

Regular Article

Hoarding in obsessive–compulsive disorder and related disorders: A preliminary report of 15 cases

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Abstract

Hoarding, the repetitive collection of excessive quantities of poorly useable items of little or no value with failure to discard these items over time, is characterized in DSM-IV as a symptom of obsessive–compulsive disorder (OCD) and obsessive–compulsive personality disorder (OCPD) but has, until recently, received scant empirical investigation. We describe the demographics, phenomenology, associated psychopathology and family history in 15 subjects presenting with hoarding behavior. Fifteen subjects were recruited from an OCD clinic and newspaper advertisement and assessed with the comprehensive Structured Clinical Interview for DSM-IV (SCID I and II), the Yale-Brown Obsessive Compulsive Scale (Y-BOCS), and a hoarding questionnaire (devised by the authors). The sample comprised 11 women and four men who hoarded a mean of seven item types, with a mean duration of 13.2 ± 3.9 years (range 2–15 years). Their mean age was 41.8 ± 14.3 years (range 20–65 years). The most common motive for hoarding was the fear of discarding items of practical value. Nine subjects met DSM-IV criteria for OCD, 9 met criteria for OCPD, for symptoms and behaviors other than hoarding, while six subjects met criteria for a putative OCD spectrum disorder (Tourette's, body dysmorphic disorder, trichotillomania). Six subjects reported little or no control over their hoarding, but only one subject saw her symptoms as an 'illness' warranting treatment. Pathological hoarding is usually a covert and chronic behavior causing distress and/or impairment, and may be related to OCD and OCPD. Hoarding may meet the criterion for a compulsion in DSM-IV, yet there is evidence to suggest that hoarding may manifest in a variety of other psychiatric conditions. While a range of pharmacologic and behavioral treatments have been tried, their effectiveness in managing hoarding behaviors requires additional research.

Key words demography, hoarding, obsessive–compulsive disorder, phenomenology.

INTRODUCTION

Pathological hoarding behavior has, from an historical perspective, been documented in association with various psychiatric disorders, including obsessive–compulsive disorder (OCD),¹ obsessive–compulsive personality disorder (OCPD),² dementia,³ schizophrenia,⁴ and depression.⁵ While broadly defined by Frost and Gross as 'the repetitive acquisition of large quantities of useless or poorly useable possessions with

failure to discard',⁶ several studies suggest that hoarding behavior occurs across a spectrum, ranging from non-pathological and mild to excessive and potentially debilitating.

Clinical compulsive hoarding (i) has been defined as the cluttering of living space so as to preclude normal use and activity; (ii) is associated with significant distress or impairment of functioning;⁷ and (iii) is most likely driven by neurobiological⁸ and psychosocial determinants.^{6,9,10} Based on previous research on hoarding, Frost and Hartl have proposed a cognitive–behavioral model that conceptualizes compulsive hoarding as multifaceted, stemming from information processing deficits, difficulties in forming emotional attachments, behavioral avoidance and faulty beliefs about the nature of saving and possessions.⁷

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Most clinical descriptions of hoarding, however, associate it with OCD where it is estimated to occur in one-quarter to one-third of all cases.¹¹ However, despite its century-long description in the literature, the prevalence of hoarding in the general population has not been established. OCD hoarders have been shown to exhibit more anxiety, depression, family and social disability and dependent and schizotypal personality disorder symptoms, compared with OCD non-hoarders and patients with other anxiety disorders.¹² Features such as limited insight, absence of resistance to the compulsion to hoard and poor treatment motivation, may be common to individuals who hoard.^{3,12} While hoarding is recognized as one of the eight symptom criteria of OCPD and may be linked with other OCPD criteria such as perfectionism,^{2,6} studies have failed to show any significant differences between hoarders and community controls on the OCPD subscale of the Millon Multiaxial Clinical Inventory-II (MCMII-II)^{13,14} In child and adolescent OCD, hoarding/saving compulsions have been reported at rates of 11–42%.^{15–17}

We present a preliminary study of the demographic and clinical characteristics of hoarding behavior in 15 adult subjects with OCD and OCD-related disorders. The spectrum and phenomenology of hoarding behavior, associated psychopathology, family history and treatment response, are described.

METHODS

Twenty participants were initially screened by way of the following questions: (i) do you collect an excessive number of ‘useless’ items (e.g. newspapers, magazines, old food, bottle caps, etc.); (ii) do you have trouble throwing things away; (iii) does your collecting cause problems for you and/or other people and (iv) do you consider yourself to be someone who ‘hoards’?

Fifteen subjects assessed as having clinically significant hoarding (as determined by an affirmative response to screening questions and significant distress and/or impairment in functioning caused by hoarding) were evaluated further and are reported here. Ten of these subjects were recruited from an OCD clinic (Tygerberg Hospital, Cape Town), and five were recruited via a newspaper advertisement. No subject had dementia or a psychotic disorder (as assessed by clinical interview).

Informed consent was obtained from all subjects. All interviews were performed by a single investigator. A semistructured ‘hoarding questionnaire’ was designed for the study and comprised 25 questions on hoarding characteristics, course, treatment, and family

history. Items on distress, control, resistance, insight, and interference on the ‘hoarding questionnaire’ were rated on a Likert scale ranging from ‘none’ to ‘extreme’. Structured Clinical Interviews for DSM-IV (SCID I and II) were administered to all subjects to assess for Axis I and Axis II disorders.^{18,19} The subjects and the referring health professionals were the chief sources of information for the SCID II. Patients with OCD and body dysmorphic disorder (BDD) were assessed for symptom severity at baseline using the Yale-Brown Obsessive Compulsive Scale (Y-BOCS).²⁰ For subjects on treatment ($n = 6$), ‘response’ was based on subjects’ self-report.

RESULTS

The mean age of subjects (11 women and four men) was 41.8 years \pm 14.3 (range 20–65 years). Nine subjects were married, five were single and one was divorced. Seven subjects were unemployed (Table 1). All subjects had onset of hoarding behavior in adolescence, with a mean duration of 13.2 \pm 3.9 years (range 2–15 years). The extent of hoarding was determined by the amount of space occupied by the items hoarded. Five subjects (33%) reported that items occupied multiple box-space, while three subjects (20%) reported that items occupied a space equivalent to an apartment or house. Indeed, one subject was unable to rent out her apartment because it contained her ‘collected junk’ (magazines, old videotapes). Married subjects who hoarded tended to occupy more space than non-married subjects (Fisher’s exact test, $P = 0.04$).

All subjects were hoarders of non-food items, with a mean of seven item types hoarded (range 4–19); in addition three subjects hoarded food items. Common items included letters ($n = 12$), magazines ($n = 11$), old clothes ($n = 11$) newspapers ($n = 9$), and receipts ($n = 8$) (Table 1). Most subjects reported that items held practical value; for nine subjects (60%) items held sentimental value, for two subjects (13%) they held symbolic value, and for four subjects (27%) items held no value whatsoever.

Nine subjects (60%) reported at least moderate control over hoarding, while six subjects (40%) reported little or no control. The association between the degree of control over hoarding behavior and the extent of hoarding tended towards significance (Fisher’s exact test, $P = 0.08$). Ten subjects (67%) experienced at least ‘mild’ distress when prevented from hoarding, while five subjects (33%) experienced ‘severe’ to ‘extreme’ distress. Eight subjects (53%) had marked difficulty resisting the ‘urge’ to hoard and tended to yield to impulses. Subjects were

Table 1. Demographic characteristics of 15 hoarders

| Patient | Age | Sex | Marital status ^b | Hoarded items | Hoarding extent (space occupied) ^a | Family history |
|---------|-----|-----|-----------------------------|---|---|----------------|
| 1 | 65 | M | M | Newspapers, magazines, old notes, receipts, old clothes, video tapes, old medication | 3 | No |
| 2 | 38 | F | D | Newspapers, magazines, letters, old food | 3 | Yes |
| 3 | 23 | M | S | Letters, receipts, bills | 1 | No |
| 4 | 55 | F | M | Newspapers, magazines, letters, cards, boxes, old soap, pens, old clothes | 3 | No |
| 5 | 49 | F | M | Newspapers, magazines, letters, receipts, old clothes, tickets, pens, old food | 3 | Yes |
| 6 | 45 | M | S | Newspapers, magazines, letters, receipts | 2 | No |
| 7 | 41 | F | M | Magazines, old clothes, beads, wool, fabric | 3 | Yes |
| 8 | 56 | M | M | Newspapers, magazines, letters, receipts, pens, bits of wood and wire, old nails | 4 | No |
| 9 | 20 | F | S | Magazines, letters, receipts, old pens, old clothes | 2 | No |
| 10 | 21 | F | S | Newspapers, magazines, letters, old clothes | 2 | Yes |
| 11 | 43 | F | M | Letters, receipts, old clothes, hair combs, pens, pins, wire | 4 | No |
| 12 | 59 | F | M | Newspapers, magazines, receipts, cardboard, plastic bags, boxes, old wood, old soap, old food, combs, pens, old medication, clothing rags | 4 | No |
| 13 | 45 | F | M | Newspapers, magazines, letters, receipts, paper bags, old clothes | 2 | Yes |
| 14 | 24 | F | S | Letters, boxes, old clothes, pens | 1 | Yes |
| 15 | 43 | F | M | Letters, boxes, old clothes, pens | 2 | No |

^aSpace occupied: 1, items in drawers/cupboards; 2, items in boxes; 3, items fill >1 room; 4, items fill contents of an apartment/house.

^bMarital status: M, married; D, divorced; S, single.

asked to rate the severity of their hoarding. Six subjects ($n=40\%$) rated the behavior 'excessive', five subjects (33%) rated the behavior 'not excessive', while three subjects were unable to rate severity. Only one subject felt that her hoarding was 'an illness in need of treatment'. Seven subjects reported that hoarding interfered with social, work, or academic performance; three subjects reported 'mild interference', three reported 'moderate' interference, and one reported 'severe interference'.

The predominant emotions associated with hoarding were relief/satisfaction ($n=6$), guilt ($n=5$),

anxiety/anticipation ($n=2$), and shame/embarrassment ($n=1$). No subject identified emotions of depression, anger or dissociation. Subjects' attributed a worsening of hoarding behavior to factors such as stress ($n=4$), loneliness ($n=3$), and depression ($n=3$). Factors that reduced hoarding included being busy/occupied ($n=3$), being in the company of other people ($n=3$), and being happy ($n=3$). Eleven subjects (73%) reported that the 'urge' to hoard occurred without preceding obsessional thoughts, while four subjects (27%) reported that hoarding occurred in response to obsessional thoughts. It has been sug-

gested that what differentiates hoarding from other obsessive-compulsive symptoms is that hoarding is not usually preceded by obsessional cognitions and anxiety, which occur only when the behavior is prevented.^{21,22} Factors cited by subjects to contribute to hoarding behavior were emotional deprivation in childhood ($n=5$), material deprivation ($n=2$), having a family member who hoarded ($n=2$), and having parents who did not allow them to keep items ($n=2$).

All 15 subjects met DSM-IV criteria for at least one psychiatric disorder, with the SCID-I¹⁸ revealing a high lifetime prevalence of OCD (for symptoms other than hoarding) ($n=9$, 60%). Other SCID-I diagnoses included major depressive disorder ($n=2$), Tourette's

disorder ($n=2$), trichotillomania (TTM) ($n=2$), and body dysmorphic disorder ($n=2$). Two subjects (one with OCD and one with TTM) reported compulsive shopping behavior. Existing studies support a hypothesis that compulsive shopping/buying is more prominent among people who hoard, and a link between compulsive buying and OCD has been suggested.^{23,24} The SCID-II¹⁸ revealed a high prevalence of OCPD ($n=9$, 60%) (Table 2). There were no statistically significant differences in the extent of hoarding in subjects with and without diagnoses of OCD and OCPD, respectively (Fisher's exact tests, $P=0.60$, $P=0.62$).

Six subjects (40%) had a positive family history of hoarding behavior (five fathers, one mother). Eleven

Table 2. Lifetime comorbidities and treatment in 15 hoarders

| Patient | Lifetime SCID I diagnoses | Lifetime SCID II diagnoses | Y-BOCS scores at baseline | Treatment /response of hoarding behavior |
|---------|--|----------------------------|---------------------------|--|
| 1 | OCD | OCPD | 24 | Citalopram 60 mg × 3 months: good response |
| 2 | OCD Alcohol dependence Panic disorder with agoraphobia | OCPD | 27 | Fluoxetine 40 mg × 3 months: good response |
| 3 | OCD Tourette's disorder | OCPD | 12 | Haloperidol 5 mg × 12 months: no response |
| 4 | OCD | None | 18 | None |
| 5 | OCD Tourette's disorder | OCPD | 27 | Citalopram 40 mg × 6 months: poor response |
| 6 | OCD | OCPD | 25 | None |
| 7 | Body dysmorphic disorder Bulimia nervosa Benzodiazepine dependence | Dependent PD | – | None |
| 8 | OCD | OCPD | 24 | None |
| 9 | Trichotillomania | Avoidant PD | – | Citalopram 60 mg × 3 months: good response |
| 10 | Major depressive disorder Specific phobia | Avoidant PD | – | None |
| 11 | Major depressive disorder | OCPD | – | Citalopram 20 mg × 1 month: poor response |
| 12 | Body dysmorphic disorder | Avoidant PD | 25 | None |
| 13 | OCD | OCPD | 23 | None |
| 14 | Trichotillomania | None | – | None |
| 15 | OCD | OCPD | 28 | None |

OCD, obsessive-compulsive disorder; OCPD, obsessive-compulsive personality disorder; PD, personality disorder.

subjects reported histories of other psychiatric disorders in first-degree relatives, including depression ($n=6$), OCD ($n=3$), tics ($n=1$), social phobia ($n=1$), and alcoholism ($n=1$). Three subjects with OCD had a first-degree relative with OCD and hoarding behavior.

Five subjects had received an adequate trial (at least 8 weeks) of medication for their primary psychiatric disorder at baseline. Many subjects had been recently diagnosed and were consequently medication-naïve at the initial assessment. No subject had specifically received treatment for hoarding behavior. Four subjects (three with OCD, one with TTM) were on selective serotonin reuptake inhibitors (citalopram/fluoxetine) at baseline, with two subjects (one with OCD and one with TTM) reporting an improvement in hoarding behavior on citalopram (60 mg/day) at 4–6 weeks. One subject was on haloperidol (5 mg/day) for Tourette's disorder. No subject with OCD had received cognitive-behavior therapy (CBT).

DISCUSSION

We used a hoarding questionnaire devised by us, and not previously published. This semistructured hoarding questionnaire was developed to include items on the phenomenology, severity, extent, family history, and treatment of hoarding behavior. Only subjects who screened 'positive' for clinically significant hoarding received further evaluation. It is therefore likely that the sample was skewed to favor subjects with sufficient insight to recognize a problem. Most studies have documented limited insight as a common clinical feature of hoarding. It should be noted, however, that while hoarding was recognized to be a problem, several subjects did not believe it to be excessive and/or interfering and the vast majority did not view it as an 'illness' or behavior requiring treatment.

This descriptive study is also limited by the small sample and reliance on subjects' ratings of hoarding behavior (lack of corroboration of the severity of hoarding with spouses/family members). Furthermore, this sample may not be representative as many subjects were referred to the study from an OCD clinic. No subject met the criteria for a cognitive or psychotic disorder, disorders that are also characterized by hoarding behavior.^{3,4}

In addition, the demographic findings of the present study are not entirely consistent with other studies of hoarding behavior that have reported about equal male/female ratios, and a preponderance of single patients.^{6,20,25} The mean age of subjects in the sample was 41.8 years, with all reporting an onset in adolescence,⁹ similar to findings by Winsberg *et al.*

(45 ± 9 years).²⁰ In OCD subjects, the mean duration of hoarding was 13.4 ± 4 years (Winsberg *et al.* reported a mean duration of 22 ± 8.5 years).²⁰ All OCD subjects had onset of hoarding after the onset of other OCD symptoms (Table 3).

Hoarding behavior has been characterized in patients with OCD and OCPD.^{1,26,27} More than half the subjects in this study met criteria for OCD and OCPD (Table 2). Interestingly, many of the remaining subjects were diagnosed with one of the putative OCD spectrum disorders (Tourette's, BDD, TTM). In clinical settings, screening patients with such conditions for the presence of OCD symptoms, including hoarding, is certainly advisable. From a research perspective, it may be useful to address neurobiological overlaps between such conditions and hoarding, including potential involvement of the dopamine system (as arguably suggested by a relative lack of insight and relative lack of response to selective serotonin reuptake inhibitors in previous studies of hoarding).

Non-food items were more commonly hoarded than food items and the most frequently cited reason for hoarding was a fear of discarding items of practical value. All subjects reported that hoarded items had no material value. There is some evidence in the literature that people who hoard tend to be overly sentimental about their possessions, and perceive possessions as a source of comfort and security.²⁸ Hoarding was largely associated with emotions of relief, satisfaction and guilt, and all subjects reported some degree of distress if prevented from hoarding. Interestingly, the majority ($n=11$) reported that hoarding occurred without preceding obsessional thoughts, arguably consistent with a view of hoarding as analogous to a 'fixed action pattern' or striatally mediated motor program.

Familial transmission of hoarding has been suggested with positive histories reported in first-degree relatives.^{9,25} Forty per cent ($n=6$) of subjects in the study reported hoarding behavior in a first-degree relative, and only 13% ($n=2$) suggested that having a family member who hoarded contributed to their own reason for hoarding. In some work, however, much higher rates of hoarding in first-degree relatives of hoarders (90% of patients) have been suggested with much lower rates of OCD in the parents of OCD patients.²⁶

Comment on medication treatment and response must be reserved, as only five subjects were on selective serotonin reuptake inhibitors for their primary psychiatric disorder (OCD/TTM/MDD) at the time of interview. Although two subjects (one with OCD and one with TTM) reported improvement in hoarding

Table 3. Comparison of this study with study by Winsberg *et al.*²²

| | Present study | Winsberg <i>et al.</i> study ²² |
|--|-----------------------------|--|
| No. subjects | 15 | 20 |
| | OCD Clinic, | OCD Clinic |
| | Newspaper advertisement | |
| Recruitment | | |
| Age (mean ± SD years) | 41.8 ± 14.3 | 45 ± 9 |
| Sex | M: 4; F: 11 | M: 11; F: 9 |
| Married | 9 (60%) | 7 (35%) |
| Unemployed | 7 (46.7%) | 5 (25%) |
| Duration of hoarding (mean years) | 13.2 ± 3.9 | 22 ± 8.5 |
| Extent (items fill > 1 room) | 8 (53.3%) | 11 (55%) |
| Interference | 7 (46.7%) ^a | 16 (80%) ^b |
| Predominant emotion associated with hoarding | | |
| relief/satisfaction | 6 (40%) | – |
| guilt | 5 (33.3%) | 15 (75%) |
| anxiety/anticipation | 2 (13.3%) | 15 (75%) |
| shame/embarrassment | 1 (6.7%) | 18 (90%) |
| depression | 0 (0%) | 15 (75%) |
| OCD | 9 (60%) | 20 (100%) |
| OCPD | 9 (60%) | 2 (10%) |
| Family history (hoarding) | 6 (40%) | 17 (84%) ^c |
| | 3 out of 8 with OCD (37.5%) | |

^a Including 'mild' to 'severe'.

^b Consistent with 'a major cause of dysfunction'.

^c Out of 19 with available family history.

obsessions/compulsions on selective serotonin reuptake inhibitor treatment, this was based on retrospective self-ratings. A limited response to serotonin reuptake inhibitor (SRI) treatment has been noted in the literature,^{25,26} and hoarding obsessions and compulsions appear to predict poor treatment response in patients with OCD. While 40–60% of OCD patients treated with an SRI will respond favorably, the relative lack of insight, perfectionistic behaviors, and magical thinking about discarding objects that hoarders have, may all impact on the poorer treatment response in hoarders.^{27,29} Winsberg *et al.* noted in their report of 20 cases of hoarding that of 18 patients who had at least one adequate trial of an SRI, only one had a marked response (major decrease in hoarding behavior and its psychosocial effects).²⁵ More recently, preliminary findings from patients treated with cognitive and behavioral interventions indicate success with these interventions in reducing hoarding behaviors.^{30,31} While it has been suggested that combining CBT with an SRI might be more effective than medication alone,²⁵ this will need further investigation in controlled trials of comparative efficacy.

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REFERENCES

1. Rasmussen SA, Eisen JL. Clinical features and phenomenology of obsessive-compulsive disorder. *Psychiatr. Ann.* 1989; **16**: 67–73.
2. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*, 4th edn. American Psychiatric Association, Washington DC, 1994.
3. Greenberg D, Witzum E, Levy A. Hoarding as a psychiatric symptom. *J. Clin. Psychiatry* 1990; **51**: 417–421.
4. de Tracy JI, Leon J, Qureshi G, McCann EM, McGrory A, Josiassen RC. Repetitive behaviours in schizophrenia: a single disturbance or discrete symptoms? *Schizophr. Res.* 1996; **20**: 221–229.
5. Shafran R, Tallis F. Obsessive-compulsive hoarding: a cognitive-behavioral approach. *Behav. Cognitive Psychotherapy* 1996; **24**: 209–221.

6. Frost RO, Gross RC. The hoarding of possessions. *Behav. Res. Ther.* 1993; **31**: 367–381.
7. Frost RO, Hartl TL. A cognitive-behavioral model of compulsive hoarding. *Behav. Res. Ther.* 1996; **34**: 341–350.
8. Luchins DJ. A possible role of hippocampal dysfunction in schizophrenic symptomatology. *Biol. Psychiatry* 1990; **28**: 87–91.
9. Frost RO, Shows DL. The nature and measurement of compulsive indecisiveness. *Behav. Res. Ther.* 1993; **31**: 683–692.
10. Lane IM, Weslowski MD, Burke WH. Teaching socially appropriate behaviour to eliminate hoarding in a brain injured adult. *J. Behav. Ther. Exp. Psychiatry* 1987; **18**: 179–183.
11. Damecour CL, Charron M. Hoarding: a symptom, not a syndrome. *J. Clin. Psychiatry* 1998; **59**: 267–272.
12. Frost RO, Steketee G, Williams LF, Warren R. Mood, personality disorder symptoms and disability in obsessive compulsive hoarders: a comparison with clinical and nonclinical controls. *Behav. Res. Ther.* 2000; **38**: 1071–1081.
13. Millon T. *Manual for the Millon Clinical Multiaxial Inventory-II*, 2nd edn. National Computer Systems Inc., Minneapolis, 1987.
14. Frost RO, Krause M, Steketee G. Hoarding and obsessive compulsive symptoms. *Behav. Modification* 1996; **20**: 116–132.
15. Leonard HL, Goldberger EL, Rappoport JL, Cheslow DL, Swedo SE. Childhood rituals: normal development of obsessive-compulsive symptoms? *J. Am. Acad. Child Adolesc. Psychiatry* 1990; **29**: 17–23.
16. Rapoport JL. The biology of obsessions and compulsions. *Sci. Am.* 1989; **260**: 82–89.
17. Hanna GL. Demographic and clinical features of obsessive-compulsive disorder in children and adolescents. *J. Am. Acad. Child Adolesc. Psychiatry* 1995; **34**: 19–27.
18. First MB, Spitzer RL, Gibbon M, Williams JBW. *Structured Clinical Interview for DSM-IV Axis I Disorders, Clinician Version*. Biometrics Research Department: New York State Psychiatric Institute; 1997.
19. First MB, Gibbon M, Spitzer RL, Williams JBW, Benjamin L. *Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II)*. Biometrics Research Department: New York State Psychiatric Institute; 1997.
20. Goodman WK, Price LH, Rasmussen SA *et al.* The Yale-Brown Obsessive Compulsive Scale I: development, use, and reliability. *Arch. Gen Psychiatry* 1989; **46**: 1006–1011.
21. Black DW, Monahan P, Gable J, Blum N, Clancy G, Baker P. Hoarding and treatment response in 38 nondepressed subjects with obsessive-compulsive disorder. *J. Clin. Psychiatry* 1998; **59**: 420–425.
22. Miguel EC, Baer L, Coffey BJ *et al.* Phenomenological differences of repetitive behaviours in obsessive-compulsive disorder and Tourette's syndrome. *Br. J. Psychiatry* 1997; **170**: 140–145.
23. Frost RO, Kim H, Morris C, Bloss C, Murray-Close M, Steketee G. Hoarding, compulsive buying and reasons for saving. *Behav. Res. Ther.* 1998; **36**: 657–664.
24. Hollander E, Rosen J, Black D *et al.* OC spectrum disorders: The impulsive and schizo-obsessive clusters. *CNS Spectrums* 1999; **4** (Suppl. 3): 16–21.
25. Winsberg ME, Cassic KS, Koran LM. Hoarding in obsessive-compulsive disorder. a report of 20 cases. *J. Clin. Psychiatry* 1999; **60**: 591–597.
26. Greenberg D. Compulsive hoarding. *Am. J. Psychother* 1987; **41**: 409–416.
27. Foa EB, Kozak MJ. DSM-IV field trial: obsessive-compulsive disorder. *Am. J. Psychiatry* 1995; **152**: 90–96.
28. Frost RO, Hartl TL, Christian R., Williams N. The value of possessions in compulsive hoarding: patterns of use and attachment. *Behav. Res. Ther.* 1995; **33**: 897–902.
29. Kozak MJ, Foa EB. *Mastery of Obsessive-Compulsive Disorder: a Cognitive-Behavioral Approach (Therapist Guide)*. Graywind Publications, Albany, NY: 1997.
30. Steketee G, Frost RO, Wincze J, Greene KAI, Douglass H. Group and individual treatment of compulsive hoarding. *Behav. Cognitive Psychotherapy* 2000; **28**: 259–268.
31. Hartl TL, Frost RO. Cognitive-behavioral treatment of compulsive hoarding: a multiple baseline experimental study. *Behav. Res. Ther.* 1999; **37**: 451–461.

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