment that the thought is bizarre. Further, although rating that the thought was absurd, many patients also believed that real consequences would occur. Finally, the DSM-IV field trial confirmed that a majority of 454 patients at seven sites expressed various degrees of uncertainty about the reasonable nature of their obsessions and compulsions (Foa & Kozak, in press).

The goal of this study was to test the presence of a link between natural changes in mood state and changes in distorted thinking among a group of patients with obsessions. Using a within-subjects design that compared ratings made when subjects were more emotionally distressed to ratings made when they were less distressed, the specific predictions were 1) irrational beliefs would be more strongly endorsed and 2) appraisals of obsessional thoughts would be more negative. Secondary hypotheses predicted that subjects would report more severe current obsessional symptoms and would report more upsetting daily hassles for the previous 24 hours when distressed.

Method

Subjects

Twenty-seven patients (12 women, 15 men) meeting DSM-III-R (APA, 1987) criteria for Obsessive-Compulsive Disorder and who did not have overt compulsions participated in the study as part of pre-treatment assessment[1]. Subjects were interviewed by an experienced clinician using a semi-structured interview. The interview was recorded and a second clinician confirmed the diagnostic and inclusion criteria. All were French-speaking Caucasians. The mean age was 35.8 years (range 22 to 53) and subjects had a mean of 14.4 years of education (range 9 to 19). Pretreatment scores on the Yale-Brown Obsessive Compulsive Scale (Goodman et al., 1989) indicated that all subjects had clinically significant OCD symptoms (M = 23.1, SD = 5.6). Pretreatment assessment scores on the Beck Depression and Beck Anxiety Inventories were 20.3 and 20.2 respectively(SD = 8.5 and 7.7), indicating moderate-severe levels of anxiety and depression.

Independent variable and procedure

Daily self-monitoring of mood was conducted using 11 x 14 cm notebooks where subjects rated their level of irritability, anxiety, and depression on 0-8 scales three times a day: at lunchtime, dinner time and before going to bed. The therapist made sure that the patient understood each dimension and identified a word that corresponded to the patient's idiographic labeling of each emotion. The total emotion score (the sum of the three scales) was used to define the emotional disturbance criteria that were then used as the independent variable.

After two-weeks of self-monitoring, the highest total score for each of the two weeks were averaged. The criterion score for disturbed mood was set 20% below the mean of the highest score for each of the two weeks. Likewise, a criterion score for calm mood was set 20% above the mean of the lowest total score for each of the two weeks. A percentage interval was preferred over the standard deviation so that the interviewer could quickly determine the criterion scores in the presence of the subject once the two-week self-monitoring period had been completed. Subjects continued self-monitoring and were instructed to complete the questionnaire battery on two occasions: once when their mood state score was equal to or greater than the criterion score for disturbed mood, and once when their mood state score was equal to or less than the criterion score for calm mood[2]. Half the subjects completed both conditions in less than a week (median interval was 6.5 days) and 88.5% completed both conditions within three weeks. For 59% of the subjects, the disturbed mood condition was met first; and for the remaining 41%, the calm mood condition was met first. There was a manipulation check using the original self-monitoring variables on both occasions once questionnaires were completed: subjects rated their current emotional state using the same scales (depression, anxiety, irritable).

Control variables

Measures of anxiety and depression were used as control variables for two reasons. First, the manipulation check was

especially vulnerable to demand characteristics (subjects knew what score was required to meet the criterion score) and so measures of distress which were not directly related to the measurement were added to provide some protection. Second, the mood self-monitoring and manipulation check were semi-idiographic measures whereas the standardized measures of distress provided some degree of nomothetic reference for the change in mood state.

Beck Anxiety Inventory (Beck, Epstein, Brown, & Steer, 1988; Translation: Freeston, Ladouceur, Thibodeau, Gagnon, & Rhéaume, 1994). The 21-item anxiety symptom checklist covers core anxiety symptoms commonly experienced by clinically anxious subjects across DSM-III-R (1987) anxiety disorders drawn from a pool of over 200 items. It was answered for "right now".

Beck Depression Inventory (Beck, Rush, Shaw, & Emery, 1979; Translation: Bourque & Beaudette, 1982). The first 14 items only were used to form a cognitive-affective construct (Cavanaugh, Clark, & Gibbons, 1983) more appropriate for a limited time frame where somatic symptoms associated with depression (e.g. loss of weight, loss of libido, etc.) are less likely to vary from one day to another. Further, the somatic items do not discriminate between levels of depressive severity (Cavanaugh et al., 1983). This version has been used with other populations where somatic symptoms of depression may not be appropriate (see Beck, Steer, & Garbin, 1988). The BDI was answered for "right now".

Dependent variables

Cognitive Intrusions Questionnaire (modified) (Freeston et al., 1991a; Freeston & Ladouceur, 1993). The version used in this study evaluates the target thought (the most frequent obsession) on 13 dimensions, namely, controllability, belief, disapproval, responsibility, perceived fault, consequences, probability, reasonableness, avoidance of triggers, sadness, worry, guilt, and shame. The target thought was the principal thought for which they were consulting.

Inventory of Beliefs Related to Obsessions (Freeston et al., 1993). The 20-item questionnaire assesses beliefs about intrusive thoughts, responsibility, danger, and uncertainty. A series of studies demonstrated adequate reliability, and evidence of convergent, discriminant and criterion-related (known groups) reliability (Freeston et al., 1993).

Hassles. Developed from the Daily Hassles Scale (DeLongis, Folkman, & Lazarus, 1988; Kanner, Coyne, Schaefer, & Lazarus, 1981; Translation: Vézina & Giroux, 1988), the 26-item version used here contains items rated as highly related to fluctuations in obsessional thoughts by 6 out of 8 obsessional patients and/or 6 out of 8 clinicians with experience treating OCD. Items were rated on a three point scale from 1 (not present) to 3 (very present). A total score was derived which was the sum of the individual items.

Obsessions. Obsession frequency (over the last two hours) and discomfort were evaluated on 0-8 scales adapted from Cottraux, Bouvard, & Légeron, (1985).

Results

Given the sample size and skewed distributions of many variables, non-parametric statistics were used in all analyses. These were principally the Wilcoxon signed rank test for paired data, the Mann-Whitney test for unpaired data, and Spearman correlations and partial correlations. Bonferroni adjusted significance levels were used when more than one variable was used to test a given hypothesis. The adjusted criterion level is reported even though actual probability levels may be much lower.

Manipulation check

The manipulation check confirmed that subjects were more emotionally disturbed after completing the questionnaires in the disturbed mood condition (T = 153.5, p<.0001). They were more irritated (T = 112.5, p<.017), anxious (T = 128, p<.017), and depressed (T = 106.5, p<.017) when they were emotionally disturbed (Table 1). The median minimum difference expected for the sum of the three items was 4, as determined by the criteria scores set after two weeks self-monitoring, whereas the actual difference reported on the manipulation check was 7. Thus, mood was successfully manipulated, largely exceeding the ± 20% criteria set after self-monitoring.

Control variables

Both symptom measure scores were significantly higher in the disturbed condition: subjects reported more anxiety (T = 133.5, p<.025) and depression (T = 176, p<.025).

Insert Table 1 about here

Order and interval effects

Order and interval effects were tested at a liberal significance level (p<.05) to detect possible confounds. Order effects on all variables were tested with a Mann-Whitney test for independent samples. The difference between the criterion scores was significantly lower among subjects who completed the disturbed condition first (3.5 vs. 6, Z = 2.59, p<.05). When the disturbed mood condition occurred first, anxiety change scores were significantly lower than when it occurred second for both manipulation check anxiety (1 vs. 3, Z = 2.24, p<.05) and BAI scores (5 vs. 15, Z = 2.31, p<.05). Although change scores for the difference between the criterion scores, one of the manipulation check variables, and one control variable were significantly lower among subjects who completed the disturbed condition first, there were no differences on any of the dependent variables.

There was a significant negative correlation (r_S = -.49, p< .01) between the interval and the manipulation check change score

indicating that the subjects with greatest emotional variability completed both conditions more quickly. None of the other variables were significantly correlated with the interval.

Dependent variables

The main hypothesis concerns the cognitive variables. Both the Cognitive Intrusions Questionnaire score (T = 136, p<.025) and the Inventory of Beliefs Related to Obsessions score (T = 92.5, p<.025) were significantly higher in the disturbed condition (Table 2). Subjects also reported more obsessions (T = 112.5, p<.025) and greater discomfort (T = 91.5, p<.025) in the preceding two hour period. Finally, subjects reported more hassles in the previous 24 hours when in the disturbed condition than when in the calm condition (T = 136, p<.05).

Insert Table 2 about here

Follow-up analyses were conducted on individual CIQ items (α = .05/13) and showed significant differences for sadness (T = 74, p<.004), worry (T = 57.5, p<.004), and difficulty to remove the thought (T = 64.5, p<.004). There were missing data for one subject who could not evaluate his target thought on six items because there was no consequence attached to the thought, a rumination about metaphysical concerns. However for the remaining 26 subjects there were also significant differences on the belief that the thought could come true (T = 72.5, p<.004), shame (T = 74, p<.004), and the seriousness of

consequences (T = 44.5, p<.004). Note that the probability of a negative outcome approached the highly conservative corrected significance level (T = 33, p=.008).

Insert Table 3 about here

Correlational analyses

Spearman partial correlations were calculated between the disturbed mood score of a given variable and the change score in a second variable while partialling out the calm mood score. This tests whether the part of the variance in the variable's disturbed mood score not accounted for by the calm mood score may be explained by the change in the second variable. As these were exploratory analyses, no Bonferroni correction was applied. However, analyses were conducted in a hierarchical way. Thus, based on current cognitive models of OCD (e.g. Freeston & Ladouceur, 1994; Salkovskis, 1985), obsession frequency and discomfort were conceptualized as being partially determined by appraisal, appraisal by beliefs, and beliefs by hassles. The mood variables were conceptualized as being reciprocally determined with all other variables.

Insert Table 4 about here

None of the other change scores were significant predictors of frequency. On the other hand, change in obsession frequency was

correlated with discomfort ratings. Further, the changes in hassles was significantly correlated with discomfort but change in appraisal and beliefs were not. Changes in anxiety and depression were also correlated with discomfort. Thus frequency and discomfort behaved differently, with obsession frequency independent of changes in the other variables. Appraisal was strongly correlated with changes in beliefs and hassles. It was also strongly correlated with anxiety but not with depression. Belief scores were moderately correlated with changes in hassles and anxiety but not with depression. Finally, changes in anxiety only were significantly correlated with hassles. Thus, changes in hassles and anxiety emerged as the variables that influenced other variables the most. Against predictions, changes in appraisal and beliefs did not influence discomfort associated with obsessions.

Discussion

The principal hypotheses were both confirmed. When subjects were in a disturbed mood they endorsed irrational beliefs more strongly and appraised their obsessions in a more negative way than when calm. These results were obtained despite the fact that median scores for individual items in the calm state were very high. For example, over half of the item scores for the belief scale obtained median values of 4 or 5 (scale 1-6) corresponding to the belief that the strongly worded irrational statement was true. For the CIQ, median scores in the calm state varied from 5 to 8 (scale 1-9) with the exception of reasonableness (median = 3). Thus, despite the

possibility of ceiling effects, both cognitive variables varied significantly according to the mood. These results thus support current cognitive models of OCD that propose a specific role for mood variation in the modulation of symptoms (e.g. Freeston & Ladouceur, 1994; Salkovskis, 1985; Warren & Zgourides, 1991).

The secondary hypotheses were also confirmed. Subjects reported more severe current obsessional symptoms when in the disturbed mood condition. They also reported more upsetting daily hassles for the previous 24 hours. Thus there is a strong degree of covariation between obsessions, appraisal, beliefs, mood, and hassles although the pattern of causality cannot be established. This study extends mood state effects on cognitions observed with dysfunctional attitudes among depressed subjects (Miranda & Persons, 1988; Miranda et al., 1990) to a new clinical population, namely, patients with obsessions. Further, as previously reported for previously depressed subjects, there is preliminary evidence that life events may be involved in activating cognitions although it must be noted that here the time frame was shorter and the events were daily hassles rather than the stressful life events in the Miranda (1992) study.

It may be that the hassles retained for this study on the basis of their relevance to OC patients were too representative as the median number of items endorsed when calm was 18 out of 26 (range 6-23). For subjects to experience a median of 18 upsetting events each day could indicate a number of things. First, it is difficult to clearly separate some everyday events from concomitants and correlates of

OCD. Thus although care was taken not to include direct triggers or OC symptoms in the checklist, there may be a degree of overlap between events and reactions. Second, reporting so many events would certainly correspond to Rachman and Hodgson's (1980) description of OCD patients as "dysthymic, neurotic and introverted" (p. 268). They further state that "This combination of heightened sensitivity to disturbance and greater attention to internal stimulation are predisposing factors that favor the development of obsessions" (p. 268). Third, recent reviews (e.g. Molnar, Freund, Riggs, & Foa, 1993; Steketee, 1993) suggest that half of OCD patients have comorbid Axis II disorders although some are considered secondary to OCD and remit with successful treatment (see Baer & Jenike, 1992). The most frequently reported disorders are Histrionic, Dependent, Compulsive, Borderline and Paranoid Personality Disorders although Baer and Jenike (1992) suggest that mixed personality disorder may be the most common where dysfunctional traits of several disorders were present. Although no formal assessment of personality disorder was conducted in the present study, we certainly observed many of the traits listed above. These traits would tend to increase the chance of daily events being labeled as hassles. Finally, to be disturbed by so many things in a single day is reminiscent of Janet's (1903/1976) descriptions of OCD which placed it as an advanced form of Psychasthenia (cited in Pitman, 1987), which Janet associated with an inability to adapt to reality, particularly social demands and novel situations. Thus despite a possible degree of confounding that would inflate the association between changes in mood and hassles, the

current results provide empirical support for the various clinical descriptions of OCD patients as easily disturbed by many minor things.

Although the correlation analyses cannot indicate causality, they are coherent with the following model. Obsession frequency is apparently independent of mood, appraisal, beliefs and minor life events. However, the discomfort related to obsessions was associated with changes in anxiety and daily hassles. These two variables were also associated with stronger irrational beliefs and more negative appraisals. However, there was no link between discomfort and beliefs or appraisal. Note that anxiety would be both a determinant and consequence of all the other variables. For example, minor negative life events would result in negative mood, but negative mood would also increase the likelihood of labeling a minor life event as an important hassle and reacting strongly to it. The same can be said for irrational beliefs, appraisals, and discomfort associated with the thought where there will be a reciprocal relationship with negative mood. Thus mood could play a strong amplifying role and contribute to the familiar obsessional spiral of increasing obsession severity, deteriorating mood, and increasing conviction that the thought is true or has important personal implications. Alternative methodologies will be necessary to test the direction of the causal pathways between these variables. Multivariate time series analysis is one possibility that could test the inter-relations between obsessions, appraisal, beliefs, mood, and daily-life events.

As far as individual appraisal items are concerned, three referred to evaluating the reaction to the thought (sadness, worry, and shame) whereas three were appraisals of the thought (difficulty in removing the thought) and its content (belief in the eventuality and seriousness of consequences). Let us consider the last three. The appraisal that the thought is difficult to remove may be a veridical account of what actually happens. Alternatively, it may represent an appraisal of controllability (see Clark & Purdon, 1993) where the perception of loss of control is more important than the actual degree of control. The belief in the eventuality and seriousness of consequences are central to several cognitive accounts of OCD (Carr, 1974; McFall & Wollersheim, 1979; van Oppen & Arntz, 1994; Warren & Zgourides, 1991) and the covariation with mood supports experimental studies on how mood influences the interpretation of ambiguous or threatening situations (see Constans & Mathews, 1993; MacLeod & Cohen, 1993).

It is interesting to note that there were no significant differences for responsibility, guilt, or perceived fault, which would seem to correspond to the putative responsibility schema (Rachman, 1993; Salkovskis, 1985). A more liberal criteria (i.e. no Bonferroni correction) would only have meant that the change in guilt ratings was significant. However, the degree of belief in the likelihood of the feared consequences coming true would also become significant with the more liberal criteria.

There are at least four possible explanations for these contrasting results which are all based on the same understanding of appraisal of obsessions. It has been postulated that at least two underlying schemata exist in OCD that refer to danger and responsibility respectively (Freeston & Ladouceur, 1994; Rhéaume, Freeston, Dugas, Letarte, & Ladouceur, in press; Rhéaume, Ladouceur, Freeston, & Letarte, In press a; In press b; van Oppen & Arntz, 1994). These two schemata may operate independently but it has been proposed that a perception of danger is a more general schemata that is a necessary but insufficient condition for the perception of responsibility (Rhéaume et al., In press a). The first explanation is that the responsibility schema may be less present among pure obsessional patients compared to other OC subgroups such as checkers where responsibility is more obvious (Ladouceur, Léger, & Rhéaume, 1994; Lopatka, 1993). The second is that the schema is present but the subjects are currently unaware, and only through awareness training will subjects be able to make adequate appraisals (see Freeston & Ladouceur, In press). The third explanation states that the responsibility is present, subjects are aware, but that the mood dependence effects are different than for the other schema. Fourth, responsibility has been difficult to measure and the measures used may not be sufficiently sensitive (see Rhéaume et al., In press a). Finally, some combination of the four reasons may be present: the schema may be present among some subjects among whom the degree of awareness varies.

Examination of the distributions did not reveal any obvious differences between items that emerged as significant and items that did not. Median scores were all in the 5 to 7 range except for seriousness of consequences (8) and reasonableness (3). Thus responsibility, guilt, fault, and disapproval were all perceived at moderate to high levels. Although the other hypotheses cannot be ruled out, the current data would appear to support the third hypothesis, namely, that responsibility is less mood dependent than the danger variables.

There was no significant difference for the extent to which subjects perceived their reactions to the obsession as reasonable. The median scores were lower than for the other variables corresponding to a little bit reasonable. Although the median was low, a significant proportion of the sample considered that their reactions were reasonable. In fact when calm, only one-third of the sample considered that their reactions were not at all reasonable (a quarter when disturbed) and a quarter considered that their reactions were more than somewhat reasonable (40% when disturbed). As in other studies (see Kozak & Foa, 1994), the degree of insight into the reasonable or excessive nature of obsessions was variable, but it did not vary significantly with mood state over a median interval of 6.5 days. Thus, compared to evaluations of severity and probability of consequences, judgements about the reasonable nature of reactions to obsessions seem to be reasonably stable, at least over the short period of time studied here. It may well be that persistent questioning in a

clinical setting may elicit different responses that reflect a greater degree of insight.

The median interval for completing the questionnaires was 6.5 days. The length of the interval was negatively correlated with the manipulation check change score. Likewise, subjects who completed the disturbed mood condition first reported less emotional change. However, none of the dependent variable change scores differed according to the order and neither the control or dependent variables were correlated with the interval. Thus, it is unlikely that the naturalistic nature of the manipulation, which could not control for order or interval, had any undesirable effects on the observed results. The naturalistic manipulation used here, although presenting some difficulties in terms of experimental control seems to have succeeded in meeting a reasonable level of internal validity while achieving the sought after ecological validity by capitalizing on natural variations in mood.

The clinical observations that patients with obsessive thoughts report large mood swings is certainly supported by this study. The variations in this study were reported over a short period of time and do not necessarily reflect the extremes that patients may experience. Combined with the changes in the cognitive variables, these mood swings have important clinical implications. First, cognitive assessment both before and after treatment should take mood state into account (see Persons, 1993). Second, although negative mood may be useful in providing access to dysfunctional cognitions for

cognitive restructuring techniques (Persons & Miranda, 1991), this may interfere with other parts of treatment. For example, understanding the rationale for exposure and accepting exposure may be particularly difficult when subjects are anxious and the subjective probability and severity of the feared consequences are very high. Indeed one of the most frequently cited reasons for refusing and dropping out of treatment is the refusal of exposure (Riggs & Foa, 1993). Finally, combined pharmacological and cognitive-behavioral treatment may have a role to play in providing optimum symptom levels that will facilitate both access to dysfunctional cognitions, but also appropriate mood levels for other interventions (Ladouceur, Freeston, & Gagnon, 1994).

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Correspondence should be addressed to Mark Freeston, Ecole de Psychologie, Université Laval, Québec, Canada, G1K 7P4

Footnotes

1 Twenty-nine subjects completed all pretreatment assessment procedures but two subjects did not complete this study. Both subjects were eventually non-compliant and dropped out of treatment.

2 For example, if maximum scores of 19 and 21 and minimum scores of 12 and 8 were reported for weeks one and two respectively, the criterion scores were determined as follows: $Disturbed_{Mean}$ = (19+21)/2 = 20, $Disturbed_{Criteria}$ = 20 - 20/5 = 16. $Calm_{Mean}$ = (12 +8)/2 = 10, $Calm_{Criteria}$ = 10 + 10/5 = 12. The subject would be instructed to complete questionnaires when scores reached 16 or more and 12 or below.

Table 1

Median Scores for Manipulation and Control Variable

Variable	Calm	Disturbed	Change
Manipulation check			
Total	5	14	7
Anxiety	3	5	2
Depression	2	4	2
Irritability	1	4	2
Control variables			
Beck Anxiety	6	16	11
Beck Depression	6	14	4

Table 2

Median Scores for Dependent Variables

Variable	Calm	Disturbed	Change
Cognitive variables			
Beliefs (IBRO)	62	66	3
Appraisal (CIQ)	73	83	8
Obsessions			
Frequency	2	4	2
Discomfort	2	5	2
Hassles	49	56	6

Table 3

Median Scores for CIQ appraisal variables

Variable		Calm	Disturbed	Change
1	Sadness	7	7	1
2	Worry	7	7	1
3	Removal difficulty	5	6	1
4	Guilt	5	5	1
5	Belief	5	6	1
6	Disapproval	7	7	0
7	Responsibility	6	7	0
8	Avoidance	7	7	0
9	Shame	5	7	1.5
10	Fault	7	7	0
11	Severity (consequences)	8	9	0.5
12	Likelihood	5	6	0.5
13	Reasonable	3	3	0

Table 4

Correlational analysis

Predicted variable[a]	Predictor variable[b]	Spearman Partial Correlation
Frequency		
	Δ Discomfort	.11
	Δ Appraisal	.10
	Δ Beliefs	.08
	Δ Hassles	.01
	Δ Anxiety	.23
	Δ Depression	.02
Discomfort		
	Δ Frequency	.43*
	Δ Appraisal	.37
	Δ Beliefs	.36
	Δ Hassles	.45*
	Δ Anxiety	.53**
	Δ Depression	.41*
Appraisal		
	Δ Beliefs	.51**
	Δ Hassles	.26
	Δ Anxiety	.69**
	Δ Depression	.35

Table 4 (continued)

Predicted variable[a]	Predictor variable	Spearman Partial Correlation
Beliefs		
	Δ Hassles	.53**
	Δ Anxiety	.49**
	Δ Depression	.33
Hassles		
	Δ Anxiety	.50**
	Δ Depression	.35

[a] The predicted variable is the score in the disturbed mood with the score in the calm mood partialled out.

[b] Change score ($Frequency_{disturbed}$ - $Frequency_{calm}$)

* $p<.05$, ** $p<.01$

CHAPITRE 4

THÉRAPIE COGNITIVE-BÉHAVIORALE DE LA PENSÉE OBSESSIONNELLE: UN ESSAI CONTROLÉ

Cognitive-Behavioral Treatment

Résumé

Malgré des progrès considérables dans le traitement du Trouble obsessionnel-compulsif, il n'existe pas de thérapie éprouvée pour les patients ne présentant pas de compulsion manifeste. Dans le cadre de cette expérimentation, 29 patients souffrant du Trouble obsessionnel-compulsif (DSM-III-R, APA, 1987) sans compulsion manifeste sont répartis aléatoirement aux deux conditions de l'étude; traitement ou liste d'attente. Les sujets traités reçoivent une thérapie cognitive-comportementale qui comprend (1) une explication détaillée de l'occurrence et du maintien de la pensée obsessionnelle, (2) l'exposition à la pensée, (3) la prévention de la réponse ciblant toute stratégie de neutralisation, (4) la restructuration cognitive et (5) la prévention de la rechute. Par rapport aux personnes inscrites sur la liste d'attente, les sujets bénéficiant du traitement s'améliorent de manière significative par rapport à plusieurs mesures: la gravité des obsessions, le fonctionnement actuel et l'auto-évaluation des symptômes obsessionnels-compulsifs et anxieux. Lorsque les sujets placés en attente sont traités, les sujets des deux groupes s'améliorent en regard de toutes les variables cliniques, mesures qui traduisent des gains cliniquement significatifs pour 82% des sujets ayant complété le traitement. Après six mois, le suivi des sujets indique que les gains thérapeutiques sont maintenus. Les résultats démontrent clairement que la thérapie cognitive-comportementale est efficace pour des patients souffrant de pensées obsessionnelles alors que ceux-ci furent longtemps considérés comme réfractaires au traitement.

The Cognitive-Behavioral Treatment of Obsessive Thoughts: A Controlled Study

Robert Ladouceur, Mark H. Freeston,
Ecole de psychologie, Université Laval

Fabien Gagnon, Nicole Thibodeau
Centre Hospitalier de l'Université Laval

Josée Rhéaume, Hélène Letarte, Annie Bujold
Ecole de psychologie, Université Laval

Running head: TREATMENT OF OBSESSIVE THOUGHTS

Abstract

Although there has been impressive progress in the treatment of OCD with compulsive rituals, there has been little progress in the treatment of obsessive thoughts when overt compulsions are present. Twenty-nine patients with Obsessive-Compulsive Disorder (DSM-III-R, APA, 1987) who did not have overt compulsive rituals were randomly assigned to treatment and wait-list conditions. Subjects in the treatment condition received cognitive-behavioral therapy consisting of a detailed explanation of the occurrence and maintenance of obsessive thoughts, exposure to obsessive thoughts, response prevention of all neutralizing strategies, cognitive restructuring, and relapse prevention. Compared to wait-list subjects, treated subjects improved significantly on measures of severity of obsessions, current functioning, self-report obsessive-compulsive symptoms, and anxiety. When the waiting-list subjects were subsequently treated, the combined group improved on all outcome measures indicating clinically significant gains for 82% of subjects who completed treatment. Treatment gains were maintained at six-month follow-up. Results clearly indicate that cognitive-behavior therapy is effective in the treatment of patients with obsessive thoughts, a group that has often been considered treatment resistant.

The Cognitive-Behavioral Treatment of Obsessive Thoughts: A Controlled Study

Exposure and response prevention typically produces improvement in about 90% of patients with overt compulsive rituals, but there is no established treatment for patients who have no overt compulsive rituals (Riggs & Foa, 1993). These patients, variously described as ruminators, pure obsessionals, etc., were once thought to be rare but several well-established treatment programs in Europe and the United States report a substantial proportion of patients who do not report overt compulsions ranging from 17% to 44% (Welner, Reich, Robins, Fishman, & Van Doren, 1976; Hoogduin, de Haan, Schaap, & Arts, 1987; Baer & Minichiello, 1990; Kirk, 1983). Further, cross-national epidemiological studies have established that the proportion of OCD cases in the community not reporting compulsions (i.e. reporting obsessions only) may be much higher, even up to 50-60% (Weissman et al., 1994). The same study places the annual prevalence of OCD in the community at between 1.1 and 1.8% (lifetime rates between 1.9 and 2.5%) so there is a substantial number of people without overt compulsions who need effective treatment options.

As early as 1958, Wolpe distinguished between anxiety provoking and anxiety decreasing thoughts. However, thought stopping was the treatment of choice during the late sixties and seventies although there was no compelling evidence that it was an effective treatment (see Beech & Vaughn, 1978; Foa, Steketee, & Ozarow, 1985). Rachman (1971; 1976; Rachman & de Silva, 1978) laid down a solid basis for understanding and developing exposure-based

treatments for obsessional thoughts but despite experimental work with exposure methods (e.g. Emmelkamp & Kwee, 1977; Emmelkamp & Giesselbach, 1981; Gurnani & Vaughn, 1981; Likierman & Rachman, 1982; Stern, 1978) there was little translation of his pioneering work into widely used clinical techniques, due in part to the equivocal results obtained in these studies.

During the eighties, there were a number of case reports and case series describing exposure-based techniques (e.g. Farkas & Beck, 1981; Headland & McDonald, 1987; Himle & Thyer, 1989; Milby, Meredith, & Rice, 1981; Moergen, Maier, Brown, & Pollard, 1987; Salkovskis, 1983; Thyer, 1985). However in several cases overt compulsions were present and cognitive response prevention was implemented in less than half of the cases. One case series deserves special mention as it is the largest published series to date. Hoogduin, et al. (1987) reported on outpatient treatment of 26 patients with obsessions alone using self-observation and self-monitoring, exposure (in vivo and in imagination), and response prevention (distraction with an incompatible action and self-punishment if cognitive rituals are carried out). Based on greater than 30% improvement in self-monitored obsessions as treatment response, 73% responded and 61.5% remained improved at 12-36 month follow-up. This report, although presenting a number of methodological weaknesses, does provide encouraging support for the efficacy of cognitive-behavioral treatment of obsessions.

An important turning point in the treatment of obsessional thoughts was Salkovskis' (1985) theoretical analysis of obsessional

thoughts and a later paper describing treatment procedures (Salkovskis & Westbrook, 1989). This work has led to a number of adaptations of the original package (e.g. Ladouceur, Freeston, Gagnon, Thibodeau, & Dumont, 1993, in press; Martin & Tarrier, 1992; O'Kearney, 1993). Despite these advances, some authorities remain pessimistic about treatment of pure obsessions (e.g. Jenike & Rauch, 1994). The present study is a controlled trial of a cognitive-behavioral package for obsessional thoughts comparing exposure and response prevention combined with cognitive restructuring to a wait-list control group.

The package is based on Salkovskis's (1985) model which identifies two key cognitive phenomena during obsessive episodes. First, an obsessive thought about an unacceptable action or event is appraised by the patient as indicating responsibility for danger or harm to oneself or others. Negative affective disturbance arises from an exaggerated and erroneous sense of responsibility. In order to reduce the perception of responsibility and the associated anxiety, the individual will try to neutralize the obsession by different responses or strategies. The neutralizing strategies may be cognitive rituals when they are quite stereotyped or constant, such as forming a counter image (the person dead→ the person alive), forming the original unwanted sexual image five times, using a counting sequence, or using a ritualized internal dialogue sequence to convince oneself that the thought is not true. Other less structured neutralizing strategies may also be used such as distraction, rational self-talk, replacing the negative thought by any positive thought, cognitively

checking, "rerunning the film", etc., that are not easily described as cognitive rituals (Freeston & Ladouceur, 1994b). Finally, reassurance seeking may also be used to decrease responsibility and associated anxiety. Whether ritualized or not, the neutralizing strategies are all inefficient because they preclude prolonged exposure, preventing habituation from taking place. In order to implement cognitive exposure and response prevention, Salkovskis suggested the use of a looped audio-tape on which the thought is first recorded by the patient and later played back continuously during prolonged exposure sessions (Salkovskis, 1985; Salkovskis & Westbrook, 1989). The taped text represents the anxiety provoking thought, image or impulse which is then maintained without neutralization or avoidance responses.

Although exposure and response prevention is the core of the treatment package, the theoretical models underlying the treatment postulate that appraisal of the thought has a key role in the maintenance of the disorder and should thus be addressed directly. Based on our experience during pilot studies (e.g. Ladouceur et al., 1993; In press), it became clear that although responsibility was indeed often present, other types of appraisal were also involved in the perception of threat. Thus the following were identified as legitimate targets for cognitive intervention 1) overestimating the importance of the thoughts and its derivatives such as fusion of thought and action and magical thinking (Freeston et al., 1993; Salkovskis, 1985; McFall & Wollersheim, 1979); 2) exaggerated responsibility (McFall & Wollersheim, 1979; Salkovskis, 1985; Salkovskis & Westbrook, 1989) 3) perfectionistic control over thoughts

and actions and the closely related need for certainty (Ladouceur et al., in press; Liebowitz & Hollander, 1991; McFall & Wollersheim, 1979; Rachman & Hodgson, 1980; Rasmussen & Eisen, 1991), and 4) the consequences related to the thought's content which involves oversestimations of the probability and the severity of the consequences of negative events (van Oppen & Arntz, 1994; Ladouceur et al., 1993; Salkovskis & Westbrook, 1987; Steketee, 1993; Warren & Zgourides, 1991).

Given that there is no clearly established treatment for patients with obsessive thoughts without overt compulsions, and given the generally refractory nature of this type of complaint, the goal of this study was to compare the treatment package to a waiting-list control group. It was hypothesized that after treatment, the treated group would show significant improvement compared to the waiting-list control group. The waiting-list control group would then be treated with the same treatment package to increase the data available for analysis treatment improvement, maintenance of gains, and changes in cognitive variables postulated in the model.

Method

Subjects

One-hundred and ninety-nine subjects contacted our treatment program from November 1991 through to March 1993. Following telephone screening by graduate students for possible OCD, ninety-seven subjects were interviewed. Twelve subjects did not receive any anxiety disorder diagnosis (12.5%) and eleven (11.8%) were diagnosed as having other anxiety disorders. Seventy-three had obsessions but

21 (21.9%) reported dominant compulsions. Of the remaining 52 with dominant obsessions, eight were below entry level severity criteria (8.3%) , and a further eight (8.3%) had comorbid conditions (1 patient was suicidal, 2 had Antisocial Personality Disorder, 1 had an organic condition, 1 patient suffered from GAD and Schizotypic Personality Disorder, and 1 patient had significant GAD and Simple Phobia). Thus, thirty-six (37.5%) met inclusion criteria and twenty-nine completed pretreatment assessment which consisted of four sessions. This study addresses the 29 subjects who were randomly assigned to the treatment group (n = 15) or to the control group (n = 14) after completing pre-treatment evaluation. All were French-speaking Caucasians. There were 16 men and 13 women and 58.6% were married, 17.2% were divorced, and 24.2% were single. The average age was 35.8 years (range 22 to 53) and subjects had an average of 14.4 years of education (range 9 to 19). The mean duration of the illness was 9.4 years (range 1 to 39) and 83% had previously consulted for obsessional problems. In fact 65% had already consulted three or more times. Five subjects in each group were taking medication at assessment, four (14%) were taking antidepressants (2 Clomipramine, 1 Fluvoxamine, and 1 Fluoxetine), four (14%) had been prescribed anxiolytics, and two (7%) were taking both antidepressants (both Clomipramine) and anxiolytics. Subjects taking medication did not differ significantly on any sociodemographic, clinical, or pre-treatment, post-treatment, or follow-up variables.

Pretreatment scores indicated that all subjects had clinically significant OCD symptoms with a mean Yale-Brown Obsessive

Compulsive Scale (Goodman et al., 1989) total score of 23.5 (range 11 to 35) with 93% scoring 17 or more. To confirm that the subjects had few or no overt compulsions, the Y-BOCS compulsion scale was scored once for covert neutralization and once for all neutralizing and activities (i.e. covert and overt, including any overt rituals). The covert neutralization score was expressed as a proportion of all neutralization and varied from 76% to 100% with a mean of 97%. Further, 72% of subjects scored in the non-clinical range (below the 84th percentile) on the Compulsive Activities Checklist (Cottraux, Bouvard, Defayole, & Messy, 1988), indicating that compulsive symptoms were absent or minor for the majority of the sample.

Fifty-nine percent of subjects were referred by professionals and 41% contacted our treatment program directly. The only significant differences between referred and direct entrants into the program ($p<.05$) were that direct entry patients were less educated (13.0 vs 15.5 yrs, $t(27) = 2.24$, $p<.05$), scored significantly higher on one process measure (Inflated responsibility) both before and after treatment (the interaction was not significant), and fewer of them were currently receiving medication (8% vs. 53%, Fisher's exact $p = .019$). Duration of the illness, onset, severity of current symptoms, history of previous consultation, treatment dropout, etc., were similar in both subgroups. There were no significant differences at follow-up.

Subjects were randomly assigned to therapists in pairs and were randomly assigned to groups once pretreatment assessment was completed. Patients who withdrew before treatment or abandoned treatment were replaced by the next available patient. In this way all

therapists treated equal numbers of treatment and control group subjects and any reactive effects of the screening and assessment procedures would be distributed across groups.

Primary outcome measures. Two clinician ratings and three self-report measures made up the primary outcome measures.

The Yale-Brown Obsessive Compulsive Scale (Y-BOCS; Goodman et al., 1989a), is a 10-item scale that rates obsessions and compulsions each on five items (0-4) for a total score that varies from 0-40. The English version (Goodman et al., 1989b; Woody, Steketee, & Chambless, 1993) has established reliability and validity and the French version (Mollard, Cottraux, & Bouvard, 1989) has also proven convergent, discriminant, and criterion related validity (Bouvard et al., 1992). Interrater reliability in this sample on 40% of ratings was adequate (r_S = .90). Note that rating was not blind. The Current Functioning Assessment (CFA; Foa, Steketee, Grayson, Turner, & Latimer, 1984) assessed interference in seven life areas over the previous two-weeks on a 9-point scale (professional, studies, social, family, couple, leisure, and daily chores). There were five anchor points with operational definitions of the level of interference with examples from each life area. Ratings varied from No difficulty to Severe difficulties. Two scores were considered, the mean score across all applicable life areas and the interference in the most severely affected life area (maximum interference). Interrater reliability checks on 40% of the ratings indicated Spearman correlations of .94 for the maximum and .98 for mean ratings. Spearman correlations between maximum and mean ratings were .75 at baseline assessment, .85 after treatment, and .98 at

follow-up (all coefficients significant, $p<.0001$). The maximum rating was retained.

The Padua Inventory (PI; Sanavio, 1988) is a comprehensive 60-item self-report inventory of OC symptomatology with four subscales: Loss of Mental Control, Contamination, Checking, and Impulses and Worries about Loss of Control. The French version has excellent reliability and established convergent and factorial validity (Freeston et al., 1994a). The Beck Anxiety Inventory (BAI, Beck, Epstein, Brown, & Steer, 1988; Translation: Freeston, Ladouceur, Thibodeau, Gagnon, & Rhéaume, 1994c) is a 21-item anxiety symptom that checklist covers core anxiety symptoms commonly experienced by clinically anxious subjects across DSM-III-R (1987) anxiety disorders. Subjects rate symptom intensity for the last week on a 0-3 scale. It has excellent psychometric properties (Beck et al., 1988; Freeston et al., 1994c). The Beck Depression Inventory (BDI, Beck, Rush, Shaw, & Emery, 1979; Translation: Bourque & Beaudette, 1982) is a 21-item measure of depressive symptoms with well established psychometric properties (see Beck, Steer, & Garbin, 1988).

Process measures. The process measures addressed key constructs in current models of obsessive-compulsive disorder. These constructs are negative appraisal of the thought (2 scales), neutralizing strategies (2 scales), irrational beliefs (1 scale) and responsibility-related obsessive thoughts (1 scale). Only three out of fifteen possible (r_s = .38 to .55) intercorrelations were significant indicating that the six scales were measuring distinct aspects.

Cognitive-Behavioral Treatment

The first four measures were derived from the Cognitive Intrusions Questionnaire (Freeston, Ladouceur, Thibodeau, & Gagnon 1991; Freeston & Ladouceur, 1993), a 33-item questionnaire that assesses various dimensions of a target intrusive thought on a nine-point scale Factor analyses on three samples were used to derive the scales. There were two scales dealing with the appraisal of the thought: Perceived Responsibility (PR), a four-item subscale consists of appraisals of the target thought in terms of responsibility, perceived fault, guilt, and shame (α = .84), and Perceived Severity, a ten-item subscale (PS, frequency, worry, sadness, removal difficulty, belief, disapproval, effort, avoidance, seriousness of consequences, probability; α = .78). The other two variables dealt with strategies used to deal with the thought: Escape/Avoidance Strategies (EAS), a five item subscale (neutralizing action, thought replacement, distracting activity, distraction with environment, thought stopping; α = .79) and Reassurance Seeking (RS), a single item rating.

The Inventory of Beliefs Related to Obsessions (IBRO, Freeston, Ladouceur, Gagnon, & Thibodeau, 1993) is a 20-item scale assessing beliefs about intrusive thoughts, responsibility and danger, and uncertainty. A series of studies demonstrated adequate reliability, and evidence of convergent, discriminant and criterion-related (known groups) reliability (Freeston et al., 1993). The final process variable, Inflated Responsibility (IR), is a subscale of the Obsessive Thoughts Checklist (Bouvard, Mollard, Cottraux, & Guérin, 1989) and measured responsibility-related obsessions. It was derived from factor analyses by the original authors and on a substantial non-clinical sample. It

consisted of seven items, all referring to obsessive thoughts about responsibility (α = .75)

Generalization measures

Three generalization measures were used, variables of theoretically pertinent constructs that were not directly targeted by the treatment. The Compulsive Activities Checklist (CAC; Cottraux, Bouvard, Defayole, & Messy, 1988) used here is an abridged version of a well established 38-item scale (Marks, Stern, Mawson, Cobb, & McDonald, 1980) and consists of 19-items measuring common washing and checking compulsions. The abridged version is more specific to OCD (Cottraux, et al., 1988) than the longer version where other anxiety disorder subjects also endorse a number of items. The Penn State Worry Questionnaire (PSWQ, Meyer, Miller, Metzger, & Borkovec, 1990) is a 16-item questionnaire measuring the tendency to worry excessively. It shows good validity and reliability in both English and French (Brown, Antony, & Barlow, 1992; Ladouceur et al., 1992, Meyer et al., 1990). The Malouff and Schutte (1986) Belief Scale (MSBS) is a 20-item questionnaire measuring general irrational beliefs. It shows good validity and reliability in both English and French (Malouff & Schutte, 1986; Freeston & Ladouceur, 1992).

Procedure

Selection criteria. All subjects were interviewed by an experienced clinician (two psychiatrists, FG and NT, and two psychologists, RL and MF) using a semi-structured interview based on the SCID (Spitzer, Williams, & Gibbons, 1987). This was supplemented by two clinician rating scales for obsessions and overt compulsions

(Marks et al., 1980; Translation, Cottraux, Bouvard, & Légeron, 1985). The interview was recorded and a second clinician listened to the cassette and confirmed the diagnostic and inclusion criteria. In cases of disagreement the final decision was made by the four clinicians together. The inclusion criteria were:

1) Currently met DSM-III-R diagnostic criteria for Obsessive-compulsive disorder.

2) The subject reported using cognitive neutralizing activities.

3) The subjects had no overt compulsions or, if present, overt compulsions were not functionally related to the target obsession and were much less severe than the obsession (based on subjective ratings by the patient and scores on the Target Obsessions and Compulsions).

4) A mood or another anxiety disorder was not grounds for exclusion if it was considered of secondary importance by the clinician and the patient (e.g. depressive episode following onset or worsening of obsessions, or generalized anxiety or social phobia which otherwise would not have led the patient to consult).

5) The subject did not meet diagnostic criteria for any psychoactive substance abuse disorder, any form of schizophrenia, delusional disorder or other psychotic disorder, any organic mental disorder, or any form of paraphilia or impulse control disorder.

Subjects receiving medication were considered if dosage was stable for at least 12 weeks or was being reduced when subjects received pretreatment assessment. Subjects were accepted if they still met OCD severity criteria during assessment (i.e. marked distress, time consuming, or significant interference).

Treatment expectancy and credibility.

Treatment expectancy and credibility was assessed after the model had been explained (i.e. after the second treatment session) and again after the final treatment session. A seven-item scale was adapted from Borkovec and Nau (1972) and assessed six dimensions on a 1-4 scale: treatment logic, expected results, confidence to recommend to others, interest in applying strategies, therapist warmth/understanding, and therapist attention. The internal consistency for the six-item total score was .86. Expectations about residual symptoms were assessed on a nine-point scale, varying from No obsessions to More than fifty a day.

Therapists

There were four therapists, all graduate students trained in cognitive behavior therapy techniques. One (MF) had extensive experience with the treatment methods and shared responsibility for training and supervision. The three therapists other all met provincial licensing requirements. Therapists received five briefing sessions, a treatment manual explaining the treatment model and detailed instructions for conducting exposure and response prevention, and additional documentation on therapist attitudes and cognitive restructuring techniques (Beck & Emery, 1985). There were weekly supervision sessions with RL, a psychologist with 20 years experience in cognitive-behavior therapy, and monthly meetings with the two psychiatrists (FG, NT).

Therapy conditions

Cognitive-Behavioral Treatment

The wait-list subjects were informed that treatment would begin 16 weeks after original assessment was completed and that they would be telephoned once a month. Two subjects were met individually on one occasion each to fully investigate their current state and to provide support. No specific intervention was made for any aspect of the obsessional disorder.

The goal of the treatment was to correct the patient's understanding of obsessive thoughts by providing accurate information and correcting faulty appraisals, prevent neutralization, and thus enable patients to habituate to the obsessional thoughts leading to a decrease in frequency and duration and the distress caused by the thoughts. The program was standardized in the sense that each patient received a standard cognitive account of obsessions, was systematically trained in exposure and response prevention and practiced exposure to each thought in the hierarchy (or to the thought in each situation in the hierarchy), received cognitive restructuring, and was instructed in relapse prevention. It was individualized in the sense that the type of exposure (tape loop, in vivo, etc.), the targets for response prevention and cognitive correction varied according to the individual characteristics of each patient. Therapists were explicitly instructed not to provide any response prevention instruction for overt compulsions such as checking, washing, ordering, etc.

Treatment was based on one and a half hour sessions twice weekly for the first two-thirds of therapy. Treatment was terminated based on sufficient clinical improvement or a maximum treatment length that was initially set at 40 sessions. Follow-up sessions were

planned at one month, two months, and three months post-treatment, with follow-up assessment and booster sessions at six-months and follow-up at 12 months. Patients who completed treatment received an average of 25.7 sessions of treatment (range 17-43) over 19.2 weeks (range 9-25) with 3.3 follow-up sessions. Longer treatment was generally associated with less frequent treatment according to patient availability. Patients received an average of 40.5 hours treatment.

Treatment components. The following summarizes the treatment components.

1) A detailed cognitive account of obsessions was provided that identified triggered or spontaneous obsessive thoughts, inadequate appraisal of the thoughts, anxiety as a reaction to the thoughts, neutralization in order to decrease anxiety or change appraisals, leading to paradoxical return of the thought. Typically two sessions were spent on the model which was adapted in terms of the patient's own target thoughts, appraisals, and neutralizing strategies.

2) A minimum of two sessions were devoted to explaining the rationale for exposure and response prevention, preparing a recording for tape-loop exposure, and practising exposure under therapist supervision. Once a successful exposure session had been achieved (i.e. anxiety increase followed by anxiety decrease and successful response prevention), daily exposure with the tape loop was given as homework.

3) Subsequent exposure was planned with the therapist and involved hierarchies of thoughts where several target thoughts were

present, or hierarchies of situations if a target thought had different threat values in different situations. All patients initially received tape-loop exposure training. Some continued with tape-loop exposure for extensive periods of time, others switched to triggering target thoughts through in vivo exposure to specific situations associated with the thought, most used a combination of both.

4) Cognitive restructuring was introduced as necessary and targeted four main types of dysfunctional appraisal: a) the overimportance of thoughts and magical thinking, b) exaggerated responsibility for negative consequences such as harm to others, c) perfectionistic expectations for control and uncertainty, and d) inflated estimates of probability and severity of consequences associated with feared events. Given the heterogeneity of the target obsessions in the sample (aggressive, sexual, somatic, neutral, contamination, and religious obsessions as well as doubting about past actions were all present), cognitive restructuring was not used in any standardized way. In some cases it was used prior to exposure where the patient would otherwise have refused, in other cases it was used in parallel to exposure and especially in the later treatment sessions. All patients received interventions aimed at least two of the targets described above, some received all four. Standard techniques were used such as Socratic questioning, identification of automatic thoughts, behavioral experiments, etc. (see Beck & Emery, 1985).

5) Relapse prevention consisted of fixing reasonable expectations about residual symptoms and their fluctuations, identifying individual vulnerability factors, and planning strategies to adopt when symptom

levels rose. All patients received at least one session explicitly addressing these points. Follow-up sessions typically continued this work by examining how patients were dealing with residual symptoms and fine-tuning relapse prevention procedures.

Treatment integrity. Therapists completed a checklist of interventions (including interventions not specified or prohibited in the treatment protocol) at the end of each session. All sessions were recorded and 8% were checked at random by an independent therapist with previous experience with the treatment package who completed the checklist for each session. No interventions targeting overt compulsions were noted.

Results

Preliminary analyses

A series of univariate analyses of variance (or Fisher's exact tests) were used to compare the treatment and waiting-list groups on all sociodemographic, clinical, or outcome variables. The only significant differences were on two process measures, subscales of the Cognitive Intrusions Questionnaire where the treatment group subjects scored higher than the control groups subjects: Perceived Responsibility, $t(27) = 3.18$, $p<.01$; Perceived Severity, $t(27) = 2.06$, $p<.05$. There were no differences on any other sociodemographic, clinical, or outcome variables. Consequently, multivariate repeated measures analysis of variance was used to study treatment effects. Three subjects dropped out of the treatment group during the first half of therapy (M = 4 weeks, range: 2 to 5 weeks). Their endpoint

scores were retained in the analyses, partial data were available for one subject, pretreatment scores were used for the other two.

Posttreatment improvement

Between-groups change. Two-way multivariate analysis of variance (Group X Time) on primary outcome measures revealed a significant Group X Time interaction ($F(5, 23) = 7.43$, $p<.001$) and a significant time effect ($F(5, 23) = 5.34$, $p<.01$). Univariate analyses of variance with modified Bonferroni adjustment (Simes, 1986) indicated significant interactions for the Y-BOCS, $F(1, 27) = 12.01$, $p<.05^2$, Padua Inventory, $F(1, 27) = 6.13$, $p<.05$, interference, $F(1, 27) = 6.25$, $p<.05$, Beck Anxiety Inventory, $F(1, 27) = 13.47$, $p<.05$, but not for the Beck Depression Inventory. Note that the time effects were significant for all variables. Simple main effects tested differences between the two groups after treatment and showed that the posttest scores were significantly lower in the treatment group on the Y-BOCS, $F(1, 27) = 14.5$, $p<.05$, Padua Inventory, $F(1, 27) = 5.62$, $p<.05$, interference, $F(1, 27) = 5.15$, $p<.05$, and Beck Anxiety Inventory, $F(1, 27) = 7.08$, $p<.05$ (Table 1). Furthermore, there were highly significant decreases ($p<.0001$) on all variables in the treatment group (including the Beck Depression Inventory), but none of the pre-wait-list vs. post-wait-list contrasts were significant in the control group.

Insert Table 1 about here

Treatment change. All 14 subjects in the control group were offered the same treatment once the waiting-list assessment was

completed. The data immediately prior to treatment (i.e. the post-waiting-list assessment) was used for pretreatment scores. One subject in the wait-list group did not start treatment and was removed from the analyses, but three subjects who dropped out of the waiting-list group during treatment were retained (M = 6.7 weeks, range: 3 to 10 weeks). The analyses presented below are based on all 28 subjects. Partial data was available for three of the six subjects who dropped out, endpoint scores were used for the others. The data was once again analyzed in a Group X Time repeated measures multivariate analysis of variance design.

For the main outcome variables there was a significant multivariate time effect $F(5, 22) = 16.17$, $p<.0001$, the group and interaction effects were not significant. Univariate analysis of variance (Bonferroni corrected) showed highly significant decreases on all measures: Y-BOCS, $F(1, 27) = 84.51$, $p<.05$, Padua Inventory, $F(1, 27) = 54.14$, $p<.05$, interference, $F(1, 27) = 28.34$, $p<.05$, Beck Anxiety Inventory, $F(1, 27) = 24.31$, $p<.05$, and Beck Depression Inventory[3], $F(1, 27) = 11.47$, $p<.05$. Eliminating the subjects who did not complete treatment only increased the strength of all effects. The means and standard deviations for the pooled data of all subjects completing treatment are presented in Table 2.

Insert Table 2 about here

Two other groups of variables were analyzed at this stage: process variables, cognitive variables representing key constructs in

current models of OCD, and generalization variables, representing constructs not specifically targeted by the treatment. For the process variables there was a significant time effect, $F(1, 27) = 7.35$, $p<.01$. Neither the multivariate group or interaction effects were significant. There were significant decreases in appraisals of the target thought for Perceived Responsibility, $F(1, 27) = 18.48$, $p<.05$, and Perceived Severity, $F(1, 27) = 29.19$, $p<.05$, Escape-Avoidance neutralization strategies, $F(1, 27) = 28.51$, $p<.05$, Reassurance Seeking, $F(1, 27) = 18.81$, $p<.05$, beliefs about obsessions (IBRO), $F(1, 27) = 20.85$, $p<.05$, and Inflated Responsibility, $F(1, 27) = 10.88$, $p<.05$. A significant multivariate time effect was observed for the generalization measures, $F(3, 24) = 7.14$, $p<.0001$, but the group and interaction effects were not significant. There were significant decreases in general irrational beliefs (MSBS), $F(1, 27) = 13.90$, $p<.05$, worry (PSWQ), $F(1, 27) = 15.16$, $p<.05$, and compulsive activities (CAC), $F(1, 27) = 7.07$, $p<.05$.

Clinically significant change after treatment. As indicated above, treatment gains were statistically highly significant even when drop outs were retained in the analyses. However, it is also important to show that treatment gains were clinically significant. To give an accurate indication of gains resulting from successful application of the treatment, only subjects who completed treatment were retained in the analysis of clinically significant change. Change was considered in two ways, the percentage change, and the number of subjects meeting a fixed outcome criteria. The percentage change has long been used in OCD studies with 30% change or more considered as improved (e.g. Foa et al., 1983) whereas a recent study on relapse prevention in OCD

(Hiss, Foa, & Kozak, 1994) used a more severe 50% criterion. A complementary approach is to use normative data and fix a criterion score at one standard deviation above the mean score for nonclinical populations[4] (or face-valid critical levels where norms are not available) as end-state functioning (e.g. Borkovec & Costello, 1993). Outcome was examined in both ways, first for the Y-BOCS scores and then across a range of variables.

For percentage change, 95% of subjects achieved an improvement of at least 30% on the Y-BOCS at posttest, 82% achieved at least 50% improved (much improved), while 50% were very much improved (at least 70% improvement). In fact mean improvement on the Y-BOCS was 68%, very close to the very much improved criterion. In terms of improvement across a range of measures, 59% of subjects improved 30% or more on 4 or 5 primary outcome measures indicating broad based improvement. The results for the process variables, 31% of subjects improved on 5 or 6 process measures, reflects the generally smaller improvements (mean improvement varied from 20 to 56% compared with 40 to 68% mean improvement on primary outcome variables). Finally, on generalization measures, which were not the focus of treatment, only 4% improved on all three measures. In fact, mean treatment gains were only 14 to 25% on generalization measures.

Insert Table 3 about here

Cognitive-Behavioral Treatment

For clinically significant symptom levels, the percentage of subjects in the clinical range on the Y-BOCS dropped from 100% pre-treatment to 36% post treatment. It should be noted that only one subject scored in the medium severity range or above compared to 81% pretreatment. Across the primary outcome variables, 55% were in the non-clinical range on at least four out of five variables, a figure that is based on meeting non-clinical levels on the Y-BOCS (64%), Padua Inventory (68%), Interference (64%), Beck Anxiety (77%) and Beck Depression (81%). On process variables, 73% were in the non-clinical range on at least five out of six variables at posttest compared to 9% at pretest. Thus, despite a lower mean percentage improvement for process variables, the improvement was clinically highly significant. Finally, there were more modest levels of improvement on generalization measures. Less than half were in the non-clinical range at posttest on all three variables. This was primarily due to the Penn State Worry Questionnaire where only 50% were in the non-clinical range after treatment.

Insert Table 4 about here

At posttest, of the eight subjects who completed treatment and were taking medication before treatment, none were currently taking anxiolytics, and of the five taking antidepressants before treatment (3 Clomipramine, 1 Fluvoxamine, 1 Fluoxetine), one had stopped, two were on low maintenance dosage (10mg and 25mg Clomipramine), one had substituted to Sertraline, and one was still taking a full

therapeutic dose of Fluvoxamine. This last patient had previously been hospitalized five years earlier with anorexia. Thus, six out of eight subjects taking medication reduced or eliminated medication.

Follow-up improvement

Results for the six month follow-up of the 22 subjects who completed treatment and who had completed six-month follow-up were subjected to a repeated measures multivariate analysis of variance with planned contrasts comparing pre-treatment with follow-up and post-treatment with follow-up. All multivariate and univariate time effects were significant. All pretreatment versus follow-up contrasts were significant but no post-treatment versus follow-up contrast was significant. This indicates that scores were significantly lower on all measures at follow-up than at pretreatment but there were no significant changes between post-test and six-month follow-up. The results are presented in table 2.

Clinically significant change at follow-up. At six-month follow-up 86% of subjects remained with at least 30% improvement over pretreatment scores on the Y-BOCS, 69% were at least much improved, and 45% were very much improved. Thus there was some slippage on Y-BOCS scores. However, across a range of variables there was a slight gain: 64% showed pretreatment to follow-up improvement on 4 out of 5 primary outcome variables, 40% had improved on 5 out of 6 process variables, and 18% had improved on three generalization variables. In terms of end-state functioning on the Y-BOCS, 65% fell in the non-clinical range, 31% with slight symptoms and 14% reported moderate or more symptoms. Across a range of variables there was

improvement compared to posttest on both primary outcome and process variables where there were 64% and 83% respectively in the best functioning bracket. The situation had not changed for the generalization variables, the Penn State worry Questionnaire included. Medication remained unchanged. Two subjects had received some additional therapy, one for depression and one for marital difficulties.

Credibility and expectancy

Mean scores on all six treatment and therapist items were greater than 4 (range 0-5) both before and after treatment indicating that the treatment logic, expected results, confidence to recommend to others, interest in applying strategies, and therapist warmth/understanding and attention were all very positively rated. There were no significant changes on the total score. There was however a significant change (t = 4.53, p<.001) on the number of thoughts expected which rose from a mean of 3.2 before treatment (equivalent to 10 per month) to 5.1 after treatment (equivalent to 10 per week). Subjects revised their estimates upward, reflecting more realistic levels given that intrusive thoughts are an almost universal experience (Freeston et al., 1991; Rachman & de Silva, 1978). There were no correlations between pretreatment credibility/expectancy and any outcome measure.

Drop-out

Subjects who dropped-out early (n = 6) were compared to those who completed (n = 22) using Mann-Whitney and Fisher's exact tests (p<.05) without adjusting the significance levels. Subjects who dropped out were older (44.3 vs. 33.3, Z = 2.44, p<.05), first consulted

later (39.5 vs. 24.4, Z = 2.33, p<.05). They were also more depressed (27.5 vs 18.9, Z = 2.33, p<.05) had more severe Y-BOCS obsession scores (13.2 vs. 10.1, Z = 1.99, p<.05) but there were no differences on the total score or any other clinical or process variable. The possibility of type I error is high for these analyses, but the differences in age (10 yrs in current age, and 15 yrs in age at consultation is quite marked), and the difference in depression has clinical significance with the dropout group mean score and all individual scores in the moderate to severe range (Beck et al., 1988).

Predictors of improvement

The following variables were chosen to attempt to identify predictors of improvement during treatment and to six-month follow-up: initial severity (Y-BOCS total, obsessions and compulsions), BAI, BDI, compulsions (lifetime compulsions reported on Yale-Brown symptom checklist, Compulsive Activities Checklist, Padua Contamination and Checking subscales), initial insight (Yale-Brown item 11), age, age of onset, age of first consultation, years of education, length of treatment and follow-up sessions, patient provenance, and initial medication. Spearman correlation coefficients were calculated. For posttest improvement the only significant predictors were Lifetime Compulsions (r_s = -.54, p<.05) and Checking (r_s = -.51, p<.05). For improvement to follow-up, the significant predictors were all four measures of compulsions (Lifetime Compulsions, r_s = -.45, p<.05; Checking, r_s = -.63, p<.05; Contamination, r_s = -.61, p<.05 and Compulsive Activities Checklist, r_s = -.46, p<.05) and age (r_s = -.49, p<.05). Finally for change from posttest to follow-up, age (r_s = -.74,

$p<.05$) and education ($r_s = .42$, $p<.05$) emerged as a significant predictors. In summary, more overt compulsive behavior, which was explicitly not targeted during treatment, was associated with less change. Further younger patients and more educated patients did better in the posttreatment period. Note that the type I error rate of these tests is uncontrolled, but the small sample size would have precluded any adequate Bonferroni correction give the number of potentially relevant variables; all conclusions remain tentative.

Discussion

This study clearly demonstrates the efficacy of cognitive-behavioral treatment of obsessions without overt compulsions. Compared to the waiting-list control, there were significant improvements in the treatment group on the Y-BOCS total score, current functioning, self-report obsessive-compulsive symptoms, and self-reported anxiety. When the waiting-list control group was also treated, statistically significant treatment effects were recorded on all primary outcome, process, and generalization measures. Among those who completed treatment, clinically significant gains were observed for the majority of subjects. On the Y-BOCS, 82% were much improved or better after treatment (more than 50% improvement). Expressed both in terms of percentage improvement over pretreatment or as the proportion scoring in the non-clinical range, 64% of subjects showed a high degree of clinically significant change on both the Y-BOCS and across a range of five outcome variables.

At six-month follow-up there had been some slippage on the Y-BOCS but 69% were still at least much improved, and 64% remained

with a high degree of clinically significant change defined stringently as both percentage change and endpoint criteria across five outcome variables. Reviews of follow-up on OCD typically report some return of symptoms but most retain their gains. Relapse prevention was included in the current treatment package but future applications may benefit from more extensive and structured interventions. Several recent studies indicate the benefits of more specific relapse prevention procedures (Emmelkamp, Kloek, & Blaauw, 1992; Hiss et al., 1994).

The results on the process variables showed that there were clinically significant changes on responsibility and severity appraisals of target thoughts, neutralizing strategies and reassurance seeking, beliefs about obsessions, responsibility, and uncertainty, and obsessive thoughts referring to responsibility. The average effect size (Cohen's d, Cohen 1988) for the process variables was 1.02 (range 0.75 to 1.39) compared to 1.39 (range 0.78 to 2.48) for the primary outcome variables indicating sizeable change on these variables, despite smaller percentage changes. These results cannot confirm that the variables measured are causal in the maintenance of OCD but these results are among the first showing cognitive variables, postulated as playing important roles in current models of OCD (e.g. Freeston & Ladouceur, 1994a; Salkovskis, 1985), to change with successful treatment. Thus this study broadly supports cognitive models of OCD and fulfills at least the first condition of establishing appraisals, neutralization, and responsibility as mediating variables (Hollon, Evans, & DeRubeis, 1990).

The generalization measures changed less, with a mean effect size of 0.78 (range 0.59 to 0.92). This is not surprising for the Compulsive Activities Checklist where 72% of subjects already scored in the non-clinical range before treatment. The larger change on the Malouff and Schutte Belief Scale may indicate either that irrational beliefs are a correlate or concomitant of emotional disturbance, or that the restructuring techniques produced an appreciable degree of generalization. The finding that only 50% of the sample scored in the nonclinical range on the Penn State Worry Questionnaire posttreatment supports our previous observation that worries may become more important to the patients as obsessive thoughts decline (Freeston et al., 1994b). The link between worry and obsessions is not yet clear, but this result suggests that additional behavioral analysis and treatment may be needed for some patients, as worry and associated negative affect may trigger relapse under some circumstances.

Treatment dropout occurred between the third and tenth week which coincides with the most intensive part of exposure and response prevention. In fact four refused exposure and two reported that the treatment no longer corresponded to their goals. The percentage that dropped out (22%) is similar to the Hoogduin et al. (1987) series (19%) and is not unlike drop-out rates in earlier reports of exposure and response prevention treatments for overt compulsive rituals (e.g. Rachman et al., 1979) although more more recent data indicate lower drop-out (Riggs & Foa, 1993). Exposure is a demanding process and it is perhaps not surprising that subjects who dropped out were more

depressed than the others, in fact they all scored in the moderate-severe range on the BDI. However, depression among those who completed treated did not predict poorer results.

This finding is only partially consistent with recent reports on OCD (e.g. Foa, Kozak, Steketee, & McCarthy, 1992) that found that initial depression levels have little impact on outcome on compulsive ritualizers. However, there is some evidence that obsessional severity fluctuates markedly with the severity of depressive symptoms whereas compulsions do not (Ricciardi & McNally, 1992). The greater severity of obsessive thoughts but not neutralization on the Y-BOCS among the drop-outs provides some support for this position. The cognitive control necessary to implement cognitive exposure and response prevention may be more difficult among more depressed patients (see also Freeston, Ladouceur, Provencher, & Blais, In press). Patients with obsessive thoughts who present higher levels of depression may benefit from prior interventions aimed at alleviating depressive symptoms before proceeding with exposure and response prevention.

Overt compulsive rituals, either lifetime or current, were predictive of poorer improvement at post treatment and especially at follow-up. Although rituals were few or absent in this sample, this finding has several related implications. First from a methodological standpoint, overt rituals were specifically prohibited as targets for response prevention and so remained untreated. Thus, patients who improved the most were the target population, that is, subjects with very few or no overt rituals and who have been reported as being the

most difficult to treat. Second, from a clinical standpoint, prohibiting response prevention instructions for overt rituals was necessary in terms of the protocol, but is contrary to good behavior therapy where all neutralizing strategies, whether overt or covert, should be targeted. Third, from a theoretical perspective, this finding raises interesting questions: was the association between overt rituals and poorer improvement due to a functional link between the compulsions and the obsessions in a direct sense, or did the fact that some neutralizing strategies were not targeted for response prevention attenuate or erode the degree of response prevention obtained on target neutralizing strategies? Finally, the links with age and educational status are intriguing: the treatment package, although adapted as much as possible to the client's sophistication, does depend on a great deal of self-awareness. The distinction between obsessions and neutralization is often subtle where the same thought may be used to neutralize the obsession or where anxiety-provoking and reducing elements form a long complex chain. Some cognitive techniques may become a neutralizing strategy when used incorrectly and one patient even started to use a visual representation of the treatment model to counter thoughts. Younger and more educated clients may grasp these distinctions more easily.

The treatment used in the current study was quite long but produced statistically and clinically significant gains in patients who have long been considered resistant to treatment (Greist, 1990; Jenike & Rauch, 1994). Further, the treatment is not so long when compared to current intensive treatment programs for cognitive rituals (e.g.

Neziroglu, 1994; Riggs & Foa, 1993; Steketee, 1993). For example, the total number of hours is comparable to a current intensive exposure and response prevention treatment program for washers and checkers which recommends 15 daily two hour sessions followed by 8 to 10 weeks of weekly therapy (Riggs & Foa, 1993).

Although the exposure and response prevention used in this study was taught and practised in a systematic way, the same cannot be said for the cognitive restructuring. The main reason for the great variety in restructuring was the heterogeneous nature of target obsessions: aggressive, sexual, somatic, neutral, contamination, and religious obsessions as well as doubting about past actions were all present. This diversity precluded any great standardization of the techniques. However, in the absence of cognitive restructuring, successful exposure would have been difficult if not impossible in many cases, not only did patients have to accept exposure, but effective cognitive response prevention is impossible to achieve unless the patient collaborates completely. We are currently continuing investigation of the cognitive aspects of OCD as well as trying to develop more effective and more standardized cognitive restructuring procedures. Along with other authors (e.g. Salkovskis & Westbrook, 1987; Steketee, 1993) we believe that cognitive restructuring may be particularly useful in increasing treatment acceptance and adherence, reducing failures, and preventing relapse.

Although the therapists met provincial licensing requirements, had received specific training in the techniques used, and were closely supervised by a very experienced cognitive-behavior therapist, three

of them had little experience with treating OCD patients. Many patients improved markedly despite therapist inexperience, but the length of treatment and the drop-out rate may have been influenced by the relative lack of experience in managing obsessive patients. Overall, the positive results argue strongly that the package is sufficiently structured to be applied successfully by relatively inexperienced therapists with good basic cognitive-behavioral therapy skills and adequate supervision.

As has long been established for overt compulsive rituals, cognitive-behavior therapy has now been shown to be effective for the treatment of obsessional thoughts among the great majority of those who complete treatment. However, the picture is less positive when it is considered that out of 36 eligible patients, eight withdrew during or immediately after pretreatment assessment and six dropped out during treatment. When these are added to the two non-responders, it is clear that there is still a great deal to be done. The constraints of experimental protocols may contribute to the losses during assessment and to some extent during therapy, but there is room for a great deal of improvement in helping patients commit to therapy and pursue their treatment goals to a successful conclusion. This situation is not unique to the patient subgroup treated here, the same points are raised by the leading proponents of exposure and response prevention for compulsive ritualizers (see Riggs & Foa, 1993). Despite this sobering note, the principal result stands: effective cognitive-behavioral treatment does exist for OCD patients without overt rituals.

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Correspondence should be addressed to Robert Ladouceur, Ecole de Psychologie, Université Laval, Québec, Canada, G1K 7P4

Footnotes

[1]The only difference ($p<.05$) between those who completed pre-treatment assessment and those who did not was that subjects who did not complete evaluation first consulted at a later age (38.8 yrs vs 27.6 yrs, $Z = 2.15$, $p<.05$), had consulted fewer professionals (1.5 vs 3.3, $Z = 2.48$, $p<.05$) and were consulting our treatment program sooner after their original consultation (3.0 yrs vs 8.0 yrs, $Z = 2.14$, $p<.05$). There was no difference on the current severity of obsessional symptoms. Note that for all comparisons of treatment refusers vs. accepters, medication users vs. non-users, referred patients vs. direct entry, treatment vs control subjects, etc., all tests were conducted at $p<.05$ despite inflated type I error. Using multivariate analyses or Bonferroni corrections in these situations increases the possibility of type II error which may have serious consequences if a potential confounding variable is overlooked. The authors believe a type II error is potentially more serious in these situations.

[2]The overall significance level for the group of comparisons is reported rather than the Bonferroni adjusted level which varies for each comparison. The actual significance level exceeded the criterion for each individual test, often by a great deal.

[3]Note that that there was a significant univariate group effect for depression scores, $F(1, 27) = 7.25$, $p<.01$, but no interaction effect: scores in the waiting-list group were lower at both pre- and post-treatment. The lower scores appears due to a combination of a non-

significant difference at initial assessment combined with a non-significant decrease during the wait-list that lowered the pretreatment score, followed by an equivalent change during treatment. An analysis of covariance on the residualized change score confirmed that there was no difference in the gain between groups.

[4]For skewed distributions the standard deviation may be quite large and the criteria then becomes permissive. Thus, this study adopted the lower of either one standard deviation above the mean or the 84th percentile, which corresponds to one standard deviation in a normally distributed population. Cut-off scores of less than 9 were used for the Y-BOCS given that medication is not recommended at these levels (Anonymous, 1991), and 3 or less for the interference measure as this corresponds to slight interference where the patient functions well but obsessional problems prevent the patient from fully benefitting from the the situation.

Table 1

Means and Standard Deviations on Outcome Variables at Pre-, Post- for Treatment (n=15) and Waiting-List (n=14) Groups

	Pre		Post	
Variables	M	SD	M	SD
Y-BOCS				
Treatment	25.1	5.0	12.2	9.6
Wait-list	21.2	6.0	22.0	6.0
Current Functioning				
Treatment	6.5	1.7	4.7	2.5
Wait-list	5.9	1.9	5.7	1.6
Padua Inventory				
Treatment	71.5	31.4	54.7	32.9
Wait-list	87.1	43.4	83.9	35.6
Beck Anxiety				
Treatment	22.5	7.3	12.8	7.1
Wait-list	19.7	9.9	21.6	12.1
Beck Depression				
Treatment	22.6	8.2	15.8	14.3
Wait-list	18.7	8.2	15.1	8.4

Table 2

Means and Standard Deviations on Outcome, Process, and Generalization Variables at Pre-, Post- and Follow-up Assessments

	Pre		Post		6 months	
Variables	M	SD	M	SD	M	SD
Outcome						
Y-BOCS	23.0	5.7	7.2	5.2	8.1	7.2
Current Functioning	5.7	1.7	3.2	1.8	2.6	2.0
Padua Inventory	73.7	30.4	45.4	30.0	45.1	33.4
Beck Anxiety	20.5	8.6	10.3	6.1	9.1	5.0
Beck Depression	17.0	8.8	8.7	10.9	8.2	8.3
Process						
Perceived Respons.	25.2	7.0	15.5	7.6	15.1	7.7
Perceived Severity	63.6	11.6	45.0	13.8	41.8	15.2
Escape/Avoidance	4.4	1.8	2.2	1.0	2.2	1.1
Reassurance	3.8	2.6	1.8	1.1	1.8	1.0
Beliefs (IBRO).	70.6	14.0	56.6	17.5	53.1	11.5
Inflated Respons.	6.1	4.0	4.1	3.3	3.6	3.4
Generalization						
Compulsions	6.0	6.8	3.9	5.4	4.1	5.2
Worry	59.0	11.0	52.6	11.3	50.9	12.4
Beliefs (MSBS)	67.1	10.9	57.7	10.8	57.2	11.5

Note. N = 22

Table 3

Number and Percentage of Subjects Responding on Outcome, Process, and Generalization Variables at Post-Treatment and Follow-up Assessment.

	Post		6 months	
Variables	Freq.	%	Freq.	%
Outcome				
0-1	2	(9%)	2	(9%)
2-3	7	(31%)	6	(27%)
4-5	13	(59%)	14	(64%)
Process				
0-2	7	(31%)	5	(23%)
3-4	8	(37%)	8	(37%)
5-6	7	(31%)	9	(40%)
Generalization				
0-1	16	(17%)	12	(55%)
2	5	(36%)	6	(27%)
3	1	(46%)	4	(18%)

Note. N = 22

Table 4

Number and Percentage of Subjects in Non-clinical Range on Outcome, Process, and Generalization Variables at Pre-, Post- and Follow-up Assessment.

	Pre		Post		6 months	
Variables	Freq.	%	Freq.	%	Freq.	%
Outcome						
0-1	16	(73%)	3	(13%)	2	(9%)
2-3	5	(23%)	7	(32%)	6	(27%)
4-5	1	(4%)	12	(55%)	14	(64%)
Process						
0-2	12	(55%)	1	(4%)	1	(4%)
3-4	8	(36%)	5	(23%)	3	(13%)
5-6	2	(9%)	16	(73%)	18	(83%)
Generalization						
0-1	11	(50%)	6	(27%)	5	(23%)
2	8	(36%)	6	(27%)	7	(31%)
3	3	(14%)	10	(46%)	10	(46%)

Note. N = 22

CHAPITRE 5

CONCLUSION GÉNÉRALE

Les trois présentes études fournissent une première description détaillée d'un échantillon important de patients souffrant du trouble obsessionnel sans compulsion manifeste. La première étude confirme que les patients utilisent un vaste répertoire de stratégies pour chasser la pensée et pour diminuer le malaise. La majorité de ces stratégies ne sont pas, comme on pouvait s'y attendre, des rituels cognitifs ni même des tentatives de réparer des torts éventuels, mais prennent plutôt la forme de stratégies d'adaptation. Ce résultat souligne l'importance d'adopter une définition plus large de la neutralisation. La deuxième étude établit que l'évaluation des pensées varie en fonction des fluctuations de l'état émotionnel et qu'elle est associée au nombre d'événements négatifs quotidiens rapportés par l'individu. Ces résultats constituent la première démonstration empirique de tels liens. La troisième étude montre qu'un traitement basé sur l'exposition, la prévention de la réponse et la restructuration cognitive est efficace et que les gains se maintiennent six mois après l'intervention. Cette étude est la première à démontrer empiriquement que l'évaluation négative des intrusions et la neutralisation diminuent à la suite d'un traitement. Les implications de ces résultats seront discutées aux plans clinique et théorique.

L'impact le plus important de cette recherche est que nous disposons maintenant d'un traitement éprouvé pour les obsessions sans compulsion manifeste. Les résultats de l'intervention étudiée sont impressionnants puisque 82% des sujets ainsi traités présentent une amélioration cliniquement significative. Ces personnes améliorent

leur niveau de fonctionnement en ce qui a trait à plusieurs variables importantes, à savoir les obsessions cibles, le fonctionnement quotidien dans les différentes sphères de leurs activités et les symptômes dépressifs et anxieux. La définition de la neutralisation proposée dans le cadre de cette recherche ne semble pas étrangère à cette réussite: le traitement a ciblé toutes les stratégies de neutralisation (sauf les compulsions manifestes) soit les rituels cognitifs, les tentatives de réparer les torts ou les stratégies d'adaptation. Soulignons que les personnes qui présentaient davantage de compulsions manifestes avant le traitement sont celles dont la condition s'est la moins améliorée. Ce résultat s'expliquerait probablement par le fait que ces patients n'ont pas reçu une prévention de la réponse complète. La pratique clinique, libérée des exigences d'un protocole de recherche, demanderait que ces comportements soient aussi ciblés par la prévention de la réponse.

Les implications cliniques des variations affectant l'état émotionnel sont nombreuses. Premièrement, il est important de tenir compte de l'état émotionnel lors de l'évaluation des aspects cognitifs (les évaluations subjectives et les croyances irrationnelles). Deuxièmement, les états émotionnels négatifs présentés au début du traitement peuvent faciliter l'accès aux cognitions dysfonctionnelles. Par contre, ces états peuvent empêcher les patients de bien intégrer de nouvelles informations telles que le rationnel pour l'exposition et la prévention de la réponse. La personne qui évalue toujours les conséquences de la pensée comme très graves et hautement probables

ne peut pas accepter l'idée que s'exposer à ses peurs peut les faire diminuer. Troisièmement, il faudrait inclure les informations sur le rôle des émotions dans les interventions visant la prévention des rechutes. Les patients devraient savoir que lorsqu'ils sont dysphoriques, ils sont plus susceptibles d'évaluer leurs pensées de façon inadéquate et d'enclencher ainsi la spirale obsessionnelle de la neutralisation, le retour de la pensée et la détérioration de l'état émotionnel. En tenant compte du rôle des événements quotidiens dans ce processus, le patient peut développer des stratégies d'adaptation qui diminuent le nombre de situations provoquant des émotions négatives.

Deux approches peuvent s'avérer utiles, voire même nécessaires, pour aider les individus qui démontrent les variations les plus marquées ou qui semblent plus sensibles aux événements négatifs mineurs du quotidien. La première adopte une perspective plus large. Postulant des déficits possibles, elle préconise des interventions additionnelles de contrôle du stress, de solution de problèmes ou d'affirmation de soi. La deuxième découle plus directement du modèle cognitif qui est un modèle de distorsion. Elle propose des interventions de type cognitif avec l'objectif d'ancrer davantage les gains thérapeutiques. Cependant, le lien connu entre l'humeur dépressive, l'obsession, la comorbidité du TOC et les troubles de personnalité suggère que les interventions cognitives peuvent couvrir un spectre thérapeutique plus large en s'appuyant sur les récents développements de la thérapie cognitive. Ces deux approches étant

complémentaires, elles se verront incluses dans le programme de prévention de réponse, vers la fin du traitement. Le choix ultime se basera sur une analyse fonctionnelle du patient, à la dernière phase du traitement des obsessions.

Ces résultats ont aussi des implications pour le Trouble obsessionnel-compulsif où les compulsions sont manifestes. Comme la majorité des individus atteints risquent d'avoir un certain répertoire cognitif en plus de leurs compulsions manifestes, l'efficacité du traitement standard pourra être améliorée par l'application des stratégies d'intervention discutées ici. En augmentant le degré de prévention de la réponse par l'inclusion des stratégies cognitives, il est permis de croire que certains patients afficheront un gain thérapeutique supérieur mais aussi que le maintien des gains sera plus stable. De plus, il serait important d'évaluer la présence de variations dans l'évaluation cognitive des patients qui souffrent de compulsions manifestes. Si la même situation prévaut, il sera opportun d'en tenir compte dans les interventions cognitives visant à faciliter l'exposition ou l'intégration des informations obtenues.

Malgré les succès thérapeutiques observés chez la majorité des patients qui complètent le traitement, trois groupes de patients ne profitent pas de ces retombées positives: ceux qui se désistent avant même de commencer le traitement, ceux qui abandonnent la thérapie pendant les premières semaines et ceux qui complètent le traitement mais qui n'en tirent que peu de bénéfice. Ces derniers sont les moins nombreux mais il faut quand même reconnaître que le traitement a,

dans leur cas, échoué. Ces trois groupes possèdent vraisemblablement des caractéristiques différentes et ils exigent peut-être l'adaptation des stratégies thérapeutiques pour corriger les faiblesses du programme actuel. Il serait donc intéressant d'examiner en détail les caractéristiques propres à ces trois groupes. Ce type d'analyse a été mené de façon rétrospective (Hansen, Hoogduin, Schaap, & de Haan, 1992), mais la méthodologie de cette étude souffrait de failles importantes. Il est recommandé que les travaux ultérieurs concernant le traitement mettent en place, dès le recrutement et l'évaluation initiale des sujets, une méthodologie pouvant fournir les informations pertinentes à cette analyse.

Les implications théoriques des résultats de ces trois études sont multiples. Premièrement, le traitement proposé découle directement des modèles théoriques et fournit des appuis significatifs au bien-fondé de ces modèles. Il reste maintenant à identifier les composantes responsables des changements observés. De façon plus précise, le traitement confirme la pertinence des aspects cognitifs tels que les évaluations dysfonctionnelles, les croyances inadéquates et le rôle de la neutralisation, en associant un changement cognitif avec une amélioration des symptômes. Pareille relation correspond à la première condition pour démontrer le statut de médiation d'une variable (Hollon, Evans, & DeRubeis, 1990). Les deux autres conditions, à savoir que le changement de la variable médiatrice précède les modifications des symptômes et que le changement observé est spécifique à ce type de thérapie, exigent des stratégies

méthodologiques alternatives. Par exemple, un dispositif expérimental faisant appel à l'analyse de séries temporelles peut répondre à la condition de l'ordre temporel des changements, tandis qu'une étude contrôlée comparant une thérapie cognitive-comportementale à un traitement pharmacologique pourrait répondre, du moins partiellement, à la troisième condition.

L'étude de l'état émotionnel soulève des problèmes méthodologiques dans l'évaluation des changements cognitifs. Si certaines variables cognitives sont influencées par l'état émotionnel, il est difficile d'évaluer de tels changements après le traitement puisque l'état émotionnel s'est aussi amélioré. Une étude démontrant le maintien des évaluations fonctionnelles et des croyances adéquates, lorsque l'individu expérimente un niveau élevé de stress, d'anxiété ou de dépression, confirmera que des changements cognitifs fondamentaux ont eu lieu. La démonstration sera établie de plusieurs façons, par exemple, en prenant des mesures après l'induction d'un état émotionnel négatif en laboratoire, pendant l'exposition à des situations provoquant de l'anxiété ou en utilisant une variation naturelle dans l'état émotionnel, comme au chapitre trois.

Les résultats de l'étude sur l'état émotionnel ont des implications qui dépassent les troubles obsessionnels compulsifs. Ils rejoignent des travaux sur la dépression qui ont amené une théorie modifiée de schèmes cognitifs (Persons, 1993) pour tenir compte des variations du lien entre l'humeur et les cognitions dans une perspective de causalité bidirectionnelle. En termes plus généraux, les résultats appuient le

modèle de Teasdale (1993, Interacting Cognitive Subsystems) qui établissent deux niveaux de signification: la signification propositionnelle, qui réfère au contenu brut d'une cognition, et la signification implicationnelle (implicational meaning), qui inclut non seulement la cognition mais toute résonance émotionnelle représentée par la proposition. Ce modèle, qui se veut une alternative aux modèles cognitifs qui s'inscrivent dans la tradition de Beck (1976, etc.), n'aura aucune difficulté à intégrer le lien étroit entre cognition et émotion observé ici et accorde une certaine préséance au niveau implicationnel. L'approche de Teasdale (1993), en écho à la psychologie cognitive expérimentale, prédit même ce type de lien alors que le modèle cognitif traditionnel est ébranlé par ces résultats.

L'état émotionnel et l'évaluation subjective de la pensée appellent une réflexion plus poussée concernant l'évaluation du danger et de la responsabilité. Le fait que ces évaluations ne subissent pas de même variation suggère que ces deux construits sont distincts, comme notre groupe l'a déjà mentionné (Freeston, Ladouceur, Gagnon, & Thibodeau, 1992; 1993; Freeston, Ladouceur, Thibodeau et Gagnon, 1992; Rhéaume, Freeston, Dugas, Letarte, & Ladouceur, 1994; Rhéaume, Ladouceur, Freeston, & Letarte, sous presse; 1994; van Oppen & Arntz, 1994). Il est possible que la perception de danger soit moins spécifique au trouble obsessionnel-compulsif mais qu'elle s'applique de façon générale aux troubles anxieux. Par contre, la perception exagérée de la responsabilité serait spécifique au trouble obsessionnel. La relation entre les perceptions de responsabilité

exagérée et de danger reste à préciser et peut dépendre du degré de conscience du sujet. Un entraînement préalable à reconnaître des situations où le sujet éprouve une responsabilité exagérée clarifierait cette relation.

Le présent travail confirme l'efficacité d'un traitement pour la pensée obsessionnelle sans compulsion manifeste: il importe maintenant d'identifier ses éléments actifs. Le traitement des obsessions par l'exposition et la prévention de la réponse est traditionnellement interprété en termes d'habituation ou d'extinction (voir Salkovskis & Westbrook, 1989). Cependant, les formulations cognitives proposent que l'exposition et la prévention de la réponse soient une forme d'expérience béhaviorale qui modifie les croyances et les évaluations dysfonctionnelles. L'impact de la neutralisation et de la prévention de la réponse sur l'évaluation cognitive devient donc une question prioritaire. Même si les deux premières études aide à la compréhension de la neutralisation, de l'évaluation cognitive et de l'état émotionnel, elles n'en précisent pas les liens. Une étude plus approfondie s'impose. Le défi méthodologique est de séparer les effets directs de la neutralisation (ou de la prévention de la réponse) sur l'évaluation cognitive de ses effets indirects. De fait, les effets indirects se manifestent dans la mesure où la neutralisation agit d'abord sur l'état émotionnel, qui influence à son tour l'évaluation subjective. Si nous parvenons à mettre au point une méthodologie qui réponde à ces objectifs de recherche, notre compréhension des

éléments actifs permettra de développer des traitements plus efficaces.

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