# Hoarding in Obsessive-Compulsive Disorder: A Report of 20 Cases

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**Background:** We describe the demographic characteristics, hoarding phenomenology, comorbid disorders, family histories, and treatment response of 20 adult obsessive-compulsive disorder (OCD) patients exhibiting hoarding behavior.

*Method:* We utilized the Structured Clinical Interview for DSM-III-R, the Yale-Brown Obsessive Compulsive Scale, and a semistructured interview to gather data.

Results: We studied 9 women and 11 men. Their hoarding began from age 5 years to age 46 years (mean  $\pm$  SD age at onset =  $20 \pm 11$  years); hoarding was evident before the onset of other OCD symptoms in 9 patients. The most commonly hoarded items were newspapers and magazines, junk mail, old clothes, notes or lists, and old receipts. Hoarded material occupied from one room plus most or all closets to more than one room plus all closets, the garage, and yard. Seven patients rented additional storage space for hoarded items. Eighty-four percent of patients reported a family history of hoarding, and 80% grew up in a household where someone else hoarded. The most frequent primary motives for hoarding were fears of discarding something useful and discarding something that would be needed in the future. Lifetime prevalence of major depression and of impulse-control disorders, especially compulsive shopping, were high; only 3 patients met DSM-IV criteria for obsessivecompulsive personality disorder. Response of hoarding to selective serotonin reuptake inhibitors was less robust than is expected for obsessivecompulsive disorder.

*Conclusion:* Whether hoarding behaviors mark a subset of obsessive-compulsive disorder patients with a different pathophysiology or functional anatomy deserves investigation.

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**H** oarding behavior can be defined as collecting and being unable to discard excessive quantities of goods or objects that are of limited or no value. Few studies have been published regarding hoarding in psychiatric patients. Greenberg<sup>1</sup> describes 4 cases of compulsive hoarding; 2 patients had other compulsions and none appeared to meet criteria for obsessive-compulsive personality disorder. All came to psychiatric attention because of the complaints of family members, and all strenuously resisted attempts to change their behavior or to discard any of their hoarded materials. Other cases of hoarding behavior have been described in the context of autism,<sup>2</sup> schizophrenia,<sup>3,4</sup> dementia,<sup>3</sup> anorexia nervosa,<sup>5</sup> Prader-Willi syndrome,<sup>6</sup> and in association with the frontal lobe syndrome.<sup>7</sup>

Frost and Gross<sup>8</sup> studied 32 respondents to an advertisement for "pack rats or chronic savers." The respondents' hoarding behavior was ego-syntonic in most cases, although most had tried unsuccessfully to stop further accumulation because of associated embarrassment, inability to invite others to their homes, difficulty finding things, or conflicts with relatives. Almost all had begun hoarding in childhood or adolescence. The most commonly hoarded items were clothing (81%), magazines (50%), bags (43%), school papers (37%), and cards and letters (31%). The primary motivation for hoarding was a fear that the items would be unavailable at some future time of need.

Examining an additional 20 respondents, Frost and Gross<sup>8</sup> suggested that indecisiveness, concerns about discarding useful items, excessive concern about future needs, and sentimental attachment to possessions were the most important motives for hoarding. Anecdotal evidence suggests that some hoarders derive a sense of security and comfort from collecting and saving things.<sup>1,5,9</sup>

Hoarding behavior is mentioned in DSM-IV only as a criterion for obsessive-compulsive personality disorder, where it is described as the inability "to discard worn out or worthless objects even when they have no sentimental value."<sup>10(p673)</sup> Nonetheless, hoarding is a common symptom in obsessive-compulsive disorder (OCD). Rasmussen and Eisen<sup>11</sup> report that 18% of 560 OCD patients had hoarding compulsions. A lower prevalence of hoarding

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compulsions was reported at 5 hospital outpatient clinics participating in the DSM-IV field trials, from 3.2% to 5.0% of patients.<sup>12</sup> Hoarding is not uncommon in children with OCD. Hoarding or saving compulsions have been reported in children and adolescents at rates of 11% (10 of 90),<sup>13</sup> 42% (10 of 24),<sup>14</sup> and 42% (13 of 31).<sup>15</sup> Hoarding is not limited to OCD patients in Anglo-American cultures: Okasha et al.<sup>16</sup> report a prevalence of 25% for "hoarding/ saving obsessions" among 90 Egyptian patients meeting ICD-10 diagnostic criteria for OCD.

To further characterize hoarding behavior in patients with OCD, we describe the demographic characteristics, hoarding phenomenology, comorbid disorders, family histories, and treatment histories of 20 adult OCD patients who exhibited hoarding behaviors.

### METHOD

Twenty-one patients with OCD and hoarding behavior were identified in our OCD clinic (Stanford, Calif.) and by asking colleagues to refer similar outpatients to us. We excluded 1 patient because his hoarding was not his primary diagnosis or his reason for seeking treatment, and it did not cause any social or occupational dysfunction. The other 20 patients are the subject of this report.

No patient who was asked to participate refused. After obtaining written informed consent from each patient, we administered a semistructured interview we designed for this study. Its validity and reliability were not separately assayed. The interview elicited demographic data; information about the phenomenology, course, and treatment of hoarding; a description of other OCD symptoms; impulse-control disorders not included in the Structured Clinical Interview for DSM-III-R (SCID);<sup>17</sup> family histories of hoarding and of OCD; the patient's reasons for hoarding; and the severity of the patient's OCD at the time of interview, as reflected in a Yale-Brown Obsessive Compulsive Scale (Y-BOCS) score.<sup>18</sup> All semistructured interviews were performed by one investigator (M.E.W.), a fourth-year psychiatric resident with 9 months' experience in our OCD clinic. A second investigator (K.S.C.), a master's level psychologist trained in the administration of the SCID, administered the SCID to confirm the clinical diagnosis of OCD and to ascertain the lifetime history of comorbid disorders.

In evaluating response of hoarding to trials of serotonin reuptake inhibitors (SRIs), we used 18 patients' subjective, retrospective ratings of improvement after 8 to 12 weeks of treatment in open or controlled trials in our clinic at or above the following doses: clomipramine, 150 mg/day; fluoxetine, 20 mg/day; fluvoxamine, 150 mg/day; paroxetine, 40 mg/day; and sertraline, 50 mg/day. These doses have been effective in treating OCD in double-blind, placebo-controlled trials. Eight patients were engaged in cognitive-behavioral therapy (CBT) at the time of the semistructured interview, 7 in conjunction with pharmacotherapy. Half-hour sessions were held weekly or every 2 weeks. Since the number of completed sessions was highly variable (10 to 30 sessions), and the CBT was not standardized, we did not attempt to evaluate the response. The CBT consisted of identifying the patient's reasons for hoarding and for seeking treatment, obtaining a description (and often photographs) of the hoard, designing a graduated program of sorting items into "keep," "recycle or give away," and "discard" piles; challenging irrational cognitions; and encouraging and monitoring the patient's progress. In some cases, a family member was enlisted to help the patient with the sorting/discarding process.

The interviewer categorized patients' ratings of responses to drug treatment as "marked," meaning that the patient reported a major decrease in hoarding behavior and its psychosocial effects; "partial," meaning that the patient reported some progress in disposing of hoarded items, but that hoarding behavior and hoarded items still caused significant impairment in social functioning; or "little or none," meaning that the patient reported little progress either in changing hoarding behaviors or in discarding hoarded items. The interview took place from less than 1 year to as many as several years after completion of medication trials and within a year of CBT trials.

To compare subsets of subjects for descriptive purposes (no hypotheses were tested), we utilized a Student t test, 2-tailed.

### RESULTS

The 20 patients comprised 9 women and 11 men (Table 1) and ranged in age from 24 to 57 years (mean  $\pm$  SD = 45  $\pm$  9 years). Hoarding began as early as age 5 and as late as age 46 (mean  $\pm$  SD age at onset = 20  $\pm$  11 years) and had a mean duration of 22  $\pm$  8.5 years. Ten patients were single, 7 married, and 3 divorced. Ten (50%) were employed, and 5 (25%) were unemployed because of their OCD. Eleven patients (55%) reported that hoarding symptoms were now or had been a source of conflict with family members or significant others.

At the time of evaluation, all were outpatients and reported active hoarding behavior. Thirteen patients (65%) reported that hoarding was their most troubling OCD symptom, and 14 (70%) reported that hoarding behavior was the major focus of treatment. The mean age at onset of OCD was  $15 \pm 12$  years (Table 1). Seven patients (35%) had onset of hoarding at age 12 or younger and 5 (25%) at age 30 or older. For 9 patients (45%), hoarding began before or at the time of onset of other OCD symptoms, whereas 11 (55%) reported that hoarding began after other OCD symptoms (Table 1). Specific OCD symptoms are listed in Table 1 and are keyed to individual patients. We did not elicit the particular symptoms with which OCD began, except to note whether hoarding be-

Patient	Age		Current OCD Symptoms		Hoarding Age at	OCD Age at		Hoarding	Family History of
Number	(ÿ)	Sex	Obsessions	Compulsions	Onset	Onset	Items Hoarded	Extenta	Hoarding
1	54	М	None	None	5	4	Newspapers and magazines, mail, receipts, lists and notes, mechanical parts, used cars	6	Y
2	48	F	Contamination	Washing, rituals, ordering, counting	6	3	Newspapers and magazines, mail, receipts, clothes, food	5	Y
3	38	М	Contamination, symmetry	Washing, repeating, counting, checking	6	18	Newspapers and magazines, mail, receipts, clothes, lists and notes, mechanical parts, used cars, food, gifts for others	4	Unknown patient adopted
4	33	F	Doing harm	Checking	8	16	Newspapers and magazines, mail, receipts, clothes, lists and notes, food	5	Y
5	42	F	Doing harm, symmetry	Checking, repeating, ordering	9	9	Newspapers and magzines, mail, receipts, clothes, lists and notes, mechanical parts, used cars, food	5	Y
6	46	F	Doing harm, symmetry	Checking, washing, repeating	10	6	Newspapers and magazines, mail, receipts, clothes, lists and notes, gifts for others	4	Y
7	24	F	Contamination	Washing, repeating, ordering	12	7	Newspapers and magazines, mail, receipts, clothes, lists and notes	1	Y
8	47	F	None	None	15	21	Newspapers and magazines, clothes, food, gifts for others	5	Y
9	54	М	None	Checking, repeating, rituals, ordering	18	18	Mail, receipts, clothes, lists and notes, food	6	Y
10	43	М	Doing harm	Checking, washing, ordering	18	39	Mail, clothes, lists and notes	1	Y
11	28	М	Symmetry, unacceptable urges	Checking, rituals, ordering	18	4	Mail, clothes, lists and notes, food, gifts for others	5	Y
12	39	М	Doing harm, symmetry	Checking, repeating, ordering, counting	19	22	Newspapers and magazines, mail, receipts, clothes, lists and notes, food	1	Y
13	43	М	Contamination, symmetry	Checking, washing, repeating, rituals, ordering, counting	23	33	Newspapers and magazines, toiletries	6	Ν
14	57	F	Doing harm, symmetry	Checking, ordering, counting	25	5	Newspapers and magazines, mail, receipts, lists and notes, gifts for others	1	Y
15	52	F	Contamination, doing harm, symmetry, somatic preoccupations, sexual preoccupations, unacceptable urges, religious obsessions	Repeating, checking, washing, rituals, counting	27	27	Receipts, clothes, lists and notes, food	6	Y
16	49	F	Symmetry, unacceptable urges	Checking, repeating, ordering, counting	30	5	Newspapers and magazines, mail, receipts, clothes, lists and notes, gifts for others	5	Y
17	44	Μ	None	None	32	18	Newspapers and magazines, lists and notes	3	Ν
18	48	М	Contamination, symmetry, somatic preoccupations, sexual preoccupations, unacceptable urges	Checking, washing, repeating, rituals, counting	35	16	Newspapers and magazines, mail, clothes, gifts for others	2	Y
19	57	М	None	Checking	37	7	Newspapers and magazines, mail, receipts, clothes, lists and notes	2	Y
20	54	М	Doing harm	Checking, rituals, repeating	46	19	Newspapers and magazines, mail, lists and notes	5	Ν

## Table 1. Characteristics of 20 Obsessive-Compulsive Disorder (OCD) Patients Who Hoard

<sup>a</sup>Extent of hoarding: 1 = items in 1 or 2 rooms and in closets; 2 = items fill or nearly fill 1 room and in closets; 3 = items fill or nearly fill 1 room and all closet space; 4 = items fill or nearly fill > 1 room and all closet space; 5 = items fill > 1 room, all closet space, and garage; 6 = items fill > 1 room, all closets, garage, and yard.

gan before or after other OCD symptoms. No patients reported tics or tic-like symptoms at the time of interview.

All patients reported feeling quite anxious when they thought about discarding or attempted to discard any of their hoarded possessions. Before drug and/or CBT treatment, hoarding had been ego-syntonic for 16 patients; at the time of interview, all patients but 1 described the urge and compulsion to hoard as ego-dystonic. Eighteen patients (90%) reported that hoarding was or had been a source of shame; 15 (75%), a source of guilt; 15 (75%), anxiety; and 15 (75%), depression. Sixteen (80%) reported that their hoarding had been a major cause of dysfunction.

Items hoarded are listed for individual patients in Table 1. The most commonly hoarded objects were newspapers and magazines (N = 16), junk mail (N = 16), old clothes (N = 15), notes or lists (N = 16), old receipts (N = 13),

food items (N = 9), and gifts for others (N = 7). Other hoarded items included mechanical parts, used cars, bottles, boxes and other containers, dolls (bought compulsively), jewelry, cosmetics and toiletries, batteries, broken items, books, and copied news articles.

The extent of hoarding ranged from items cluttering 1 or 2 rooms and most or all closets (N = 4, 20%) to items filling more than 1 room plus all closets and the garage (N = 11, 55%) (Table 1). Among the 11 patients with hoarding of the greatest extent, 4 had also filled their yards, 3 had filled their cars, and 7 had rented additional storage space for hoarded items. We report on extent of hoarding as a description of individual patients to give readers a sense of the range of magnitude of hoarding behaviors. As is true of all other OCD symptoms, the degree of distress and dysfunction represents independent dimensions of the symptoms.

All patients had additional symptoms and signs of OCD when they presented to the OCD Clinic. Other obsessions, in addition to obsessions about hoarding, were symmetry (N = 10, 50%), harm avoidance (N = 8, 40%), contamination (N = 6, 30%), unacceptable urges (N = 4, 20%), sexual obsessions (N = 2, 10%), somatic obsessions (N = 2, 10%), and religious obsessions (N = 1, 5%). Other compulsions were checking rituals (N = 15, 75%), repeating (N = 11, 55%), ordering (N = 10, 50%), mental compulsions (N = 9, 45%), washing/cleaning (N = 8, 40%), counting (N = 8, 40%), and "other" rituals (N = 7, 35%). Concurrent OCD symptoms at the time of interview are listed in Table 1.

Of 19 patients for whom family histories were available, 7 (37%) reported a family history of OCD. Remarkably, 17 (84%) of those 19 reported a family history of hoarding, and 16 (80%) of 20 had grown up in a household in which someone else engaged in hoarding. Of the 16 who reported positive family histories of hoarding behavior, 16 had at least one first-degree relative who hoarded; 5 of 13 with one or more siblings reported hoarding by at least 1 sibling. One patient reported having 8 first-degree relatives who hoard (6 siblings and both parents).

Females reported an earlier mean age at onset of hoarding behavior than males: 14.4 versus 25.3 years (Student t test, 2-tailed, t = 1.85, df = 18, p < .04). It should be noted that there was a great variation in age at onset in both sexes, and while males had a much later mean onset of hoarding than females, 2 of the 3 patients with the youngest ages at onset were also male. There was no difference between men and women in severity of OCD before treatment as measured by the Y-BOCS (Student t = 0.75, df = 18, p = .46, 2-tailed) or in the extent of hoarding admitted in interview (i.e., amount of space occupied) (Student t = 0.05, df = 18, p = .96, 2-tailed). Severity of hoarding, as measured by the extent of space occupied, was greater in those without a family history of

Table 2. Motives for Hoarding in 20 OCD Patients						
	Primary Motive	Secondary Motive	Tertiary Motive	Patients Endorsing		
Motive for Hoarding	(N)	(N)	(N)	Motive (N)		
Fear of discarding something useful	8	5	2	15		
Fear of discarding something poten- tially needed in the						
future	5	3	1	9		
Hoarded items pro- vide feelings of security	5	1	1	7		
Sentimental attach- ment to hoarded						
items	2	2	1	5		

OCD (Student t = 2.24, df = 18, p = .038, 2-tailed). Since only 3 patients lacked a family history of hoarding, we did not compare their hoarding severity with severity in those with family history data.

Patients' most frequent primary reason for hoarding was the fear of discarding something useful, although not necessarily needed (Table 2). Fears of discarding something that would be needed in the future and feelings of increased security were equally prevalent as primary motives, while sentimental attachment was the least common primary motive. When primary, secondary, and tertiary motives were tabulated together, fear of discarding something useful was the most common motive (Table 2). There was no apparent pattern relating motive to severity or other clinical characteristics.

The SCID revealed a high lifetime prevalence of major depression, along with cases of hypochondriasis, dysthymia and panic disorder (Table 3; patient numbers in Table 3 correspond to patient numbers in Table 1). Ten patients had 1 or more comorbid impulse control disorders, of which compulsive buying was the most common; only 3 patients met DSM-IV diagnostic criteria for obsessivecompulsive personality disorder (Table 3). At the time of interview, 8 patients (40%) had comorbid major depression.

The response of hoarding to open and controlled trials of SRIs, as judged by patient impression, was modest and is summarized in Table 3. Of 18 patients with at least 1 adequate trial in our clinic, only 1 (6%) had a marked response. One had little or no response to the 1 trial she underwent. The remaining 16 patients (89%) had only a partial response of hoarding to 1 or more medication trials. Of the 10 patients who failed an adequate trial and had at least 1 additional adequate trial, all had a partial response, although 2 required the addition of an augmenting drug in the subsequent trial. Nine subjects came to our OCD clinic as participants in a 10-week controlled trial of the effectiveness of sertraline in OCD. All reported a partial response of hoarding to sertraline treatment, but the global response of OCD varied markedly. The percent de-

Patient	Baseline Y-BOCS	Y-BOCS Score at		Response to SSRI Tr and Cognitive-Behaviora	Lifetime	
Number	Score	Interview	Comorbidities	Trial Type	Response	SCID Diagnoses
1	20	19	Compulsive buying, obsessive- compulsive personality disorder	Fluoxetine Sertraline Sertraline + methylphenidate Cognitive-behavioral therapy	None to little None to little Partial Partial	None
2	27	19	Compulsive buying, pathological gambling	Sertraline (controlled trial)	Partial	None
3	24	12	None	Sertraline (controlled trial) Cognitive-behavioral therapy	Partial Marked	None
4	36	25	Body dysmorphic disorder	Fluoxetine Sertraline (controlled trial)	None to little Partial	Major depression, hypochondriasi
5	34	13	None	Fluoxetine Fluoxamine Sertraline (controlled trial)	None to little Partial Partial	Major depression, dysthymia
6	27	15	Trichotillomania, pathological gambling	Sertraline (controlled trial) Fluoxetine	Partial Partial	Panic disorder wit agoraphobia
7	23	18	Compulsive buying	Sertraline + buspirone Fluoxetine Paroxetine Cognitive-behavioral therapy	Partial Partial Partial Marked	Major depression, hypochondriasis
8	24	15	Compulsive buying	Fluvoxamine Sertraline Cognitive-behavioral therapy	Partial None to little Marked	Major depression
9	22	19	Compulsive buying	Sertraline Fluoxetine Paroxetine Cognitive-behavioral therapy	None to little Partial Partial Partial	None
10	22	14	Obsessive-compulsive personality disorder	Cognitive-behavioral therapy	Partial	None
11	35	32	Trichotillomania	No adequate trial		None
12	25	20	None	Fluoxetine Sertraline	Partial None to little	Major depression
13	23	19	None	Paroxetine Fluoxetine Sertraline + buspirone	Marked Partial None to little None to little	None
14 15	19 25	16 20	Compulsive buying Compulsive buying	Sertraline (controlled trial) Paroxetine	Partial None to little	None Major depression
16	20	14	None	Cognitive-behavioral therapy Sertraline (controlled trial) Fluoxetine Cognitive-behavioral therapy	Partial Partial None to little Partial	Major depression
17	23	19	Trichotillomania	Fluoxetine Cognitive-behavioral therapy	Partial Partial	Major depression, hypochondriasis
18	19	17	Obsessive-compulsive personality disorder	Sertraline Paroxetine + fenfluramine Fluoxetine	None to little None to little Partial None to little	None
19	28	15	None	Sertraline (controlled trial)	Partial	None
20	28	21	None	Sertraline (controlled trial)	Partial	Dysthymia

# Table 3. Severity, Lifetime Comorbidities, and Treatment Responses in 20 OCD Patients Who Hoard<sup>a</sup>

Obsessive Compulsive Scale. <sup>b</sup>All medication trials were 8–12 weeks.

crease in Y-BOCS scores at the end of the trial ranged from 13% to 88% (mean  $\pm$  SD = 47%  $\pm$  22.5%). Of the 18 patients who had had at least 1 adequate medication trial since their baseline Y-BOCS score was obtained (reflecting all OCD symptoms), 9 (50%) had improvement of at least 25% in their Y-BOCS scores at the time of interview; these 9 comprised 6 of 12 treated with medication(s) alone (patients 2, 4, 5, 6, 19, and 20) and 3 of 7 treated with both medications and CBT (patients 3, 8, and 16) (Table 3). Only 1 patient (10) had been treated with CBT (15 weekly sessions) with no medication trial; he had a 36% drop in Y-BOCS score.

## DISCUSSION

This descriptive study suffers from a number of limitations. First, the patients may not be representative of OCD patients with hoarding in that they all were willing to come for treatment, albeit after family pressure in some cases. Second, we did not corroborate patients' family histories by interviews with family members or corroborate the extent of hoarding by means of photographs or home visits. Third, we relied on patients' retrospective ratings of their hoarding response to pharmacotherapy, which consisted of a mixture of open and controlled trials of different SRIs. Fourth, we could not evaluate outcome after an "adequate dose" of CBT since this treatment was delivered in clinical practice and for variable lengths of time.

The study's 2 most striking findings are the very strong family history of hoarding and the limited treatment response of hoarding behaviors to SRIs. Whereas nearly 90% of our patients reported a family history of hoarding and 80% had grown up in a household with a hoarder, rates of OCD in the parents of OCD patients are much lower: OCD was present in 25% of fathers (38% of fathers if "subclinical OCD" is included) and 9% of mothers in one study,<sup>19</sup> and 21% of mothers in another.<sup>20</sup> Other studies report much lower rates of OCD in the first-degree relatives of OCD patients, even after including "subclinical cases": 3.4%,<sup>21</sup> 16%,<sup>22</sup> 18.2%,<sup>23</sup> 19.9%,<sup>20</sup> and 35.7%.<sup>24</sup> One must ask, Does hoarding behavior in OCD patients have a different pathophysiology or functional neuroanatomy or a greater learned component than other OCD symptoms?

The limited response of our patients' hoarding behavior to SRI treatment is notable, although derived from retrospective self-ratings. One expects 40% to 60% of OCD patients treated with an SRI to become much or very much better.<sup>25,26</sup> Our patients fared much less well; only 1 of 18 reported a marked effect of drug treatment on hoarding. Positron emission tomography scans or functional magnetic resonance imaging scans before and after successful treatment<sup>27–29</sup> comparing gender-matched OCD patients with hoarding with those with other symptoms and no hoarding would illuminate whether hoarding is associated with pathophysiology that is unusual in OCD.

For the vast majority of our patients, hoarding caused substantial dysfunction in social relationships and substantial distress. Family members described their anger at having to live in cluttered circumstances and at being embarrassed when friends visited. Some patients would not date, invited no one to their homes, and would not let their children have friends over because of embarrassment. Some could not work because collecting items took so much of their time. Yet, they experienced great anxiety when they contemplated discarding hoarded items, and this prevented corrective action. Newspapers and magazines allegedly contained important information, even though the patients acknowledged that they could not find it in the hoard. Junk mail was kept because of a fear that some valuable offer might be missed or a mistake made. Store receipts and bills were kept because the patient might want to "check sometime" or discuss the item with the store or for tax audits, even though the receipts did not cover tax-deductible items. Notes and lists were kept because they might have valuable information. Excessive food was stored because of a fear of shortage or, in one case, "because I can only buy things on sale." Excess gifts were purchased because of a fear of being unable to find an appropriate gift when needed, or as a symptom of compulsive shopping, which also led to accumulations of dolls, cosmetics, and clothing. Mechanical items and broken objects were kept because of potential usefulness or an intention, never fulfilled, of repairing and using or selling them. Stories torn or copied from news media were kept because of an intense, irrational need to know, even though their disorganized storage rendered them useless.

Sentimental attachment was not a common motive, but did motivate hoarding of old clothes or of gift wrappings because these reminded patients of important or pleasant events in their lives. Although the Y-BOCS excludes hoarding for sentimental reasons, our data indicate that this motive does produce hoarding behavior symptomatic of OCD.

We cannot explain why obsessions with symmetry should be so common in our subjects, nor why checking, repeating, and ordering rituals should be prevalent. Our findings, however, are consistent with those of Baer,<sup>30</sup> who, in a factor analysis of the symptoms of 107 patients with OCD, found that these symptoms clustered in the same factor as hoarding/saving. This factor was highly associated with risk for comorbid Tourette's disorder or chronic tic disorder. None of our patients had comorbid Tourette's disorder, but we did not systematically examine them for subsyndromal comorbid tics.

Although our clinical experience suggests that combining CBT with an SRI is more effective than treatment with medication alone, only controlled trials can answer questions of comparative efficacy. Treatment trials should examine the effects on outcome of motives for hoarding, age at onset, and family history of hoarding. Would patients resistant to treatment because of lack of insight or those poorly responsive respond to the addition of the new serotonin-dopamine antagonists? Risperidone, for example, has been reported beneficial in several open-label OCD case series.<sup>31,32</sup> Is there a role for self-help books and educational materials<sup>33-35</sup> or for 12-step-style self-help organizations for "clutterers"?<sup>36,37</sup> Do animal models offer insights into human hoarding behavior?<sup>38</sup> For example, bilateral lesions in the dorsal anterior cingulate in rats cause a permanent decrease in food hoarding,<sup>39</sup> and neuroimaging studies have identified this area as one of those involved in OCD.28,29

This first description of hoarding in a substantial series of patients with OCD indicates the depth of our ignorance. Is this hoarding behavior a compulsion in some cases and an expression of diminished impulse-control in others? Half of our patients had lifetime histories of one or more impulse-control disorders. What are the risk factors, the frequencies of comorbid disorders other than OCD, the natural history, and the most effective treatments of hoarding? We hope this literature review and case series description will stimulate studies helpful to patients who are victims of a superfluity, at once selfimposed and self-destructive.

*Drug names:* buspirone (BuSpar), clomipramine (Anafranil and others), fluoxetine (Prozac), fluoxamine (Luvox), methylphenidate (Ritalin), paroxetine (Paxil), risperidone (Risperdal), sertraline (Zoloft).

#### REFERENCES

- 1. Greenberg D. Compulsive hoarding. Am J Psychother 1987;41:409–416
- McDougle CJ, Kresch LE, Goodman WK, et al. A case-controlled study of repetitive thoughts and behavior in adults with autistic disorder and obsessive-compulsive disorder. Am J Psychiatry 1995;152:772–777
- Greenberg D, Witzum E, Levy A. Hoarding as a psychiatric symptom. J Clin Psychiatry 1990;51:417–421
- Luchins DJ, Goldman MB, Lieb M, et al. Repetitive behaviors in chronically institutionalized schizophrenic patients. Schizophr Res 1992;8: 119–123
- Frankenburg F. Hoarding in anorexia nervosa. Br J Med Psychol 1984;57: 57–60
- Hellings JA, Warnock JK. Self-injurious behavior and serotonin in Prader-Willi syndrome. Psychopharmacol Bull 1994;30:245–250
- Sebit MB, Acuda W, Chibanda D. A case of the frontal lobe syndrome following head injury in Harare, Zimbabwe. Cent Afr J Med 1996;42:51–53
- Frost RO, Gross RC. The hoarding of possessions. Behav Res Ther 1993; 31:367–381
- Frost RO, Hartl TL, Christian R, et al. The value of possessions in compulsive hoarding: patterns of use and attachment. Behav Res Ther 1995;33: 897–902
- American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition. Washington, DC: American Psychiatric Association; 1994
- Rasmussen SA, Eisen JL. The epidemiology and clinical features of obsessive compulsive disorder. Psychiatr Clin North Am 1992;15:743–758
- Foa EB, Kozak MJ. DSM-IV field trial: obsessive-compulsive disorder. Am J Psychiatry 1995;152:90–96
- Rapoport JL. The biology of obsessions and compulsions. Sci Am 1989; 260:83–89
- Leonard HL, Goldberger EL, Rapoport JL, et al. Childhood rituals: normal development of obsessive-compulsive symptoms? J Am Acad Child Adolesc Psychiatry 1990;29:17–23
- Hanna GL. Demographic and clinical features of obsessive-compulsive disorder in children and adolescents. J Am Acad Child Adolesc Psychiatry 1995;34:19–27
- Okasha A, Saad A, Khalil AH, et al. Phenomenology of obsessivecompulsive disorder: a transcultural study. Compr Psychiatry 1994;35: 191–197
- Spitzer RL, Williams JBW, Gibbon M, et al. User's Guide for the Structured Clinical Interview for DSM-III-R. Washington, DC: American Psychiatric Press; 1990
- 18. Goodman WK, Price LH, Rasmussen SA, et al. The Yale-Brown Obses-

sive Compulsive Scale, I: development, use, and reliability. Arch Gen Psychiatry 1989;46:1006–1011

- Lenane MC, Swedo SE, Leonard H, et al. Psychiatric disorders in first degree relatives of children and adolescents with obsessive-compulsive disorder. J Am Acad Child Adolesc Psychiatry 1990;29:407–412
- Black DW, Nayes R, Goldstein RB, et al. A family study of obsessive compulsive disorder. Arch Gen Psychiatry 1992;49:362–368
- Bellodi L, Sciuto G, Diaferia G, et al. Psychiatric disorders in the families of patients with obsessive-compulsive disorder. Psychiatry Res 1992;42: 111–120
- Fyer A, Mannuzza S, Chapman TF, et al. Familial transmission of obsessive compulsive disorder. Presented at the First International Obsessive-Compulsive Disorder Conference; March 12–13, 1993; Capri, Italy
- Pauls DL, Alsobrook JP II, Goodman W, et al. A family study of obsessivecompulsive disorder. Am J Psychiatry 1995;152:76–84
- Riddle MA, Schaill L, King R, et al. Obsessive compulsive disorder in children and adolescents: phenomenology and family history. J Am Acad Child Adolesc Psychiatry 1990;29:766–772
- Greist JH, Jefferson JW, Kobak KA, et al. Efficacy and tolerability of serotonin transport inhibitors in obsessive-compulsive disorder: a metaanalysis. Arch Gen Psychiatry 1995;52:53–60
- Ravissa L, Barzega G, Bellino S, et al. Predictors of drug treatment response in obsessive-compulsive disorder. J Clin Psychiatry 1995;56: 368–373
- Rauch SL, Savage CR, Baer L, et al. Reciprocal lateralization of frontal lobe functions. Arch Gen Psychiatry 1995;52:159–160
- Rausch SL, Jenike MA, Alpert NM, et al. Regional cerebral blood flow measured during symptom provocation in obsessive-compulsive disorder using oxygen 15-labeled carbon dioxide and positron emission tomography. Arch Gen Psychiatry 1994;51:62–70
- Schwartz JM, Stoessel PW, Baxter LR, et al. Systematic changes in cerebral glucose metabolic rate after successful behavior modification treatment of obsessive-compulsive disorder. Arch Gen Psychiatry 1996;53: 109–113
- Baer L. Factor analysis of symptom subtypes of obsessive compulsive disorder and their relation to personality and tic disorders. J Clin Psychiatry 1994;55(3, suppl):18–23
- McDougle CJ, Fleischmann RL, Epperson CN, et al. Risperidone addition in fluvoxamine-refractory obsessive-compulsive disorder: 3 cases. J Clin Psychiatry 1995;56:526–528
- Jacobsen FM. Risperidone in the treatment of affective illness and obsessive-compulsive disorder. J Clin Psychiatry 1995;56:423–429
- 33. Aslett D. Not for Packrats Only. New York, NY: Plume Books; 1991
- 34. Felton S. Messy No More. Grand Rapids, Mich: Fleming Revell; 1989
- Packrats International. 12662 Hoover St., Garden Grove, CA 92641, telephone: 714-894–8223
- Clutterers Anonymous World Service Organization. PO Box 25844, Santa Ana, CA 92799-5884, telephone: 714-960-6490
- Messies Anonymous. Department M, 5025 SW 114th Ave., Miami, FL 33165, telephone: 305-271-8404
- Borker AS, Mascarenhas JF. Role of acetylcholine and dopamine in dorsal hippocampus on hoarding behavior in rats. Indian J Physiol Pharmacol 1991;35:71–73
- 39. de Brabander JM, de Bruin JP, van Eden CG. Comparison of the effects of neonatal and adult medial prefrontal cortex lesions on food hoarding and spatial delayed alternation. Behav Brain Res 1991;42:67–75