A 1-Year Naturalistic Follow-Up of Patients With Compulsive Shopping Disorder

Elias Aboujaoude, M.D., M.A.;
Nona Gamel, M.S.W.; and Lorrin M. Koran, M.D.

Received Oct. 2, 2002; accepted Feb. 14, 2003. From the Department of Psychiatry and Behavioral Sciences, Stanford University Medical Center, Stanford, Calif.

All authors have received grant/research support from Forest Laboratories. Dr. Koran has received grant/research support from AstraZeneca, Pfizer, and Organon and has been a speakers/advisory board member for Forest Laboratories and Janssen.

Corresponding author and reprints: Lorrin M. Koran, M.D., OCD Clinic, Room 2363, 401 Quarry Rd., Stanford, CA 94305-5721 (e-mail: lkoran@stanford.edu).

Background: Compulsive shopping disorder is increasingly recognized as a treatable impulse-control disorder. We report the first long-term, naturalistic follow-up of patients with compulsive shopping disorder, which examined the course of illness over 1 year in a cohort that had completed up to 3 months of open-label treatment with citalopram, 20 mg/day to 60 mg/day. In that trial, 17 (71%) of 24 subjects who met McElroy and colleagues' diagnostic criteria for compulsive shopping disorder were responders (Clinical Global Impressions-Improvement scale rating of much or very much improved and Yale-Brown Obsessive Compulsive Scale-Shopping Version score decrease of ≥ 50%).

Method: Follow-up interviews occurred 3, 6, 9, and 12 months after study end. Data gathered included comorbid conditions, estimated total debt, 2-week spending, whether the patient was taking citalopram, and illness versus remission status. Remission was defined as no longer meeting diagnostic criteria for compulsive shopping disorder. Data were gathered between March 2000 and January 2002.

Results: Of responders at trial end, 81% (13/16), 71% (10/14), 71% (10/14), and 73% (11/15) were in remission at 3, 6, 9, and 12 months. Mean 2-week compulsive shopping expenditures decreased from $773 (median = $500) at baseline to $351 (median = $0) at month 12, and mean total debt decreased from $17,833 (median = $20,000) to $16,752 (median = $14,000). No clear association was seen between taking citalopram and remission status ($p = .55$, $p = .08$, $p = .58$, and $p = .60$ at 3, 6, 9, and 12 months, respectively; Fisher exact test). The majority of trial nonresponders remained ill at each follow-up point.

Conclusion: An acute response to citalopram predicts a greater likelihood of continued remission over 1 year, although the mechanisms that maintain remission require further investigation.

(J Clin Psychiatry 2003;64:946–950)

Though broadly recognized only recently, compulsive shopping disorder is not a product of our contemporary age: Kraepelin[1] in 1915 and Bleuler[2] in 1924 both discussed it in their landmark psychiatric texts, referring to it as "oniomania" (urge to buy). Since then, the rise of consumerism, sophisticated marketing tools, and easy access to credit may have exacerbated the problem.

No official diagnostic criteria exist in the *Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition, for compulsive shopping disorder, where the disorder can be subsumed under the category of impulse-control disorders not otherwise specified.[3] Like other impulse-control disorders, compulsive shopping disorder is characterized by an unpleasant tension associated with a repetitive urge to perform an act that is enjoyable in the immediate aftermath, but that causes distress and has untoward consequences in the long term, such as turmoil in relationships and financial difficulties. Prevalence estimates vary with the screening criteria used, but range from 2% to 8% of the adult U.S. population, with a female-to-male ratio of 9:1.[4] Comorbid mood disorders and other impulse-control disorders appear to be common.[5]

Two open-label trials suggest that the selective serotonin reuptake inhibitors (SSRIs) fluvoxamine[6] and citalopram[7] may be effective treatments, and 1 double-blind, placebo-controlled citalopram trial resulted in a 63% response rate[8]; in 2 double-blind trials, fluvoxamine failed to separate from placebo,[9,10] perhaps because of a therapeutic effect of daily shopping logs kept by both treatment groups.

No follow-up study of persons with compulsive shopping disorder has previously been conducted to our knowledge. We explored the evolution of the illness over 1 year in a cohort that had completed up to 3 months of

open-label citalopram treatment. We wished to examine whether successful short-term treatment with this antidepressant had longer-term effects on the course of compulsive shopping.[7] In the open-label study, 24 subjects meeting diagnostic criteria suggested by McElroy et al.[11] were enrolled in a 12-week open-label trial of citalopram, 20 mg/day to 60 mg/day. Subjects with a lifetime diagnosis of obsessive-compulsive disorder, bipolar disorder, hoarding, substance abuse or dependence, or psychotic disorder were excluded. Of the subjects screened in person, 3 were excluded for bipolar affective disorder; 1, for hoarding; and 1, for untreated hyperthyroidism. Seventeen subjects (71%) responded to citalopram (Clinical Global Impressions-Improvement scale rating of "much" or "very much" improved and a Yale-Brown Obsessive Compulsive Scale-Shopping Version [YBOCS-SV] score decrease of ≥ 50%). At the conclusion of the trial, we asked the subjects to participate in a follow-up study that would track their compulsive shopping symptoms and any treatments they received for the following year. We present here the results of this naturalistic follow-up.

METHOD

Sample

Twenty-three subjects, 21 women and 2 men, of the original 24-subject open-label study cohort provided written informed consent to participate in the year-long follow-up. An institutional review board approved the study, and data were gathered between March 2000 and January 2002. Subjects were divided into 2 groups: 17 responders and 6 nonresponders at the end of the 12-week trial. The mean ± SD ages of the responder and nonresponder groups were 46.2 ± 7.2 years and 35.2 ± 7.9 years, respectively. Compulsive shopping had been present continuously for a mean ± SD period of 22.9 ± 9.1 years in the responder group and 19.4 ± 8.3 years in the nonresponder group. The mean age at onset of compulsive shopping disorder was 24.4 ± 7.7 years in the first group and 16.6 ± 1.3 years in the second group. Comorbid disorders active at the trial baseline for the 23 subjects, as diagnosed with the Mini-International Neuropsychiatric Interview, Version 4.4,[12] were generalized anxiety disorder (N = 5), dysthymia (N = 3), major depression (N = 3), agoraphobia (N = 2), bulimia nervosa (N = 1), social phobia (N = 1), and posttraumatic stress disorder (N = 1). Four patients met DSM-IV criteria for other impulse-control disorders according to the Minnesota Impulse Control Disorders Questionnaire[13]: 3 patients with histories of kleptomania and 1 with a history of trichotillomania. No statistically significant difference was seen between the 2 groups in the presence of a comorbid Axis I diagnosis. Acute responders were more likely to be married ($p < .05$, Fisher exact test) and to have had an onset of illness after 21 years of age ($p < .005$, Fisher exact test). The distribution of comorbid conditions between the 2 groups, and further demographic data, are shown in Table 1.

Table 1. Demographic Characteristics and Comorbidities of Subjects With Compulsive Shopping Disorder, N (%)

Variable	Responders (N = 17)	Nonresponders (N = 6)
Ethnicity		
White	15 (88.2)	4 (66.7)
African American	1 (5.9)	0 (0)
Hispanic	1 (5.9)	1 (16.7)
Asian/Pacific Islander	0 (0)	1 (16.7)
Marital status		
Married	10 (58.8)	2 (33.3)
Divorced	5 (29.4)	1 (16.7)
Single	2 (11.8)	3 (50.0)
Employment status		
Employed full-time	12 (70.6)	4 (66.7)
Employed part-time	2 (11.8)	1 (16.7)
Seeking employment	1 (5.9)	0 (0)
Not seeking employment	2 (11.8)	1 (16.7)
Comorbidities		
Major depression	3 (17.6)	0 (0)
Generalized anxiety	5 (29.4)	0 (0)
Dysthymia	2 (11.8)	1 (16.7)
Agoraphobia	1 (5.9)	1 (16.7)
Posttraumatic stress	1 (5.9)	0 (0)
Bulimia nervosa	1 (5.9)	0 (0)
Social phobia	0 (0)	1 (16.7)
Kleptomania	3 (17.6)	0 (0)
Trichotillomania	1 (5.9)	0 (0)

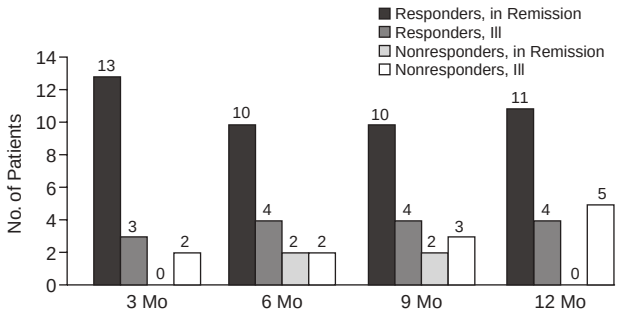
Assessment

Subjects were interviewed by phone or in our clinic 3, 6, 9, and 12 months after completing the open-label trial. Multiple attempts (generally 5) were made to reach subjects by phone to schedule follow-up interviews in a timely manner. If, after the fifth attempt, no contact could be established, no further attempts were made until the next data collection time 3 months later.

At each follow-up point, subjects' remission status was determined by whether they met McElroy and colleagues'[11] suggested criteria for compulsive shopping disorder, and patients' medications were reviewed. Patients who elected to continue taking citalopram at the end of the open-label study obtained it through their primary care providers or their private psychiatrists. During the follow-up interviews, the interviewers gave advice and referrals as necessitated by the subject's circumstances, and answered clinical questions when they arose, but no direct clinical care was given. Psychotherapy and behavioral interventions such as shopping logs were not offered by the study investigators during the follow-up period, and subjects were asked at each contact whether they were receiving any psychotherapy that targeted compulsive shopping.

Data were obtained on the estimated total debt related to problem shopping (including credit card debt, loans from family and friends, second mortgages, etc.) and on the amount spent on problem shopping in the 2 weeks pre-

Figure 1. Remission at Follow-Up Among Patients Who Did and Did Not Respond to Citalopram During a 12-Week Open-Label Citalopram Study



ceding the interview. The YBOCS-SV[14] was administered to help determine compulsive shopping severity. The YBOCS-SV is a clinician-administered scale with item ratings for amount of time spent, degree of interference, distress, resistance and success in resisting obsessions related to shopping, and, separately, related compulsions. The YBOCS-SV has been shown to have good test-retest and interrater reliability, face validity, and excellent sensitivity to clinical change.[14] The Montgomery-Asberg Depression Rating Scale (MADRS)[15] was utilized to assess levels of depressive symptoms.

RESULTS

Three months after completing the open-label study, 13 (81.3%) of the 16 subjects in the responder group were in remission compared with none (0%) of the 2 patients in the nonresponder group. At 6 months, 10 (71.4%) of 14 subjects in the responder group were in remission compared with 2 (50.0%) of 4 subjects in the nonresponder group. At 9 months, 10 (71.4%) of 14 subjects in the responder group were in remission compared with 2 (40.0%) of 5 subjects in the nonresponder group. At 12 months, 11 (73.3%) of 15 subjects in the responder group were in remission compared with 0 (0%) of 5 in the nonresponder group (Figure 1). For the entire sample, regardless of response at the end of the open-label trial, 72.2% (13/18), 66.7% (12/18), 63.2% (12/19), and 55.0% (11/20) of subjects were in remission at 3, 6, 9, and 12 months, respectively.

The number of subjects in each group varied across timepoints with our success in reaching participants to conduct interviews. At 3 months, 1 responder and 4 nonresponders could not be reached; at 6 months, 3 responders and 2 nonresponders; at 9 months, 3 responders and 1 nonresponder; and at 12 months, 2 responders and 1 nonresponder. Overall, 2 subjects missed 3 follow-up interviews, 2 missed 2 follow-up interviews, and 8 missed 1 follow-up interview.

Table 2. Association Between Citalopram Use and Remission Status at Follow-Up Among Compulsive Shopping Subjects Who Did and Did Not Respond to Citalopram During a 3-Month Open-Label Study

	Citalopram Use[a]							
	3 Months		6 Months		9 Months		12 Months	
	Yes	No	Yes	No	Yes	No	Yes	No
Responders								
In remission	8	5	6	4	5	5	5	6
Ill	1	2	0	4	1	3	1	3
Nonresponders								
In remission	0	0	1	1	1	1	0	0
Ill	0	2	0	2	0	3	1	4
Total subjects								
In remission	8	5	7	5	6	6	5	6
Ill	1	4	0	6	1	6	2	7
p Value[b]	.55		.08		.58		.60	

[a]At the lowest individually established therapeutic dose in the 12-week trial.
[b]Fisher exact test; comparisons indicate whether responders maintained remission as a function of taking citalopram.

The majority of subjects in the responder group remained in remission at each follow-up point, whereas the majority of subjects in the nonresponder group continued to meet diagnostic criteria for compulsive shopping disorder. However, no clear association was seen in responders between continuing citalopram and maintaining remission ($p = .55$, $p = .08$, $p = .58$, and $p = .60$ at 3, 6, 9, and 12 months, respectively; Fisher exact test) (Table 2); Glass's effect size, delta, was 0.63, 0.66, 0.01, and 0.46 at 3, 6, 9, and 12 months, respectively.[16] A subject was considered not to be taking citalopram if he or she discontinued the medication after the end of the open-label study or if he or she reduced the dose with a subsequent loss of therapeutic response.

Two subjects switched from citalopram to another SSRI during the follow-up period. One responder started taking sertraline, 200 mg/day, after the 9-month follow-up, with remission recorded at 12 months (she had stopped citalopram treatment at the end of the open-label study and was in remission at 3 months but was symptomatic at 6 and 9 months). One nonresponder switched to fluoxetine, 20 mg/day, before the 6-month follow-up point and was in remission at that time; she was not available for any other follow-up interview.

The YBOCS-SV scores varied consistently with the remission status of the subjects. In the responder group, the YBOCS-SV mean score ranged from 3.4 to 6.4 during the 12-month follow-up, compared with a mean of 2.1 at the end of the open-label study. The YBOCS-SV mean score in the nonresponder group ranged from 11.0 to 26.6 during the 12-month follow-up, compared with a mean of 20.8 at the end of the open-label study (Table 3).

MADRS and YBOCS scores correlated well for the responder group at 3, 6, and 9 months (Table 3). The small size of the nonresponder group did not permit correlation analysis.

Table 3. Relationship Between Mean YBOCS-SV and MADRS Scores for Compulsive Shopping Subjects at 0, 3, 6, 9, and 12 Months After a 3-Month Citalopram Trial

Variable	End of Open-Label Study	3 Months	6 Months	9 Months	12 Months
YBOCS-SV score					
Responders					
Mean ± SD (median)	2.1 ± 3.1 (0.0)	3.4 ± 4.8 (1.5)	5.5 ± 6.5 (3.0)	6.4 ± 7.7 (4.5)	4.7 ± 6.7 (2.0)
N	17	16	14	14	15
Nonresponders					
Mean ± SD (median)	20.8 ± 8.4 (20.0)	16.0 ± 5.7 (16.0)	12.3 ± 14.2 (11.5)	11.0 ± 13.8 (7.0)	26.6 ± 5.1 (24.0)
N	6	2	4	5	5
MADRS score					
Responders					
Mean ± SD (median)	2.6 ± 3.9 (1.0)	5.8 ± 5.6 (4.5)	3.5 ± 6.5 (3.5)	5.9 ± 7.1 (4.5)	3.8 ± 6.5 (1.0)
N	17	16	14	14	15
Nonresponders					
Mean ± SD (median)	9.5 ± 9.3 (6.5)	17.5 ± 2.1 (17.5)	3.0 ± 0.8 (3.0)	8.0 ± 9.0 (4.0)	8.8 ± 5.3 (9.0)
N	6	2	4	5	5
Spearman rank correlation coefficient		0.77	0.78	0.91	0.15
p Value[a]		< .001	< .001	< .001	> .5

[a]p Values are associated with the Spearman rank correlation coefficient; analysis includes responders only (nonresponder group was too small to permit analysis).
Abbreviations: MADRS = Montgomery-Asberg Depression Rating Scale, YBOCS-SV = Yale-Brown Obsessive Compulsive Scale-Shopping Version.

Despite a higher prevalence of comorbid depression at trial baseline in the responder group (N = 3 vs. N = 0), mean MADRS scores were higher for the nonresponder group at 3, 9, and 12 months. The mean scores ranged from 3.5 to 5.9 in the responder group and from 3.0 to 17.5 in the nonresponder group (Table 3). Each of the 3 responders who had comorbid depression at the trial baseline had a single elevated MADRS score during the year, which, in all 3 cases, coincided with the subjects having stopped citalopram. Two patients restarted citalopram and experienced a subsequent decrease in their MADRS scores.

For the responder group, both total debt and 2-week compulsive shopping expenditures decreased over the 15 study months (12-week open-label study plus 12-month follow-up study); total debt decreased from a mean ± SD of $17,833 ± $13,848 (median = $20,000) to $16,752 ± $17,206 (median = $14,000), while the 2-week amount spent decreased from $773 ± $1055 (median = $500) to $351 ± $636 (median = $0). For the nonresponder group, mean total debt increased from $32,000 ± $60,477 (median = $5000) to $37,300 ± $77,062 (median = $2200) while 2-week expenditures decreased from $4384 ± $5703 (median = $980) to $1560 ± $1372 (median = $1000). (Negative SD values are a manifestation of the nonstandard data distribution.)

No relationship was found between remission status at 12 months and marital status, age at onset, or Axis I comorbidity at trial baseline (Fisher exact test).

Only 3 subjects were receiving psychotherapy for compulsive shopping at any contact. Two responders were in a shopping-specific cognitive-behavioral therapy group at month 12; neither was taking medication, and 1 achieved remission after being symptomatic at 3, 6, and 9 months (at 3 months, the subject was symptomatic while taking citalopram and discontinued citalopram shortly after the 3-month contact). One nonresponder started individual psychotherapy to target compulsive shopping 2 weeks prior to the 12-month contact, without relief of symptoms; the subject was consistently symptomatic and not taking citalopram at 3, 9, and 12 months, with no 6-month data available.

DISCUSSION

Patients with compulsive shopping disorder were followed naturalistically for 12 months after a 12-week open-label trial of citalopram, 20 mg/day to 60 mg/day. Limitations of this follow-up study include the small study group (N = 23), missing observations (18/92 [19.6%]), and unrepresentativeness of the study group because of the inclusion and exclusion criteria utilized in the original study.[7]

The majority of responders at the end of the open-label trial remained in remission at 3, 6, 9, and 12 months, whereas the majority of nonresponders continued to meet diagnostic criteria for compulsive shopping disorder. The responders showed a decline in total debt related to compulsive shopping despite accumulating interest, as well as a decrease in 2-week expenditures.

No clear association was seen between remission status during the follow-up and continuing to take citalopram at the therapeutic dose established in the open-label trial. These findings do not necessarily indicate a placebo response to citalopram in the open-label trial. Our subsequent 9-week double-blind, placebo-controlled

study[8] showed a 63% relapse rate on placebo treatment versus a 0% relapse rate on continued citalopram treatment. Perhaps subjects in the responder group, after responding to citalopram in the open-label trial, took with them an awareness of the disorder, an optimism about their ability to control it, and new shopping habits that facilitated long-term self-monitoring and remission despite their stopping the medication. Alternatively, the experience of the benefits of remission (greater financial freedom, less stress, improved relationships, and the enjoyment of alternative activities) may have motivated increased efforts to refrain from compulsive shopping. A biological speculation would be that 3 months of citalopram treatment produced normalized and usually stable functioning in serotonergic neural pathways associated with impulse generation and control.

The responders' later age at onset and their greater likelihood of being married suggest that the relationship of these factors to treatment outcome should be examined in future studies.

Despite a higher prevalence of major depression in the responder group at the beginning of the open-label trial (N = 3 vs. N = 0), the nonresponder group had a higher mean MADRS score at every follow-up point. One might hypothesize that a circular feedback loop exists whereby problematic shopping leads to dysphoric mood and vice versa. The lay notion of "retail therapy," which implies persistent mood enhancement through shopping sprees, is not supported by these data. Our clinical impression is that, although subjects may have experienced temporary relief from depression when making a purchase, subsequent remorse resulted in increased depression.

Only 3 subjects in the follow-up study received psychotherapy that was intended to help with compulsive shopping, and only 1 showed improvement.

CONCLUSION

This 1-year follow-up study supports the conclusion that a good response to 3 months of citalopram treatment predicts a greater likelihood of continued remission over 1 year. We are conducting a 1-year follow-up of patients with compulsive shopping disorder who completed our double-blind, placebo-controlled trial of citalopram.[8] Longer-term studies are needed to better understand the course of compulsive shopping disorder and its response to treatment of varying durations with SSRIs and other medications apparently helpful in impulse-control disorders.[17–19] Research is also needed to explore the role of mood symptoms in the initiation, maintenance, and relief of symptoms of compulsive shopping disorder. Psychotherapies tailored to compulsive shopping disorder also warrant investigation. Lastly, larger, less restricted study groups would allow more accurate generalizations to the spectrum of individuals suffering from this disorder.

Drug names: citalopram (Celexa), fluoxetine (Prozac and others), fluvoxamine (Luvox and others), sertraline (Zoloft).

REFERENCES

1. Kraepelin E. Psychiatrie, 8th ed. Leipzig, Germany: Verlag Von Johann Ambrosius Barth; 1915:408–409
2. Bleuler E. Textbook of Psychiatry. New York, NY: McMillan; 1924:540
3. Koran LM. Obsessive-Complusive and Related Disorders in Adults: A Comprehensive Clinical Guide. Cambridge, England: Cambridge University Press; 1999:213–218
4. Faber RJ, O'Guinn TC. A clinical screener for compulsive buying. J Consumer Res 1992;19:459–469
5. Black DW. Compulsive buying disorder: definition, assessment, epidemiology and clinical management. CNS Drugs 2001;15:17–27
6. Black DW, Monahan P, Gabel J. Fluvoxamine in the treatment of compulsive buying. J Clin Psychiatry 1997;58:159–163
7. Koran LM, Bullock KD, Harston HJ, et al. Citalopram treatment of compulsive shopping: an open-label study. J Clin Psychiatry 2002;63: 704–708
8. Koran LM, Chuong HW, Bullock KD, et al. Citalopram for compulsive shopping disorder: an open-label study followed by double-blind discontinuation. J Clin Psychiatry 2003;64:793–798
9. Ninan PT, McElroy SL, Kane CP, et al. Placebo-controlled study of fluvoxamine in the treatment of subjects with compulsive buying. J Clin Psychopharmacol 2000;20:363–366
10. Black DW, Gabel J, Hansen J, et al. A double-blind comparison of fluvoxamine versus placebo in the treatment of subjects with compulsive buying disorder. Ann Clin Psychiatry 2000;12:205–211
11. McElroy SL, Keck PE Jr, Pope HG, et al. Compulsive buying: a report of 20 cases. J Clin Psychiatry 1994;55:242–248
12. Lecrubier Y, Sheehan D, Weiller E, et al. The Mini-International Neuropsychiatric Interview (MINI): reliability and validity according to the CIDI. Eur Psychiatry 1997;12:224–231
13. Christenson GA, Faber RF, de Zwaan M, et al. Compulsive buying: descriptive and psychiatric comorbidity. J Clin Psychiatry 1994;55:5–11
14. Monahan P, Black DW, Gabel J. Reliability and validity of a scale to measure change in persons with compulsive buying. Psychiatry Res 1996;64:59–67
15. Montgomery SA, Asberg M. A new depression scale designed to be sensitive to change. Br J Psychiatry 1979;134:382–389
16. Kraemer HC, Thiemann S. How Many Subjects? Statistical Power Analysis in Research. Newbury Park, Calif: Sage Publications; 1987:42
17. Bloch MR, Elliott M, Thompson H, et al. Fluoxetine in pathological skin-picking, open-label and double-blind results. Psychosomatics 2001; 42:314–319
18. Kim SW, Grant JE, Adson DE, et al. A double-blind placebo-controlled study of the efficacy and safety of paroxetine in the treatment of pathological gambling. J Clin Psychiatry 2002;63:501–507
19. Grant JE, Kim SW. An open-label study of naltrexone in the treatment of kleptomania. J Clin Psychiatry 2002;63:349–356