Clinical Assessment and Management of Pathological Gambling

March 01, 2007 | Gambling [1], Addiction [2], Alcohol Abuse [3], Bipolar Disorder [4], Comorbidity In Psychiatry [5], Schizophrenia [6]
By Jon E. Grant, JD, MD, MPH [7] and Suck Won Kim, MD [8]

Pathological gambling (PG) is characterized by persistent and recurrent maladaptive patterns of gambling behavior (e.g., a preoccupation with gambling, the inability to control gambling behavior, lying to loved ones, illegal acts, and impaired social and occupational functioning).1 With past-year prevalence rates similar to those of schizophrenia and bipolar disorder,2 it is apparent that PG has become a significant public health issue. The aim of this article, therefore, is to introduce clinicians to the assessment and treatment of PG with the hope that early interventions will reduce the considerable personal and social costs associated with the disorder.

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PG usually begins in adolescence or early adulthood; males tend to exhibit symptoms associated with the disorder at an earlier age.3 Although there is some debate about the course of PG, when it is left untreated it appears to be a chronic, relapsing condition for many individuals.4,5 As in substance use disorders, PG appears to develop more quickly in females than in males after they begin to gamble—a phenomenon originally observed in alcohol dependence termed "telescoping."6 Women who are pathological gamblers tend to have problems with nonstrategic forms of gambling, such as slot machines and bingo; men tend to have problems with strategic forms, such as sports and card gambling.7 Both females and males who are pathological gamblers report that advertisements are common triggers of their gambling urges, and females are more likely to report that feeling bored or lonely may trigger an urge.8 Studies have consistently found that co-occurring conditions, such as depression, substance use disorders, and anxiety disorders, are common in individuals who are pathological gamblers (Figure 1).9-13 These co-occurring disorders may provide clues about the most effective treatment options for PG and should be treated simultaneously.

PG often goes unrecognized because patients are hesitant to disclose information about their behavior unless specifically asked.14 Given the personal and social impact of untreated PG, clinicians need to routinely screen for the disorder, perform a thorough assessment of the behavior and co-occurring conditions, and treat the disorder.

**DIAGNOSIS**
The first and most important step to treating a disorder is to diagnose it properly. Studies have found that most individuals who are pathological gamblers do not voluntarily discuss the issue with clinicians.14 Many are ashamed of the problematic behaviors associated with PG and therefore may not self-report. When asked about gambling, however, most patients are willing to talk about the disorder. The diagnosis of PG is usually straightforward and can be done by asking patients if they feel they cannot control their gambling or if they are preoccupied with gambling. Sample questions clinicians can use to begin a discussion about gambling can be found in **Table 1**.

**Table 1**
Sample questions that can begin a discussion about gambling

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[1] Gambling
[3] Alcohol Abuse
[4] Bipolar Disorder
[5] Comorbidity In Psychiatry
[6] Schizophrenia
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[8] Suck Won Kim, MD

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Does your gambling feel out of control to you?
Has gambling interfered with your life?
Do you gamble more than you want to?
Are you preoccupied with thoughts of gambling?
Has anyone told you that you have a problem with gambling?

An affirmative answer can be followed with questions to determine the degree of impairment (social, financial, familial, or occupational) and distress that this behavior is causing. It must also be ascertained whether the gambling behavior can be attributed to bipolar disorder. Simple self-reports and clinician-administered screenings, as well as diagnostic measures, are available (eg, South Oaks Gambling Screen, Early Intervention Gambling Health Test).

TREATMENT
Because of the limitations of current research, it is unclear which treatment approach may be most beneficial for a particular pathological gambler. What is known, however, is that no single treatment has been shown to be clearly more effective than others. Until greater knowledge of the pathophysiology is available, there is not enough evidence to make definitive treatment recommendations.

An assessment of clinical presentation, comorbidity, and family history, however, may provide useful clues to treatment interventions. Subtyping of PG based on clinical similarities to other disorders (eg, substance use disorders) or existence of co-occurring conditions (eg, bipolar disorder), or due to core features of the behavior (eg, cravings) may be useful when deciding on treatment interventions. A suggested clinical approach is presented in Figure 2.

Although both pharmacological and psychosocial interventions have shown early promise for PG, no comparative studies have been performed. Should an individual with PG begin with medication, therapy, or both? In addition, are there differences in individuals who are pathological gamblers that may indicate a preferential response to a particular intervention? Research addressing these issues is lacking.

Pharmacological treatment
Several drugs have been investigated as treatments for PG, and the range of medication classes (opioid antagonists, SSRIs, mood stabilizers) reflects the heterogeneity of individuals who are pathological gamblers. Because no medication is currently FDA-approved to treat PG, patients should be informed of off-label use of medications for the disorder, as well as the empirical basis for considering pharmacological treatment (Table 2).

<table>
<thead>
<tr>
<th>Medication</th>
<th>Subject's Mean</th>
<th>Outcome</th>
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<tbody>
<tr>
<td></td>
<td>Subjects (numb</td>
<td>dosage</td>
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</table>
## Opioid Antagonists

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Dose (mg/d)</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naltrexone</td>
<td>188</td>
<td>Naltrexone group significantly improved compared with placebo group</td>
</tr>
<tr>
<td>Nalmoreline</td>
<td>73</td>
<td>Nalmoreline group significantly improved compared with placebo group</td>
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## Antidepressants

<table>
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<tr>
<th>Treatment</th>
<th>Dose (mg/d)</th>
<th>Effect</th>
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<tbody>
<tr>
<td>Clomipramine</td>
<td>125</td>
<td>90% improvement in gambling symptoms</td>
</tr>
<tr>
<td>Fluvoxamine</td>
<td>195</td>
<td>Fluvoxamine superior to placebo</td>
</tr>
<tr>
<td>Fluvoxamine</td>
<td>200</td>
<td>Results with fluvoxamine not significantly different from those</td>
</tr>
</tbody>
</table>
Opioid antagonists. The dopaminergic system, which influences the rewarding and reinforcing behaviors in substance use disorders, has also been implicated in PG. It has been proposed that alterations in dopaminergic pathways underlie the reward-seeking behaviors (eg, in gambling and drug use) that trigger the release of dopamine and produce feelings of pleasure.\(^7\) Opioid antagonists are thought to decrease dopamine neurotransmission in the nucleus accumbens, thereby affecting the motivational neurocircuitry and dampening gambling-related excitement and cravings.\(^{16}\)

Initially, open-label treatment suggested the efficacy of high dosages of naltrexone (mean dosages of 157 mg/d)—an FDA-approved treatment for alcohol and opioid dependence—in reducing the intensity of gambling urges, thoughts, and behaviors.\(^{17}\) A 12-week double-blind placebo-controlled trial of naltrexone demonstrated superiority to placebo in 45 subjects who were pathological gamblers.\(^{18}\) The drug was effective in reducing the frequency and intensity of gambling urges and behaviors (mean dosage of 188 mg/d). Naltrexone’s clinical use, however, is limited by its significant side effects and its tendency to elevate enzyme levels in the liver, especially in patients taking
A recently completed multicenter study demonstrated the efficacy of another opioid antagonist, nalmefene, in the treatment of PG. In a sample of 207 subjects, nalmefene dosages of 25 and 50 mg/d demonstrated statistically significant improvements (P = .007, P = .016, respectively) in gambling symptoms (reduced gambling urges, thoughts, and behaviors) compared with placebo in a 16-week double-blind trial. Although nalmefene, like naltrexone, causes nausea in some individuals, it was not associated with hepatotoxicity in this large study.

**Antidepressants.** Pathological gamblers demonstrated diminished activation of the ventral medial prefrontal cortex (vmPFC) when they viewed gambling-related videotapes or during a simulated gambling task. These findings suggest that decreased serotonin function within the vmPFC may engender disinhibition and contribute to PG. Thus, drugs targeting serotonin neurotransmission have been examined in PG treatment.

Data from double-blind randomized pharmacotherapy trials of SSRIs in the treatment of PG, although promising, have been inconclusive, with only some trials showing superior efficacy when compared with placebo (see Table 2).

Some important findings, however, emerge from these studies. First, antidepressants—particularly those that influence serotonergic systems, like the SSRIs—may be effective in reducing the symptoms of PG. Second, the effects of antidepressants appear to be independent of underlying depressive or anxiety symptoms.

**Mood stabilizers.** Because some pathological gamblers appear to have either co-occurring bipolar disorder or subsyndromal hypomania, the use of mood stabilizers has also been examined (see Table 2). There has been only one randomized placebo-controlled trial of a mood stabilizer in PG. In a double-blind placebo-controlled study of 40 subjects who were pathological gamblers with bipolar spectrum disorders (bipolar type II, bipolar not otherwise specified, or cyclothymia), sustained-release lithium carbonate (mean lithium blood level of 0.87 mEq/L) was shown to be superior to placebo in reducing PG symptoms during a 10-week treatment.

**Psychosocial interventions**

Controlled studies support the efficacy of cognitive and behavioral therapies for PG (Table 3). Cognitive therapy focuses on changing the patient’s beliefs regarding his or her perceived control over randomly determined events. Randomized trials have demonstrated success with cognitive therapy. Individual cognitive therapy has resulted in reduced gambling frequency and increased perceived self-control over gambling when compared with a wait-list control group. Cognitive therapy that includes relapse prevention has also produced improvements in gambling symptoms when compared with a wait-list group.

<table>
<thead>
<tr>
<th>Table 3</th>
<th>Controlled psychological treatment trials for PG</th>
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<tr>
<td><strong>Design</strong></td>
<td><strong>Outcome</strong></td>
</tr>
<tr>
<td>Stimulus control and in vivo exposure with relapse prevention; cognitive restructuring; combined treatment; or wait list25</td>
<td>At 12 months, 69% were abstinent or much reduced in the first group compared with 38% for cognitive restructuring or combined</td>
</tr>
</tbody>
</table>
Cognitive therapy plus relapse prevention compared with wait list\(^{38}\) 36% improved on 5 variables compared with 6% on wait list

Cognitive therapy plus relapse prevention compared with wait list\(^{39}\) 32% improved on 4 variables compared with 7% on wait list

Group cognitive therapy plus relapse prevention compared with wait list\(^{40}\) 65% no longer met PG criteria compared with 20% for wait-list group

Manualized CBT in individual counseling; use of CBT workbook; or referral to Gamblers Anonymous\(^{26}\) Individual CBT more effective than Gamblers and use of workbook; at 12 months, groups did not differ in terms of abstinence rates

Use of CBT workbook compared with use of a workbook plus a single in-depth interview\(^{27}\) Both groups showed improvement at 6 months

Use of CBT workbook; use of workbook plus motivational enhancement intervention via telephone; or wait list\(^{28}\) 74% with motivational enhancement improved according to Clinical Global Impression compared with 61% with
Cognitive-behavioral therapy (CBT) has been used to treat PG. One study compared 4 groups: (1) an individual stimulus control and in vivo exposure with response prevention; (2) group cognitive restructuring; (3) a combination of 1 and 2; and (4) a wait-list control. At 12 months, the rates of abstinence or minimal gambling were higher with individual treatment (69%) than with both the cognitive restructuring and the combined treatment groups (38% abstinence or minimal gambling rate in each).

Based on CBT used in the treatment of substance use disorders and including relapse prevention strategies, an independent controlled trial of 231 subjects also demonstrated short-term improvement relative to a referral to Gamblers Anonymous (GA); at 12-month follow-up, however, abstinence rates did not differ between the 2 groups.

Brief interventions have demonstrated significant reductions in gambling at 6-month follow-up for gamblers assigned either to the use of a workbook (that included cognitive-behavioral and motivational enhancement techniques) or to the use of a workbook and an interview with a clinician. A separate study assigned patients who were pathological gamblers to the use of a workbook, the use of a workbook and a motivational enhancement intervention over the telephone, or a wait list. Compared with the group who used the workbook alone, the group assigned to use motivational intervention and the workbook showed a reduction in gambling throughout the 2-year follow-up period. Two studies that examined aversion therapy and imaginal desensitization in randomized designs found that both treatments resulted in improvement.

GA is perhaps the most popular and well-known treatment for PG, but few studies have systematically analyzed the outcomes of participation. Although controlled studies are lacking, most of the studies that examined treatment outcomes for patients who attended GA demonstrated the program’s potential effectiveness, particularly when combined with professional therapy.

**CONCLUSION**

PG has historically received relatively little attention from clinicians and researchers. Despite having prevalence rates similar to or greater than those of schizophrenia and bipolar disorder, there is much less research on PG that investigates treatment strategies. As a consequence, our understanding of
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Published on Psychiatric Times
(http://www.psychiatrictimes.com)

Effective and well-tolerated pharmacotherapies for PG lags behind that of other major neuropsychiatric disorders. Emerging data from controlled clinical trials, however, suggest that PG frequently responds to both pharmacological and psychosocial intervention.

The approaches reviewed in this article represent significant advances over the past several years—it is hoped that progress in the treatment of PG will continue to be made at this rate. More definitive treatment recommendations await the completion of additional large-scale controlled treatment studies and comparative investigations of trials of pharmacological agents. Advances in these areas hold the potential for significantly improving the lives of pathological gamblers and those directly or indirectly affected by their behavior.

References:


5. Afifi TO, Cox BJ, Saaren J. Gambling-related problems are chronic and persist for the majority of individuals with a lifetime diagnosis of pathological gambling. Am J Psychiatry. 2006;163:1297.


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