Citalopram Treatment of Compulsive Shopping: An Open-Label Study

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Background: Compulsive shopping, a DSM-IV impulse-control disorder not otherwise specified, is characterized by preoccupation with shopping and inability to resist buying unneeded items, with resulting marked distress, social or occupational impairment, and financial and/or familial problems. Because an open-label trial suggested that fluvoxamine, a selective serotonin reuptake inhibitor (SSRI), is effective for this disorder, we tested the effectiveness of the SSRI citalopram.

Method: We enrolled adults meeting formal diagnostic criteria (as defined by McElroy and colleagues) in a 12-week open-label trial. We excluded subjects with obsessive-compulsive disorder, bipolar disorder, substance abuse or dependence, or psychotic disorders. Citalopram treatment was begun at 20 mg/day and increased every 2 weeks by 20 mg/day, absent marked response and limiting side effects, to 60 mg/day. At endpoint, all subjects were asked to give written informed consent for follow-up telephone interviews at 3-month intervals for 12 months.

Results: We enrolled 24 subjects, 22 women and 2 men, whose mean ± SD age was 43.7 ± 8.1 years; most had been shopping compulsively for 2 decades or more. Citalopram (mean ± SD endpoint dose = 35.4 ± 21.4 mg/day) produced rapid, marked, sustained improvements on both the Yale-Brown Obsessive Compulsive Scale–Shopping Version and the Clinical Global Impressions-Improvement (CGI-I) scale in subjects with and without comorbid conditions. Seventeen subjects (71%) were responders, achieving ratings of much or very much improved on the CGI-I, including 2 of the 3 subjects who discontinued for adverse events (sedation or agitation). During a 6-month follow-up period, those continuing citalopram therapy were less likely to relapse than those discontinuing the medication.

Conclusion: Citalopram appears to be a safe and effective treatment for compulsive shopping. Acute and long-term, double-blind, placebo-controlled trials of citalopram and other SSRIs for the treatment of this disorder are indicated.

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A consumer culture creates casualties. Among them are compulsive shoppers. Compulsive shopping (also called compulsive buying, oniomania, and addictive or impulsive buying) lies within the DSM-IV category impulse-control disorders not otherwise specified. Like all impulse-control disorders, compulsive shopping is characterized by the failure to resist an impulse, drive, or temptation to perform an act that is harmful to the person or to others. DSM-IV provides no diagnostic criteria, but suggested criteria are preoccupation with buying; senseless or irresistible impulses to buy; or buying behavior that causes marked distress, is time-consuming, and significantly interferes with social or occupational functioning or results in financial problems.[1] This diagnostic category does not include excessive shopping or buying related to hypomania or mania and hoarding due to obsessive-compulsive disorder. Several authors have pointed out similarities between compulsive buying and addictive behaviors, e.g., repetitive urges to engage in immediately pleasurable but ultimately harmful behaviors, preceding buildup of tension, and conditioning of the behavior to internal and external cues.[2]

The frequency of compulsive shopping urges and behaviors is quite variable, ranging from daily to once a month. Purchased items are often stored unused in their packaging, returned, given away, or, less often, sold.[3,4] The prevalence of this disorder is unknown; depending on the definition utilized, the estimated prevalence in the general population ranges from 1.8% to 8.1% with a female:male ratio of 9:1.[5]

Interview studies suggest that compulsive shopping frequently results in guilt; accrual of debt, often beyond

the ability to pay; other financial problems; and friction in marital or familial relationships. Occasionally, compulsive buyers resort to passing bad checks or declaring bankruptcy.[3,4]

The role of pharmacotherapy in the treatment of compulsive shopping is uncertain.[6] In a case series, antidepressant medications, most often selective serotonin reuptake inhibitors (SSRIs), brought about a partial or full remission of problematic buying behaviors in 9 of 20 psychiatric patients.[1] Black and colleagues[7] report positive results in 9 of 10 compulsive shoppers recruited by newspaper advertisements and treated for 9 weeks with open-label fluvoxamine (mean dose = 205 mg/day). None of these patients had comorbid depression or severe personality disorders. Three patients improved in the first week and the other 6 by week 5. One patient who discontinued fluvoxamine therapy after 9 weeks rapidly relapsed, and 2 patients followed for 6 months on fluvoxamine treatment remained well. A subsequent 2-site, double-blind, placebo-controlled trial of fluvoxamine, published after we had begun our study, failed to confirm these promising results and reported a placebo response rate of nearly 50%.[8]

To further explore the role of SSRIs in treating compulsive shopping, we conducted a 12-week, open-label, flexible-dose study to test the hypothesis that citalopram is effective in treating this disorder.

METHOD

Advertisements and media coverage were utilized to recruit adults aged 18 years and older who currently met the diagnostic criteria suggested by McElroy and colleagues[1] and had a duration of illness of at least 1 year and shopping episodes occurring at least once weekly for the past 3 months. After a full explanation of the study and possible medication side effects had been provided, all subjects gave written informed consent for participation. Lifetime comorbid conditions and eligibility were determined from a structured interview utilizing the Mini International Neuropsychiatric Interview, version 4.4 (MINI),[9,10] and from the self-report version of the Minnesota Impulsive Disorders Interview (unpublished scale[3]), termed the Minnesota Impulse Control Disorders Questionnaire (MICDQ). An investigator reviewed the MICDQ responses with each patient to increase their accuracy and validity. If a comorbid disorder was present, compulsive shopping had to be the primary disorder, i.e., causing the most distress or dysfunction and providing the primary motivation to seek treatment.

We excluded patients who were receiving ongoing psychotherapy or wished to receive it during the study period for compulsive shopping or any other reason, required psychotropic medications other than citalopram, or had been treated previously with citalopram. We also excluded patients with comorbid obsessive-compulsive disorder; psychotic mental disorders including delusional disorder, somatic type; mental disorders due to a general medical condition; mental retardation or developmental disabilities; substance or alcohol abuse or dependence within the past 3 months; current suicidal risk; factitious disorders; dissociative disorders; personality disorders sufficiently severe to interfere with cooperation with the study; and a history of bipolar I or II disorder.

All subjects started citalopram at 20 mg/day with dose increases every 2 weeks to 60 mg/day in the absence of significant response and limiting side effects. Those who could not tolerate 20 mg/day were allowed to titrate downward, in 1 case to 5 mg every other day. Patients were asked to keep a daily "problem shopping log" throughout the study period, with columns for daily amount spent and time spent, and they brought the log to each study visit for notation by the investigator (who did not discuss motivations or attempt psychotherapy). Patients continued on the minimum citalopram dose that brought about remission or the maximum tolerated dose for a total study period of 12 weeks. At endpoint, all subjects were asked to give written informed consent for follow-up telephone interviews at 3-month intervals for 12 months.

The primary measures of drug effect were change from baseline to endpoint in the Yale-Brown Obsessive Compulsive Scale–Shopping Version (YBOCS-SV)[11] and the absolute value of the 7-point Clinical Global Impressions-Improvement scale (CGI-I).[12] The YBOCS-SV is a clinician-administered scale that measures the time spent, degree of interference, distress, resistance, and success in resisting for obsessions and, separately, for compulsive behaviors related to compulsive shopping. In a small validation study, the YBOCS-SV had good test-retest and interrater reliability, face and construct validity, and excellent sensitivity to clinical change.[11] The YBOCS-SV score ranges from 0 to 40, but no empirically derived cut-point for response has been established. The validation study reported a mean ± SD of 21.1 ± 2.5 in compulsive shoppers (N = 9) versus 2.9 ± 1.8 in "normal buyers" (N = 8).[11] Secondary outcome measures were the Patient Global Improvement (PGI) rating and, to assess depressive symptoms, the Montgomery-Asberg Depression Rating Scale (MADRS).[13] Primary efficacy measures, drug safety, and drug tolerability were assessed at screening, baseline, and at the end of weeks 1, 2, 4, 8, and 12 or upon early termination. Safety and tolerability were assessed using spontaneously reported adverse events and rates of premature termination for adverse events.

Responders were defined a priori as subjects rated much improved (score = 2) or very much improved (score = 1) on the CGI-I at endpoint. During the follow-up period, subjects were judged to have relapsed if they met the diagnostic criteria for compulsive shopping proposed by McElroy et al.[1] during either of the 2 weeks preceding

Table 1. Baseline Characteristics of 24 Subjects Exhibiting Compulsive Shopping[a]

Characteristic	N	%
Marital status		
Married	12	50
Divorced	7	29
Single	5	21
Ethnicity		
White	20	83
Black	1	4
Hispanic	2	8
Asian/Pacific Islander	1	4
Employment status		
Employed full-time	16	67
Employed part-time	4	17
Seeking employment	1	4
Not seeking employment	3	12

[a]Mean ± SD age = 43.7 ± 8.1 years; mean ± SD age at onset of compulsive shopping = 22.6 ± 7.1 years.

a follow-up telephone interview. Baseline-to-endpoint changes in the outcome measures were examined for significance with 2-tailed Student t tests, with $p \leq .05$. Correlations between baseline YBOCS-SV and MADRS scores and between percent change in these measures were examined with parametric (Pearson) correlation coefficients with $p \leq .05$ for significance, and the results were corroborated by calculating nonparametric (Spearman) correlation coefficients utilizing the same p value.

RESULTS

We recruited 24 subjects, 22 women and 2 men, whose mean ± SD age was 43.7 ± 8.1 years. Their baseline demographic and clinical characteristics are shown in Table 1. Compulsive shopping had been present continuously for periods ranging from 9 to 42 years (mean = 21.7 ± 8.9 years). The subjects' baseline level of unpaid debt related to compulsive shopping ranged from $0 to $40,000; half the subjects had current credit card debt of $10,000 or more. Several, having substantial financial means, paid off their credit card debts monthly. Three had declared bankruptcy in the past as a result of the compulsive shopping problem. Clothing and accessories were the most commonly purchased items, but craft materials, "gifts," household objects, and excessive food were also common purchases. Comorbid disorders diagnosed with the MINI were generalized anxiety disorder (N = 5), dysthymia (N = 3), major depression (N = 2), social phobia (N = 2), agoraphobia (N = 2), bulimia (N = 2), and posttraumatic stress disorder (N = 1). Four patients had 3 lifetime comorbid disorders, 2 had 2 comorbidities, and 3 had 1 comorbid disorder. Five patients met DSM-IV criteria according to the MICDQ for impulse-control disorders in addition to compulsive shopping: 3 with past histories of kleptomania and 2 with trichotillomania, 1 active and 1 in remission. No patient met criteria for pathological gambling, intermittent explosive disorder, pyromania, or a nonparaphilic sexual disorder.

At baseline, subjects' YBOCS-SV scores ranged from 13 to 34, with 8 subjects scoring between 13 and 19, 12 between 20 and 29, and 4 between 30 and 34. The 2 subjects with the lowest YBOCS-SV scores had shopping-related debts of $8000 and $20,000, which taxed their ability to pay. Baseline YBOCS-SV and MADRS scores were significantly correlated (Pearson $r = 0.56$, $p = .005$). Twenty subjects completed the study; 1 was lost to follow-up after week 4, when her CGI-I rating was "minimally improved," and 3 discontinued for adverse events (2 for excessive drowsiness and 1 for agitation).

For the entire study group, the mean ± SD YBOCS-SV score fell from 22.6 ± 5.6 at baseline to 7.2 ± 9.5 at endpoint (Student $t = 8.35$, $df = 23$, $p < .001$). Nine subjects (38%) had endpoint YBOCS-SV scores of 0, and an additional 5 (21%) had scores of 4 or less. Responder rates by treatment week were as follows: week 1, 7/24 (29%); week 2, 12/24 (50%); week 4, 15/24 (63%); and weeks 8 and 12, 17/24 (71%). The mean MADRS score fell from 11.9 ± 6.9 to 4.8 ± 6.5 (Student $t = 4.08$, $df = 23$, $p < .001$). Baseline to endpoint percent change in YBOCS-SV and MADRS was significantly correlated (Pearson $r = 0.58$, $p = .003$).

The responder rate in the intent-to-treat group was 71% (17/24) (CGI-I very much improved 13/24 [54%], much improved 4/24 [17%]). Patient PGI ratings produced nearly identical results: 12/24 (50%) very much improved and 5/24 (21%) much improved. Among the 20 study completers, 13 (65%) achieved CGI-I scores of very much improved, 2 (10%) of much improved, 4 (20%) of minimally improved, and 1 (5%) of minimally worse. Of the 4 subjects who completed the study and had comorbid mood disorders at baseline, 3 experienced remission of both the mood disorder and compulsive shopping; in the remaining subject, compulsive shopping remitted but clinically significant depressive symptoms remained (MADRS score = 16). Seven (78%) of 9 subjects with comorbid conditions achieved CGI-I ratings of much or very much improved at endpoint as did 10 (67%) of the 15 without a comorbid condition.

Eight subjects had been treated with 1 or more SSRIs in the past without effect on their compulsive shopping. Seven of these subjects had had trials lasting at least 3 months at doses known to be effective for major depression, although not at the maximum recommended dose. At study end, 4 had CGI-I ratings of very much improved and 4 of minimally improved. The 4 responders took citalopram 50 mg/day (N = 1) or 60 mg/day (N = 3), whereas 3 of the 4 nonresponders tolerated only 20 mg/day or less, and only 1 took 60 mg/day.

The mean dose of citalopram at endpoint was 35.4 ± 21.4 mg/day. The distribution of final doses was as follows: less than 20 mg/day, N = 6; 20 mg/day, N = 5; 40 mg/day, N = 3; 50 mg/day, N = 2; 55 mg/day, N = 1; and

60 mg/day, N = 7. CGI-I ratings of much or very much improved were present in 7 (64%) of 11 subjects treated with 20 mg/day or less and in 10 (77%) of 13 subjects treated with 40 mg/day or more.

Adverse events spontaneously reported by at least 10% of subjects were insomnia/restless sleep (N = 12 [50%]); fatigue (N = 9 [38%]); agitation/restlessness, sedation, and nausea (N = 5 each [21%]); dry mouth, headache, increased sweating, and decreased libido (N = 4 each [17%]); and anorgasmia and dizziness (N = 3 each [13%]).

At the time of writing, we had 6-month follow-up data for 16 of the first 20 subjects enrolled in the study; 2 subjects had been permanently and 2 temporarily lost to follow-up at this timepoint. Four of 5 responders at week 12 (CGI-I much or very much improved) who continued on citalopram treatment remained responders; 1 relapsed. Of the 10 subjects who discontinued citalopram during this follow-up period, 3 remained well off drug for 5 months, and 7 relapsed. Four of the 7 regained their response after resuming citalopram treatment; 2 decided to restart citalopram treatment at the 6-month follow-up contact; and 1 decided to try a different SSRI in an attempt to avoid a citalopram side effect. One week-12 nonresponder continued on citalopram treatment without effect on compulsive shopping but with a good antianxiety effect. The 3 subjects with mood disorders at baseline and 6-month follow-up data, who discontinued citalopram during follow-up, experienced the return of both compulsive shopping and their mood symptoms, with remission of both disorders upon resuming citalopram treatment.

DISCUSSION

This study is limited by the small number of subjects, absence of a placebo control group and of blinded ratings, and the dependence on subjects' self-reports concerning their shopping thoughts and behaviors. Still, open-label treatment with flexible-dose citalopram was associated with rapid, marked, sustained improvement or remission in 71% of the 24 subjects during the 12-week open-label study period. Responders reported marked or total loss of interest in shopping, no preoccupation with shopping, easy disposal of all catalogs received by mail, cessation of Internet shopping, and ability to visit shopping malls without making a purchase.

The results of our study and of the open-label fluvoxamine trial[7] contrast with those of the only double-blind SSRI trial for compulsive shopping.[8] This contrast may indicate that nonspecific treatment effects, e.g., clinical attention and keeping a shopping log, explain the open-label results. However, the results of our 6-month follow-up interviews suggest a true drug effect in at least some subjects, since no shopping logs were kept. Four of 5 responders maintained their response for 6 months on drug versus only 3 of 10 who discontinued the medication during the follow-up period. Moreover, all 4 relapsed subjects who restarted citalopram regained the therapeutic response after only a follow-up telephone contact to assess their symptoms, without office visits, log-keeping, or repeated assessments. In addition, the very high comorbidity rate in the double-blind fluvoxamine trial[8] (74%, with 60% of subjects having more than 1 comorbid condition) may have contributed to that trial's failure to find a true drug effect, although in our trial, subjects with and without comorbid conditions responded. Still, the daily shopping log included in all 3 studies may also explain the results; the log may be a powerful therapeutic intervention that brought improvement in the open-label trials and obscured the drug effect in the placebo-controlled trial. Trials that omit this log are needed.

The significant correlation between the baseline-to-endpoint percent change in YBOCS-SV and MADRS scores suggests that the improvement in compulsive shopping may have been due to the treatment of subclinical depressive symptoms. Although only 5 subjects met diagnostic criteria for a mood disorder, 16 subjects had baseline MADRS scores greater than 8, indicating that they had at least mild mood symptoms.[14] Depressive symptoms were not, however, a prerequisite for a therapeutic response; 6 of the 8 subjects with baseline MADRS scores of 8 or less had CGI-I scores of much or very much improved at week 12. Perhaps in compulsive shoppers with depressive symptoms, a circular feedback loop exists, so that dysphoric mood motivates problematic shopping behavior and vice versa. Given the association of compulsive shopping with various comorbid conditions[1,3,15] and the response in our study of subjects with and without mood symptoms, compulsive shopping is probably a symptomatic behavior with heterogeneous etiologies. This probable heterogeneity, the absence of positive results from a placebo-controlled trial, and the limited understanding of the neurobiological underpinnings of impulsivity dissuade us from speculating about neurophysiologic mechanisms possibly underlying our subjects' improvement.

Some subjects whose compulsive shopping had been unresponsive to other SSRIs responded to citalopram. Those who took relatively high doses of citalopram (50 or 60 mg/day) were more likely to respond than those unable to tolerate these doses, but the number of subjects is small. This result is consistent with the literature in major depression, in which nonresponders to one SSRI often respond to another.[16]

The absence of a dose-response relationship in our trial and the observation that several patients achieved a sustained therapeutic response at citalopram doses lower than those commonly used to treat depression suggest that future trials of SSRIs in this and other impulse-control disorders should utilize flexible-dosing designs to maximize retention of study subjects.

CONCLUSION

Our open-label results suggest that citalopram may be a safe and effective treatment for compulsive shopping. Additional research is needed to examine the role of mood symptoms in the initiation, persistence, and relief of this disorder. Acute and long-term, double-blind, placebo-controlled trials of citalopram and other SSRIs for the treatment of compulsive shopping are indicated.

Drug names: citalopram (Celexa), fluvoxamine (Luvox and others).

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