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IMPULSE CONTROL DISORDERS

JON E. GRANT AND BRIAN L. ODLAUG

Impulse control disorders (ICDs) are characterized by the engagement in a rewarding behavior that is difficult to resist even though it may ultimately result in negative consequences. The formal ICDs include pathological gambling, trichotillomania, kleptomania, intermittent explosive disorder, and pyromania. Other ICDs that have not been included as formal disorders in the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM–IV–TR*; 4th ed., text rev.; American Psychiatric Association, 2000) are currently classified as *not otherwise specified* and include compulsive buying, pathologic skin picking, and compulsive sexual behavior. These disorders are quite common in both adolescents and adults and are associated with significant morbidity and mortality (Grant & Potenza, 2007). Although data regarding psychosocial treatments of ICDs are relatively limited, both cognitive and behavioral interventions have shown promise in treating these disorders.

The purpose of this chapter is to detail the cognitive–behavioral strategies used to treat ICDs and to examine the factors associated with treatment response. Because rigorous research is particularly limited for pyromania, this chapter reviews the available research on the treatment of pathological gam-

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bling, trichotillomania, compulsive buying, kleptomania, intermittent explosive disorder, pathologic skin picking, and compulsive sexual behavior.

RELATIONSHIP OF IMPULSE CONTROL DISORDERS TO OBSESSIVE–COMPULSIVE DISORDER

ICDs are characterized by repetitive behaviors and impaired inhibition of these behaviors. The irresistible and uncontrollable behaviors characteristic of ICDs suggest a similarity to the frequently excessive, unnecessary, and unwanted rituals of obsessive–compulsive disorder (OCD). There are, however some clear differences between ICDs and OCD. For example, people with ICDs may report an urge or craving state prior to engaging in the problematic behavior and a hedonic quality during the performance of the behavior (Grant & Potenza, 2007). Individuals with OCD are also generally harm avoidant with a compulsive risk-aversive end point to their behaviors (Hollander, 1993), whereas individuals with ICDs are generally sensation seeking (Kim & Grant, 2001).

The pleasurable or rewarding aspects of ICDs, as well as the sensation-seeking personality of individuals with ICDs, have necessitated cognitive–behavioral strategies for ICDs that are distinct from those used in OCD. Certain ICDs (e.g., trichotillomania, pathologic skin picking) share substantial clinical similarities to OCD, and treatment approaches may borrow largely from the exposure response-prevention techniques used to treat OCD. However, other ICDs (e.g., pathological gambling, compulsive buying) exhibit striking differences from OCD, and these differences have necessitated novel cognitive–behavioral strategies (e.g., imaginal desensitization, relapse prevention). Of course, there may be subtypes of each ICD that are more or less like OCD. The subtyping of ICDs and the question of whether certain cognitive–behavioral therapies (CBTs) may work preferentially for certain subtypes await further research.

PATHOLOGICAL GAMBLING

Pathological gambling is characterized by persistent and recurrent maladaptive patterns of gambling behavior. It has been described as a chronic, relapsing condition that affects from 0.9% to 1.6% of the U.S. population (National Opinion Research Center, 1999). Psychosocial problems are common among pathological gamblers, including significant financial and marital problems, reduced quality of life, bankruptcy, divorce, incarceration, and impaired functioning (Grant & Kim, 2001). To fund the gambling addiction or to atone for losses resulting from past gambling, many pathological gamblers resort to engaging in illegal behavior, such as stealing, embezzlement,

and writing bad checks (Potenza, Steinberg, McLaughlin, Rounsaville, & O'Malley, 2000). Suicide attempts are also common and have been reported in 17% of persons in treatment for pathological gambling (Petry & Kiluk, 2002).

Although the history of gambling treatment extends over several decades, there is a surprising lack of reliable knowledge of what constitutes effective treatment for this disorder. According to a critical review of the literature on the treatment of pathological gambling (Toneatto & Ladouceur, 2003), the interventions falling within the cognitive–behavioral spectrum have good empirical support at present.

Cognitive–Behavioral Therapy for Pathological Gambling

The majority of the psychosocial treatment literature for pathological gambling has focused on cognitive and behavioral therapy techniques. In general, the cognitive approach includes psychoeducation, increased awareness of irrational cognitions, and cognitive restructuring. Behavioral therapy (BT) generally includes identification of gambling triggers and the development of nongambling sources to compete with the reinforcers associated with gambling. There have been 15 published randomized trials of CBT for pathological gambling.

Cognitive Therapy

Three controlled studies have examined how changing the cognitions of pathological gambling can lead to improvement in overall symptoms. In one study of 40 participants, individual cognitive therapy (CT) plus relapse prevention resulted in reduced gambling frequency and increased perceived self-control over gambling at 12 months when compared with a wait-list control group (Sylvain, Ladouceur, & Boisvert, 1997). A replication study of CT plus relapse prevention in 88 participants also produced improvement in gambling symptoms compared with a wait-list group at 3 months that was maintained for 12 months (Ladouceur et al., 2001).

Group CT was tested against a wait-list control condition in 71 participants with pathological gambling (Ladouceur et al., 2003). Groups met weekly for 10 weeks and each session was 2 hours. After 10 sessions, 88% of those in group CBT no longer met criteria for pathological gambling, compared with 20% in the wait-list condition. At 24-month follow-up, 68% of the original sample still did not meet criteria for pathological gambling.

Although both individual and group cognitive therapies have shown early promise in treating pathological gambling, rates of treatment discontinuation are high (up to 47%). In addition, the studies of CT have not yet determined the optimal number of sessions needed to improve and maintain gambling symptoms.

Behavioral Therapy

Behavioral approaches have also been examined in three controlled studies. In the first study, researchers reported significant reduction in gambling behaviors in a comparison of imaginal desensitization (i.e., participants were taught relaxation and then instructed to imagine experiencing and resisting triggers to gambling) with traditional aversion therapy in the randomized treatment of 20 compulsive gamblers (McConaghy, Armstrong, Blaszczynski, & Allcock, 1983). Both therapies had positive outcomes, but the group assigned to imaginal desensitization was more effective in reducing gambling urges and behavior.

In another study by McConaghy, Armstrong, Blaszczynski, and Allcock (1988), 20 inpatient participants were randomized to receive either imaginal desensitization or imaginal relaxation in 14 sessions over a 1-week period. Both groups improved at posttreatment; however, therapeutic gains were not maintained by either group at a 12-month follow-up (McConaghy et al., 1988).

In a larger study of 120 participants randomly assigned to aversion therapy, imaginal desensitization, in vivo desensitization, or imaginal relaxation, participants assigned to imaginal desensitization reported better outcomes at 1 month and up to 9 years later (McConaghy, Blaszczynski, & Frankova, 1991). This latter study, however, failed to follow up on approximately half of the participants.

Although imaginal desensitization has yielded promising results in the treatment of pathological gambling, the outcome data are limited. In addition, the studies have not been replicated by an independent investigator, and there is no data on the how many sessions are associated with greatest benefit.

Cognitive–Behavioral Therapy

Most research studies have recognized that both distorted cognitions and behaviors need to be addressed in pathological gambling. CBT aims to link awareness of one's thoughts to their behaviors. Cognitive restructuring is used to improve control over gambling urges and the negative emotions associated with gambling. In addition, CBT uses strategies to directly modify behaviors and develop skills in social communications, assertiveness, and adaptive behavioral coping.

A randomized study of CBT in slot-machine playing pathological gamblers assigned participants to one of four groups: (a) individual stimulus control and in vivo exposure with response prevention, (b) group cognitive restructuring, (c) a combination of a and b, and (d) a wait-list control (Echeburúa, Baez, & Fernández-Montalvo, 1996). At 12 months, rates of abstinence or minimal gambling were higher in the individual treatment (69%) compared with group cognitive restructuring (38%) and the com-

bined treatment (38%). The same investigators further assessed individual and group relapse prevention for completers of a 6-week individual treatment program. At 12 months, 86% of those receiving individual relapse prevention and 78% of those in group relapse prevention had not relapsed, compared with 52% with no follow-up (Echeburúa, Fernández-Montalvo, & Baez, 2001).

Melville, Davis, Matzenbacher, and Clayborne (2004) described two studies that used a three-topic mapping system (targeting understanding randomness, problem solving, and relapse prevention) to improve outcome. In the first study, 13 participants were assigned to either 8 weeks of group CBT, group CBT with the mapping-enhanced treatment, or a wait-list group. In the second study, 19 participants were assigned to a mapping group or a wait-list group for 8 weeks. For those participants who were in the CBT with mapping group, significant improvement was maintained both posttreatment and at 6-month follow-up. In addition, the second study, which included measures for comorbid depression and anxiety, found that both pathological gambling symptoms and depression and anxiety scores decreased significantly for the CBT with mapping group compared with the control group (Melville et al., 2004).

Milton, Crino, Hunt, and Prosser (2002) compared CBT (i.e., psychoeducation, cognitive restructuring, problem-solving skills, and relapse prevention) with CBT combined with interventions designed to improve treatment compliance (interventions included positive reinforcement, identifying barriers to change, and applying problem-solving skills) in 40 participants using eight sessions of manualized, individual therapy. Of the CBT plus interventions group, 65% completed treatment, whereas only 35% of the CBT alone group did so. At 9-month follow-up, there was no difference in outcome between treatments, although both produced clinically significant change.

Petry et al. (2006) examined an eight-session manualized form of CBT in which 231 participants were randomized to weekly sessions with an individual counselor, to the therapy in the form of a workbook, or to referral to Gamblers Anonymous (Petry et al., 2006). Although all groups reduced their gambling, those participants assigned to individual therapy or the self-help workbook reduced gambling behaviors to a greater degree than did those referred to Gamblers Anonymous.

In a study examining cognitive motivational behavior therapy (CMBT), a method that combines gambling-specific CBT with motivational interviewing (MI) techniques to aid in resolving treatment ambivalence and to subsequently improve retention rates, 9 men received manualized treatment compared with a control group of 12 men who received treatment as usual (TAU). All 9 participants (100%) in the CMBT group completed treatment versus 8 (67%) in the TAU group. Significant improvements in the number of *DSM–IV–TR* pathological gambling criteria met and South Oaks Gam-

bling Screen scores were observed through 12-month follow-up for the CMBT group (Wulfert, Blanchard, & Freidenberg, 2006).

Brief Interventions and Motivational Interviewing

Brief interventions using CBT approaches have also been examined for pathological gambling. Brief treatments are designed to use less professional resources or time than face-to-face interventions. Brief interventions may include single-session interventions, workbooks, or bibliotherapy. MI is often used in brief interventions. Motivation is empathic and uses the client's strengths to enhance self-efficacy regarding change in behavior.

In one study of brief interventions, Dickerson, Hinchy, and England (1990) randomly assigned 29 participants to either workbook or to workbook plus a single in-depth interview. The workbook included CBT and motivational enhancement techniques. Both groups reported significant reductions in gambling at 6 months.

A separate study assigned 102 gamblers to a CBT workbook, a workbook plus a telephone motivational enhancement intervention, or a waitlist group. Rates of abstinence at 6 months did not differ among groups, although the frequency of gambling and money lost gambling were lower in the motivational intervention group (Hodgins, Currie, & el-Guebaly, 2001). Compared with the workbook alone, those gamblers assigned to the motivational intervention and workbook reduced gambling throughout a 2-year follow-up period; however, 77% of the entire follow-up sample were still rated as improved at the 24-month assessment (Hodgins, Currie, el-Guebaly, & Peden, 2004).

Another study conducted by Diskin (2006) compared a single-session motivational-interviewing module for pathological gamblers. Half of the sample was randomized to receive MI plus a self-help workbook, whereas the other half received the workbook and spoke with an interviewer about their gambling for 30 minutes. At 12-month follow-up, those who received the MI plus workbook gambled less and spent less money than the workbook-alone group (Hodgins & Holub, 2007).

A study using a relapse-prevention-based bibliotherapy compared 169 participants who had recently quit gambling. Participants were randomized to receive either a summary booklet that detailed all relapse prevention information available (single mailing group, $n = 85$) or the same booklet and seven additional informational booklets mailed over the course of the next 12 months (repeated mailing group, $n = 84$; Hodgins, Currie, el-Guebaly, & Diskin, 2007). At the 12-month assessment, those persons in the repeated mailing group reported using the strategies to prevent relapse; however, only 44% of the overall sample reported having not gambled over the 3 months prior to the 12-month assessment.

Conclusions

Although CBT appears quite promising for the treatment of pathological gambling, there are several limitations to the current body of knowledge. First, the studies have generally lacked a large enough sample for adequate statistical power. One exception is the CBT study by Petry et al. (2006) that was adequately powered at the time of enrollment. Second, no manualized CBT treatment has been examined in a confirmatory study by another independent investigator, and most published studies have relatively small sample sizes. Third, with the exception of the Hodgins et al. (2001) study, CBT studies for pathological gambling have generally lacked published therapist adherence and competence measures. Fourth, although CBT treatments appear effective for pathological gambling, few studies have systematically compared interventions or examined whether combinations of treatments are more beneficial. In addition, no study has examined whether certain individuals with pathological gambling would benefit differentially from specific CBT treatments. Fifth, although CBT studies have shown that both brief interventions and longer term therapy are potentially effective, no study has yet examined the optimal duration of CBT. Finally, there are limited data concerning the effectiveness of CBT for pathological gambling participants with co-occurring psychiatric conditions.

TRICHOTILLOMANIA

Trichotillomania is characterized by repetitive hair pulling that causes noticeable hair loss and results in clinically significant distress or functional impairment (American Psychiatric Association, 2000). Clinically significant hair pulling has been found in 0.6% to 3.4% of college students surveyed (Christenson, Pyle, & Mitchell, 1991), but only 65% of individuals with trichotillomania have ever sought treatment for the disorder (Woods et al., 2006). Trichotillomania appears to be more common in females (93% of a recent sample of 1,697 participants; Woods et al., 2006). Significant social and occupational disability is common, with 35% of individuals reporting daily interference with job duties and 47% reporting avoidance of social situations such as dating or participating in group activities (Woods et al., 2006).

Cognitive–Behavioral Therapy for Trichotillomania

Psychosocial treatment data for trichotillomania has been relatively limited, with only five controlled studies published to date. In each published study, however, some form of CBT has been examined. The strongest evidence appears currently to support habit-reversal therapy as the most effective first-line treatment for trichotillomania (Bloch et al., 2007).

In the first study using CBT techniques, 34 individuals with chronic hair pulling were randomized to receive either habit-reversal training (n = 19) or negative practice (n = 15; Azrin, Nunn, & Frantz, 1980). A single 2-hour session of individual therapy was used. The habit-reversal training included competing reaction training (i.e., hand clenching for 3 minutes), awareness training, identifying response precursors, identifying habit-prone situations, relaxation training, prevention training, habit interruption, positive attention, self-recording (i.e., participants were given notebooks to record each hair-pulling incident), display of improvement, social support, and annoyance review. Negative practice involved standing in front of a mirror and acting out the motions of hair pulling without doing any damage. Habit reversal resulted in a 91% reduction in hair-pulling symptoms when evaluated at 4-month follow-up and proved to be twice as effective as negative practice in reducing pulling frequency.

Habit reversal has been modified for other studies and compared with medication. Twenty-three participants with trichotillomania were treated with either nine weekly sessions of CBT (a combination of habit reversal, stimulus control, and a stress management; n = 7), clomipramine (up to 250 mg/d; n = 10), or placebo (n = 6). CBT significantly reduced the severity of trichotillomania symptoms compared with clomipramine and placebo over the 9 weeks of the study. No long-term follow-up was reported to determine whether treatment gains were maintained (Ninan, Rothbaum, Marsteller, Knight, & Eccard, 2000).

Van Minnen, Hoogduin, Keijsers, Hellendbrand, and Hendriks (2003) examined six sessions (12 weeks) of BT compared with fluoxetine (up to 60 mg/d) or a wait-list control group in the treatment of trichotillomania. The manualized BT consisted of stimulus control, stimulus-response interventions, and response consequences. Forty-three participants were enrolled, and 40 (14 in behavior therapy, 11 in the fluoxetine group, and 15 in the wait-list group) completed the study. Posttreatment assessment demonstrated that the BT group improved significantly more than either the fluoxetine or wait-list group. A 2-year follow-up of the same patients, however, showed that symptom improvement did not last (Keijsers et al., 2006).

In another controlled study of trichotillomania, researchers used acceptance and commitment therapy/habit-reversal training (ACT/HRT), a CBT technique that combines habit-reversal techniques with components designed to eliminate or reduce negative private experiences such as urges or emotional states like depression that contribute to the pulling behavior (Woods, Wetterneck, & Flessner, 2005). The 12 participants who completed the 10 sessions of ACT/HRT reported significantly greater improvement in hair-pulling symptoms compared with those assigned to the wait-list group (n = 13). Also, the ACT/HRT group reported a 58% reduction in the number of hairs pulled per day compared with a 28% increase in the wait-list

group. Participants in the ACT/HRT group maintained this improvement at 3-month follow-up (Woods et al., 2005).

Only one study has examined combination treatment of CBT and pharmacotherapy versus either treatment alone. Forty-two participants were enrolled in a 12-week double-blind trial of sertraline compared with placebo. Those who failed to respond were enrolled in a two-session behavioral intervention (consisting of habit-reversal training, cognitive restructuring, and relapse prevention). Those participants enrolled in the dual modality treatment demonstrated significantly greater improvement than those in either single modality (sertraline or habit reversal; Dougherty, Loh, Jenike, & Keuthen, 2006).

Group CBT therapy has also been used in the treatment of trichotillomania. In a study of 24 trichotillomania participants, group BT ($n = 12$) was compared with group supportive therapy ($n = 12$). The eight-session BT group focused on psychoeducation, awareness training, stimulus control, competing response training, relaxation training, CT, self-monitoring, motivation, and relapse prevention. Participants were required to complete weekly homework assignments and discuss progress with the group. The focus of the supportive therapy group was having group members interact with one another and share their experiences of hair pulling with the group. Following treatment, the BT group showed significant reductions in trichotillomania symptoms compared with the support therapy group. Follow-up at 1 month, 3 months, and 6 months, however, showed a significant worsening of treatment gains for the BT group (Diefenbach, Tolin, Hannan, Maltby, & Crocetto, 2006).

Conclusions

Although there are many case reports on effective treatments for trichotillomania, the data from controlled trials are sparse. The one treatment that has shown potential promise in treating trichotillomania is habit-reversal therapy, or some modification thereof. The manualized treatments using habit reversal, however, have not been examined in a confirmatory study by an independent investigator. Although habit reversal appears promising in the short term, there are no controlled trials examining the long-term effects of this treatment.

COMPULSIVE BUYING

Although not specifically recognized in the *DSM–IV–TR* as an impulse control disorder, the following diagnostic criteria have been proposed for *compulsive buying*: (a) a preoccupation with buying (characterized by either

an irresistible, intrusive, and/or senseless preoccupation with buying or buying more than one can afford, buying unneeded items, or shopping for longer durations of time than originally intended) and (b) the buying preoccupation results in marked distress, interferes with social or occupational functioning, and causes financial problems (McElroy, Keck, Pope, Smith, & Strakowski, 1994). Pleasurable feelings during and immediately following a shopping binge are common for compulsive shoppers but are quickly replaced by feelings of guilt, shame, and embarrassment. The rates of compulsive buying were examined using a random-sample survey of 2,513 adults in the United States. In this sample, 5.8% of adults screened positive for compulsive buying (Koran, Faber, Aboujadoude, Large, & Serpe, 2006). The items purchased are usually given away, returned to the stores, or go unused.

Cognitive–Behavioral Therapy for Compulsive Buying

Although recent research has found that compulsive buying rates in the United States may be as high as 5.8% (Koran et al., 2006), very little research has focused on the treatment of this disorder. Several case reports have suggested that possible effective psychotherapeutic interventions might include exposure and response prevention, and supportive or insight-oriented psychotherapy (McElroy et al., 1994), but there have been no studies of individual psychosocial interventions in compulsive buying.

Only one controlled trial study using group CBT has been published. In that study, Mitchell, Burgard, Faber, Crosby, and de Zwaan (2006) compared 12 sessions of group CBT (n = 28) to wait-list (n = 11) over a period of 10 weeks in a total of 39 adult female participants. Participants were required to attend 2 sessions in the 1st week and then 1 session a week for the remaining 8 weeks of the program. A workbook with homework assignments, which included readings and self-monitoring assessments, was completed by participants between sessions. A 6-month follow-up was also conducted for those in the treatment group, and a 3-month follow-up for those in the wait-list group was conducted prior to receiving treatment. Of the 28 participants in the treatment group, 21 completed the program. Four of the 11 participants in the wait-list control group dropped out prior to any follow-up assessment. Forty-three percent of the 21 participants in the treatment group reported complete remission of compulsive shopping symptoms 4 weeks after treatment, and 59% (10/17) reported the same improvement at the 6-month follow-up. No significant improvement was noted in the wait-list group.

Conclusions

There is scant evidence concerning effective treatment for compulsive buying. On the basis of available data, group CBT treatment may be effective for compulsive buying but larger, longer studies are needed.

KLEPTOMANIA

Kleptomania is characterized by repetitive, uncontrollable stealing of items not needed for their personal use (American Psychiatric Association, 2000). Kleptomania typically has its onset in early adulthood or late adolescence (McElroy, Pope, Hudson, Keck, & White, 1991) and has shown rates of 8.8% and 7.8% in adolescent and adult psychiatric populations, respectively (Grant, Levine, Kim, & Potenza, 2005; Grant, Williams, & Potenza, 2007). Legal consequences are common and can result in significant guilt, shame, and poor quality of life (Grant & Kim, 2002; Presta et al., 2002). Suicide attempts are also high in those with kleptomania and have been reported in 24.3% of participants (McElroy et al., 1991). The stolen items are often given or thrown away or hoarded (McElroy et al., 1991).

Cognitive–Behavioral Therapy for Kleptomania

To date, there have been no controlled clinical trials of psychosocial interventions for the treatment of kleptomania. Case studies, however, have shown that CBT is a potentially promising treatment for kleptomania. One case discusses a man who was able to reduce the frequency of his shoplifting after undergoing seven sessions of covert sensitization combined with exposure and response prevention over a 4-month period. In addition, the man went to stores and was asked to imagine that the store manager was observing him. The young man reduced his stealing behavior, although his urges to steal went unchanged (Guidry, 1969).

In other cases of covert sensitization, a young woman underwent five weekly sessions wherein she was instructed to practice covert sensitization whenever she had urges to steal. She was then able to go 14 months with only a single lapse in behavior and with no reported urges to steal (Gauthier & Pellerin, 1982). A 77-year-old woman responded well to both a self-imposed ban on shopping and covert sensitization (McNeilly & Burke, 1998).

Similarly, another woman was instructed to have increasing nausea when tempted to steal with imagery of vomiting associated with actual stealing (Glover, 1985). After four sessions over 8 weeks, the woman was able to go with only a single lapse in behavior over the next 19 months. In a similar case, aversive breath holding in combination with diary keeping of urges to steal and six weekly sessions of therapy resulted in significantly reduced stealing frequency (Keutzer, 1972).

Imaginal desensitization in fourteen 15-minute sessions over 5 days resulted in complete remission of symptoms for a 2-year period for two participants (McConaghy & Blaszczynski, 1988). One case involved a woman treated weekly for 5 months to assist her in finding alternative sources of excitement, pleasure, and self-fulfillment. She was able to report a 2-year period of remitted symptoms (Gudjonsson, 1987).

Conclusions

No controlled trials of psychosocial interventions have been reported in kleptomania. The current research is therefore based solely on case reports. Although there is some evidence supporting CBT in the treatment of kleptomania, those data are also severely limited. The research on treatment outcome in kleptomania contrasts sharply with the quantity and quality of studies in other impulse control disorders. This may be attributable to the low prevalence of kleptomania and to clinical difficulties in treating individuals involved in illegal activities. There is, however, substantial need for systematic studies of the treatment of this disorder. Given the existing data, it is not possible to construct evidence-based clinical recommendations regarding psychosocial treatment for this disorder.

INTERMITTENT EXPLOSIVE DISORDER

Intermittent explosive disorder is characterized by recurrent, significant outbursts of aggression, often leading to assaultive acts against people or property that are disproportionate to outside stressors and not better explained by another psychiatric diagnosis (American Psychiatric Association, 2000). Individuals suffering from intermittent explosive disorder regard their behavior as distressing and problematic (McElroy, Soutulo, Beckman, Taylor, & Keck, 1998). Outbursts are generally short lived (usually less than 30 minutes in duration) and frequent (multiple times per month). Legal and occupational difficulties are common (McElroy et al., 1998). Recent research has suggested that intermittent explosive disorder may be common with 6.3% of a community sample meeting lifetime criteria for the disorder (Coccaro, Schmidt, Samuels, & Nestadt, 2004).

Cognitive–Behavioral Therapy for Intermittent Explosive Disorder

Although case reports have suggested that insight-oriented psychotherapy and BT may be beneficial, there are no published controlled psychological treatment studies for intermittent explosive disorder (IED). Controlled trials of participants with significant anger and aggression, however, have been described in the literature. Deffenbacher, Huff, Lynch, Oetting, and Salvatore (2000) examined the use of group therapy combining relaxation training with CBT techniques compared with relaxation training alone and an assessment-only group for self-reported high-anger drivers. Both the relaxation-only and relaxation-plus CBT therapy groups demonstrated improvement on driving anger but not general trait anger. When the study was replicated using drivers with higher levels of anger, trait anger improved in both treatment groups (Deffenbacher, Filetti, Lynch, Dahlen, & Oetting, 2002),

suggesting that relaxation training alone may be a viable treatment option for such aggression.

Another study of 30 aggressive drivers (70% male) examined the use of group CBT (4 weeks) versus symptom monitoring (6 weeks). Ten of the participants met criteria for IED. The CBT component combined relaxation training, coping skills, cognitive strategies, and education about aggressive driving and its impact on others. The CBT group showed significant improvement at both posttreatment and at 2-month follow-up on measures of aggressive driving. Participants with IED, however, did not improve significantly. More intensified treatment may be necessary for those drivers with IED (Galovski & Blanchard, 2002).

Conclusions

Appropriate treatments for intermittent explosive disorder have yet to be developed. On the basis of the limited studies that have examined aggressive behavior, relaxation therapy in conjunction with CT presents as a possible treatment; however, extensive controlled clinical trials are necessary.

PATHOLOGIC SKIN PICKING

Pathologic skin picking, a condition characterized by the repetitive or compulsive picking of skin that causes tissue damage, has an estimated prevalence of 2% to 4% in collegiate and dermatological populations (Gupta, Gupta, & Haberman, 1987; Keuthen et al., 2000). Individuals with pathologic skin picking report significant shame and embarrassment associated with the behavior, which results in social, occupational, and familial impairment (Arnold, Auchenbach, & McElroy, 2001). Most often, those with pathologic skin picking pick their face, but other body parts such as the legs, arms, torso, and hands may be the focus of their picking and may consume several hours of each day (Odlaug & Grant, 2007). Significant medical complications such as scarring and infections can result from the behavior (Odlaug & Grant, 2007).

Cognitive–Behavioral Therapy for Pathologic Skin Picking

Although pathologic skin picking appears to be a fairly common disorder, treatment research for the behavior is relatively nonexistent. There is only one formal study of psychotherapy for pathologic skin picking. In a study examining habit reversal compared with wait-list, 19 participants with pathologic skin picking were randomly assigned (Teng, Woods, & Twohig, 2006). Habit reversal consisted of standard self-monitoring and competing responses. Those assigned to habit reversal were able to significantly reduce picking

behavior compared with those assigned to wait-list and to maintain those gains for 3 months.

A small case series of CBT also demonstrated promise for treating pathologic skin picking. In one report, three participants were treated with a combination of habit reversal and other CBT techniques (competing response, stimulus control, stress-regulation skills, awareness training, self-monitoring, emotion regulation training, psychoeducation, and cognitive-restructuring; Deckersbach, Wilhelm, Keuthen, Baer, & Jenike, 2002). After a total of four weekly, 60-minute sessions, one participant had complete remission of picking behavior and only mild urges to pick, and the improvement was maintained for 2 months. Another participant reported remission of picking for nearly 3 years following CBT. The third participant, who had comorbid body dysmorphic disorder, underwent seven weekly, 60-minute sessions and reported fewer than three picking episodes per day following treatment (cf. baseline of 20 episodes per day; Deckersbach et al., 2002).

Conclusions

Pathologic skin picking has received a very limited amount of treatment research. Although habit reversal has shown benefit in treating this behavior, further controlled trials are necessary. Because of the preliminary success of habit reversal and because of similarities between picking and trichotillomania, habit-reversal techniques may prove particularly beneficial in the treatment of pathologic skin picking.

COMPULSIVE SEXUAL BEHAVIOR

Compulsive sexual behavior (CSB) is described as excessive or uncontrolled sexual thoughts or behavior that lead to marked distress, causing consequences to social, occupational, legal, and/or financial aspects of the person's life (Black, Kehrberg, Flumerfelt, & Schlosser, 1997). A range of both nonparaphilic (e.g., pornography, sexual promiscuity, masturbation) and paraphilic (i.e., sexual sadism, exhibitionism, voyeurism, and fetishes) sexual behavior that has become excessive and out of the person's control characterize the disorder. Although the exact prevalence is unknown, the rate of CSB in adults is estimated to range from 3% to 6% (Coleman, 1992).

Cognitive–Behavioral Therapy for Compulsive Sexual Behavior

Although case reports have discussed the possible benefits of CBT for compulsive sexual behavior, only one study has been published. The study examined the efficacy of group CBT for gay and bisexual men with compulsive sexual behavior (Quadland, 1985). The group therapy was effective in reducing targeted sexual behaviors.

Conclusions

Extensive research has yet to be conducted in the area of compulsive sexual behavior treatment. Although group therapy is a promising treatment option, controlled trials have not been conducted.

CASE EXAMPLE

Blake, a 38-year-old married man with a graduate-level education, presented for treatment of both pathological gambling and compulsive shopping. He endorsed a history of alcohol abuse with abstinence for 3 years. Blake described "constant" urges to gamble and, when unable to gamble, reported engaging in uncontrolled shopping binges. Conversely, Blake often found his desire to gamble was increased when he was presented with the large debts from his shopping. He believed that gambling would result in money to pay the bills. Although he reports that both gambling and shopping produced "rush" or "thrill" for him, he also acknowledged that the debt ($30,000 in credit cards) and lack of control over his behavior resulted in shame, guilt, and depression. Blake also endorsed frequent thoughts of suicide.

Weekly CBT was implemented for a period of 12 weeks, during which time the therapist worked to identify Blake's specific gambling and shopping triggers. MI was used to address the ambivalence of stopping a "thrilling" behavior. His illusion of control over gambling, and cognitive distortions about money and the probabilities of winning money from gambling, were all identified and subsequently challenged. BT focused on replacing the prior behaviors with other stimulating, healthy activities. The final session focused on relapse prevention strategies and identifying both high-risk situations and coping strategies so that a relapse could be prevented. Because of his significant financial problems, Blake also saw a financial counselor who helped him establish a payment plan for his debts. Following 12 weeks of weekly therapy, Blake reported that his behaviors were well controlled. Blake continued to see his therapist once every month for the next year. He reported minimal intrusive thoughts to engage in the behavior and rated himself as improved in both his gambling and shopping urges and behavior.

CLINICAL APPROACH TO TREATMENT

Because the triggers, as well as the consequences, of ICD behaviors differ markedly among patients, clinicians need to individually tailor CBT treatment. To do this, it is important that the clinicians assess for all co-occurring disorders using valid and reliable diagnostic tools. Focusing treatment on

one ICD alone without addressing other co-occurring conditions may affect treatment outcome. For example, if treatment focused on Blake's gambling (in the previous case example) without awareness of how his gambling and compulsive buying interacted, long-term outcomes for both disorders may be jeopardized. Also, because suicidal thoughts are quite common among individuals with ICDs (Hodgins, Mansley, & Thygesen, 2006; McElroy et al., 1991), a suicidal-risk assessment needs to be performed at initial evaluation and periodically throughout treatment. On the basis of this risk assessment, the clinician may need to implement other interventions, such as emergency care, until the individual is stabilized.

Motivation for change should be addressed with the patient at the initial visit. Many aspects of ICD may result in lack of motivation to reduce or stop the behaviors. These behaviors are characterized by a hedonic quality—individuals find these behaviors rewarding or stimulating to some extent. For many people, their real desire is to prevent the negative consequences of the behavior, not necessarily the behaviors themselves. For example, many individuals with pathological gambling want to stop losing but may not want to stop gambling. Motivation interviewing may be particularly helpful in addressing the inherent ambivalence underlying these behaviors.

Because of the illegal nature of certain ICDs (e.g., kleptomania), the perceived immoral aspects of other ICDs (e.g., compulsive sexual behavior), and the shame associated with other disorders (e.g., pathological gambling, trichotillomania, pathologic skin picking), patients may feel apprehensive about, or minimize, their symptoms. It is important for the therapist to establish a nonjudgmental atmosphere wherein the patient can feel free to discuss the extent of his or her behaviors and any complicating factors that may interfere with therapy (e.g., legal repercussions). Involving a significant other in the therapy may aid in the process of full disclosure, as well as create additional support for the patient, but needs to be addressed on an individual basis.

In addition to the standard CBT techniques in the previously described studies, people with ICDs (such as Blake) may need some additional treatments to address legal or financial problems. Given the possible legal repercussions of certain ICDs (e.g., kleptomania, pathological gambling) and the significant financial difficulties of other ICDs (e.g., compulsive buying, pathological gambling), referral to legal and financial counseling may also be necessary. CBT techniques may also address the catastrophic thinking that often accompanies legal and financial problems.

Group therapy or self-help groups such as Gamblers Anonymous, Shoplifters Anonymous, Sexaholics Anonymous, and Shopaholics Anonymous may be helpful in cases in which the patient feels that he or she is the only person dealing with the particular behavior or that no one understands his or her struggle.

Because shame, embarrassment, and guilt are common in individuals with ICDs, therapy needs to acknowledge the individual's strengths as well

as analyzing and identifying the individual's weaknesses (Hodgins & Peden, 2008). For example, a patient who is trained in relaxation techniques and possesses good problem-solving skills would not require those two skills incorporated into a treatment plan. This can serve not only to eliminate areas of treatment that are unnecessary but also to show the patient that he or she is capable of success (Hodgins & Holub, 2007). The clinician should work with the patient to identify these strengths as well as obstacles to treatment success.

PREDICTORS OF TREATMENT RESPONSE

Although several CBT studies have been conducted in the area of ICDs, a very limited number of those studies identified or addressed predictors of treatment success. The data supporting which factors predict treatment response are very limited; however, some early indications emerge from the studies.

Social Support Associated With Improved Treatment Outcome

One study of 29 gamblers found that those who initially presented with the ideation of a successful outcome and reported using social support systems such as a spouse, friend, or counselor had more successful gambling symptom reductions (Dickerson et al., 1990). Social support may be especially beneficial for patients who report having very few social contacts outside of engaging in the ICD behavior. A goal of increasing social support through family and friends and introducing other enjoyable activities may be considered for such a patient (Hodgins & Peden, 2008).

Co-Occurring Disorders Complicate Treatment Compliance

Although treatment studies in ICDs have generally excluded participants with comorbid psychiatric disorders, there is evidence that these disorders need to be addressed if the ICD is to be successfully treated. Alcohol or drug abuse, for example, has been found in 30% to 50% of pathological gamblers (Lesieur & Rosenthal, 1991; Ramirez, McCormick, Russo, & Taber, 1983) and correlates with high rates of treatment dropout and relapse (Echeburúa et al., 2001). Milton et al. (2002) studied CBT response in 40 participants with pathological gambling. They found that comorbid problem drinking, drug use, and duration of gambling disorder were predictors of poor treatment compliance. Evidence has suggested that substance use can adversely affect cognitive processes, leading to poor judgment and increased risk taking (Baron & Dickerson, 1999). Substance use might also increase risk taking by restricting attention to only the most salient and immediate

cues, leading to less regard for the actual odds of a gamble and past gambling losses (Steele & Josephs, 1988). One study found that alcohol intake was associated with greater spending on gambling activities and with gambling problems (Smart & Ferris, 1996).

In the case of trichotillomania, Keijsers et al. (2006) found that higher depressive symptoms at pretreatment screening negatively affected treatment outcome at 2-year follow-up. The authors recommended that depressive symptoms be addressed prior to the implementation of treatment. This finding is consistent with the literature on OCD, a disorder related in some ways to ICDs. Co-occurring major depression in patients with OCD has been found to be a significant predictor of poor treatment outcome (Steketee, Chambless, & Tran, 1999). Although the predictive role of depression in the treatment of other ICDs has not been systematically evaluated, the fact that untreated depression may complicate or worsen treatment outcome makes intuitive sense. Because of the intensive nature of CBT, it may be difficult for a clinically depressed patient to complete homework assignments or show up for weekly appointments. Although the data regarding co-occurring disorders is sparse, early data suggest that clinicians should assess the co-occurrence of other disorders and their severity prior to developing a treatment plan.

Duration and Severity of Symptoms Predict Worse Outcome

One study of men hospitalized for the treatment of their pathological gambling found that more severe gambling symptoms prior to CBT treatment significantly predicted poorer treatment success at follow-up (McCormick & Taber, 1988).

In a study of 40 pathological gambling participants, Sylvain et al. (1997) compared treatment completers with those who either refused treatment or dropped out of treatment prematurely. They found that the refuser/dropout group started gambling and developed gambling problems at an earlier age compared with the completer group.

FACTORS THAT INFLUENCE TREATMENT DECISIONS

Even knowing the evidence for various treatment options of ICDs, multiple factors may influence which treatment option is chosen for a particular patient. First, many clinicians are simply unaware of these disorders. Therefore, if a clinician is referring a patient for CBT, it may be difficult to find someone with experience in treating the behavior. This problem can be minimized by having a list of providers who know about these disorders and can provide treatment.

Second, there are no clear recommendations of treatment for the clinician to follow. For example, it is unclear how many sessions of CBT are most

helpful for a particular ICD. These gaps in knowledge make it difficult to inform patients about what their care may entail and what expectations they may have.

Third, patients with ICDs exhibit high rates of placebo response in treatment studies. Clinicians need to understand that for many patients with these behaviors, just telling the clinicians about their problem may help substantially at first. This initial robust response, however, may cause the clinician to believe that his or her treatment approach is successful. Clinicians should carefully monitor the patients for several months and not assume they will continue to do well.

Fourth, patients with ICDs often do not follow recommendations or follow through with treatment. The treatment data show that dropout rates are high for most patients with ICDs. This may be due to two factors: (a) Patients often believe that they are doing better than in fact they are and therefore see treatment as unnecessary, and (b) patients do not have an instantaneous response and therefore do not stay with treatment. Both of these concerns may be minimized by providing psychoeducation about the illness, the expectations of treatment, and the need to stay in treatment.

CONCLUSIONS AND FUTURE DIRECTIONS

The systematic study of treatment for ICDs is in its infancy. With few studies published, it is not possible to make treatment recommendations with a substantial degree of confidence. Nonetheless, CBT offers promise for the effective treatment of many of the ICDs. For example, CBT and imaginal desensitization both appear beneficial for pathological gambling, and habit-reversal therapy has shown some benefit for trichotillomania.

Clinicians, however, should be aware of the limitations of treatment knowledge in this area. Most published studies have used relatively small sample sizes, are of limited duration, and involve possibly nonrepresentative clinical groups (e.g., those without co-occurring psychiatric disorders). In addition, response measures have varied across studies, in part because the definition of *response* in many of these disorders remains debated. Heterogeneity of treatment samples may also complicate identification of effective treatments. At present, issues such as the duration of CBT cannot be sufficiently addressed with the available data. Identification of factors related to treatment response will help inform future studies and advance treatment strategies for these disorders.

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