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ORIGINAL PAPER

Treatment Utilization of Pathological Gamblers with and without PTSD

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Abstract This paper represents the first study of treatment utilization among pathological gamblers with and without PTSD. Comorbidity of PG and PTSD is increasingly recognized as an important association, both in its rate and clinical severity. The sample comprised 106 adults from the community (35 with current PG; 36 with current PTSD, and 35 with BOTH). Four areas were addressed: current treatment utilization, lifetime treatment utilization, specific treatments utilized, and satisfaction with treatments. Results indicated that the presence of PTSD was associated with higher treatment utilization (for current utilization, PTSD was higher than PG; and for lifetime, PTSD and PTSD/PG were both higher than PG). Indeed, only a minority of the PG group had ever attended current or lifetime treatment, whereas the majority of PTSD and PTSD/PG had. Yet notably, those with PG who utilized current treatment had no less satisfaction, number of treatment types, nor number of days in treatment than the other two groups. For all three groups, the most common current treatments were individual therapy and psychiatric medications. Study strengths include a rigorously diagnosed sample; an extensive interview-based assessment of treatment utilization, and identification of both current and lifetime utilization. Limitations include the inability to explore change over time or test–retest reliability of responses.

Keywords PTSD · Pathological gambling · Problem gambling · Treatment utilization · Therapy

> "I have had a gambling problem for over 30 years. It has broken friendships and caused family problems. I tried a gambling organization before which was over the phone and one visit, but to no avail. It makes me sick thinking of all the money that has been lost. Money that could have gone to other more important things, that could have made my life easier and happier". Quotation from study participant.

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Studies of pathological gamblers (PG) indicate a low rate of treatment utilization. In the National Comorbidity Study Replication (Kessler et al. 2008), none who met criteria for problem or pathological gambling ever received treatment for these in their lifetime. In the National Epidemiological Survey on Alcohol and Related Conditions, only 10% with PG during their lives had accessed treatment for it; and in the Gambling Impact and Behavior Study, only 7% had (Suurvali et al. 2008). In an Ontario community study of over 4200 adults, only 18% of those who met criteria for problem gambling or PG had ever accessed treatment for it in their lifetime, including Gamblers Anonymous (Suurvali et al. 2008). Another study explored barriers to help-seeking in a study of 125 callers to a national gambling helpline (help seekers) compared to 102 non-help-seeking gamblers from the general population (Pulford et al. 2008). In both groups, pride, shame, and denial were the most common barriers, and both groups also endorsed multiple additional barriers (a mean of 7 in the help-seeking group and 12 in the non-help-seeking group). The limited help-seeking among those with PG is particularly poignant given that psychosocial treatments for it show favorable outcomes in both the short- and long-term (Leung and Cottler 2008; Pallesen et al. 2005). It is also a growing public health issue as gambling expands into more and more communities (Korn and Shaffer 1999). Untreated PG can have serious impact not only on gamblers, but also on their families and communities (Petry 2004).

This paper represents the first study of treatment utilization among pathological gamblers with and without PTSD. Comorbidity of PG and PTSD is increasingly recognized as an important association, both in its rate and clinical severity. For example, in the National Comorbidity Study Replication (Kessler et al. 2008), 14.8% of those with lifetime PG met criteria for lifetime PTSD. In a community-based study of over 1200 Native American and Hispanic veterans, a 17% lifetime rate of PTSD was found in those with lifetime PG (Westermeyer et al. 2005). A 17% PG rate was also found among veterans seeking treatment for PTSD (Biddle et al. 2005).

Various studies have identified basic characteristics of those with PTSD (or trauma) and PG. Overall, there is greater pathology and worse functioning among those with the comorbidity, compared to those with just one of these problem areas. This includes increased depressive, anxiety, and substance abuse symptoms, and a more avoidant personality style (Taber et al. 1987); earlier age of gambling onset and more severe gambling problems (Petry and Steinberg 2005); greater lifetime gambling severity, psychiatric symptom severity, impulsivity, and dissociation (Ledgerwood and Petry 2006); greater frequency of suicide attempts and drug and alcohol dependence, and more severe psychiatric distress (Kausch et al. 2006); and "an entrenched gambling culture" and self-reported desire to escape problems (Biddle et al. 2005).

Of particular salience from a public health perspective is that PTSD is known to be understudied, underdiagnosed, and undertreated relative to the more commonly diagnosed mood, anxiety and addictive disorders that so commonly co-occur with it and/or are misdiagnosed instead of it (Davidson 2001; Ouimette and Brown 2002). The reasons for this disparity are several: there are more psychopharmacologic treatments available for mood and anxiety disorders then for PTSD (and thus psychiatrists are more likely to focus on disorders other than PTSD), many addiction treatment professionals express the fear that if they diagnose PTSD they will have to treat it, which they are generally untrained to do; and treatment programs do not routinely assess for PTSD (Ouimette and Brown 2002). Nonetheless, PTSD is a prevalent disorder (7% lifetime rate in the general population; (Kessler et al. 2005), is typically chronic for many years, incurs high health care utilization and cost, and is associated with various life problems (including physical health disorders, homelessness, loss of custody of children, and numerous co-occurring Axis I and Axis II

disorders) (Ouimette and Brown 2002; Najavits et al. 1997). Although PG is less prevalent than PTSD (.6% lifetime PG rate in the general population, 2.3% for problem gambling); PG has been shown to predict the subsequent onset of posttraumatic stress disorder (Kessler et al. 2008).

The current report offers a profile of treatment utilization in a sample of 106 adults rigorously assessed for current DSMIV diagnoses: 35 with PG and PTSD, 35 with PG alone, and 36 with PTSD alone. Four areas are addressed: current treatment utilization; lifetime treatment utilization; specific treatments utilized; and satisfaction with treatments. Better understanding of what services are naturalistically received can potentially inform efforts to develop more outreach and treatment engagement strategies. Not only is this the first study of its kind, but by addressing a sample with current rather than just lifetime diagnoses, this project offers the most direct description of treatment utilization for each disorder alone and in combination.

Method

The sample consisted of 106 adults from Toronto and Boston: 36 with current PTSD (21 and 15 in the respective cities); 35 with current PG (24 and 11 respectively), and 35 with current PTSD and PG (15 and 20 respectively). Recruitment was conducted primarily in the community through local advertising, online postings, and fliers; also some recruitment occurred at local treatment centers. Inclusion criteria were current PTSD, PG, or both; and age 18 or older. Exclusion criteria were: current uncontrolled bipolar I disorder; current psychotic disorder; and/or inability to read or write. The inclusion/exclusion criteria were minimal to capture a broad sample.

An initial telephone screen included the two-item Lie/Bet problem gambling screen (Gotestam et al. 2004; Johnson et al. 1988) and four-item PTSD screen (Kimerling, et al. 2006). Following the phone screen, participants attended an in-person assessment that included the Diagnostic Interview for Gambling Severity-Revised (DIGS-R) (Winters et al. 2002) to diagnose PG, and the Mini-International Neuropsychiatric Interview (MINI; (Sheehan et al. 1998) to diagnose PTSD and the absence of the exclusionary diagnoses. Participants who met eligibility criteria completed a battery of measures addressing various areas related to PTSD/PG; other reports provide data beyond what is covered here. For the current study, sociodemographic characteristics were obtained from the Addiction Severity Index (McLellan et al. 1992) and treatment utilization data were obtained from the Treatment Summary Questionnaire for PG and PTSD (TSQ; (Najavits 2007). The TSQ is a 52-item interview that assesses participants' self-reported lifetime and current treatment histories, including frequency (number of treatment episodes for each type of treatment) and perceived helpfulness of current treatments (scaled −2, harmful to +2, helpful). For example, one set of items is: "Are you currently in individual psychotherapy?", "How many days have you seen your current therapist in the past 30 days?", "How helpful or harmful have you found this treatment?". This measure was based on an earlier version from a study of substance use disorder and PTSD (Najavits and Weiss 1996). All measures used for this report were conducted by trained interviewers (an advanced doctoral student in clinical psychology for Toronto and a licensed clinical social worker in Boston), supervised by the author based on audiotapes of the interviews. Participants were assessed only at one time (a cross-sectional study design), and they received up to $70 in cash or gift cards for full completion of the assessments. All ethical safeguards for informed consent and confidentiality of records were followed, and the study was IRB-approved for each

site. Data analysis consisted of descriptive statistics, one-way ANOVAs for continuous variables (with the least-significant-differences post hoc test) and chisquares for categorical variables (with pairwise chisquares for post hoc tests). We also evaluated site differences (Boston versus Toronto) via independent samples *t*-tests and chi squares. All results reported were significant at .05 or below unless noted otherwise.

Results

Participant Characteristics

Among the 106 participants, most were female ($n = 63$, 59.4%), and the average age was 43 (sd = 14.06). Most were never married ($n = 46$; 43.4%); equal numbers were married and divorced (each $n = 18$; 17%); and the rest were living with someone ($n = 11$, 10.4%); separated ($n = 8$, 7.5%), or widowed ($n = 5$, 4.7%). Most had no children ($n = 56$, 52.8% without children; $n = 50$, 47.2% with children). In education level, most had some college ($n = 60$, 56.6% either graduated or had attended college); the rest were equally divided between some graduate/professional school and those with high school or less (each $n = 23$, 21.7%). Median annual income was $10,000-$25,000. By race/ethnicity, most of the sample was Caucasian ($n = 73$, 68.9%), then Black ($n = 14$, 13.2%), Asian ($n = 9$, 8.5%), Hispanic ($n = 6$, 5.7%), and more than one ($n = 4$, 3.8%).

Comparison of the three groups (PTSD, PG, BOTH) revealed no differences on age, marital status, education level, or income. However, on gender, PTSD was higher than PG ($n = 27$ versus $n = 15$; chi square = 7.59, $P < .01$, df = 1). On race/ethnicity, PTSD was more likely to be Caucasian than minority compared to PG ($n = 33$ Caucasian versus $n = 20$, chi square = 11.18, df = 1, $P = .001$) and also compared to BOTH ($n = 33$ Caucasian versus $n = 20$, chi square = 11.18, df = 1, $P = .001$). On number of children, there was a trend for BOTH to have more children (M = 1.31, SD = 1.34) than PTSD (M = .78, SD = 1.22) or PG (M = .66, SD = .91) (F = 3.04, df = 2, 103, $P = .052$). In an analysis of demographics by site (Toronto versus Boston), no differences were found on marital status, number of children, income, education level, race/ethnicity, gender, age, or family history of gambling problems or SUD.

Current Treatment Utilization

See Table 1. The PG group had significantly lower current treatment utilization than the PTSD group. Moreover, it is striking that only about one-third of the PG group was in current treatment, whereas over half of the PG/PTSD and PTSD groups were. The PG group also had significantly lower use of individual therapy than both of the other two groups. Yet part II of the table indicates that those in the PG group who utilize treatment have no less satisfaction, number of treatment types, nor number of days in treatment than the other two groups. This suggests that those in PG who engage in treatment have comparable characteristics to the other groups once they engage in treatment—but that most in the PG group are not willing or able to engage in treatment to begin with. The fact that the PG group did not have lower satisfaction with treatments (the rating of helpfulness/harmfulness of treatments in part II of the table) is especially important in indicating that it is not dissatisfaction with treatment that results in their lower attendance. However, the relatively small sample size on the satisfaction rating ($n = 51$) may mean that the lack of difference between groups represents limited statistical power. Table 1 also reveals that the

Table 1 Current treatment utilization

Part I: Number and percent utilizing treatments[1,2]	PG		PTSD		BOTH		Chi square
	n	%	*n*	%	*n*	%	
In any current treatment[3]	13[a]	37.1	25[a]	69.4	18	51.4	7.47*
Individual therapy	4[a,b]	11.4	16[a]	44.4	14[b]	40.0	10.39**
Group therapy, professionally-led	4	11.4	4	11.1	5	14.3	.2
Gambling counselor	3	8.6	0	0	2	5.9	3.01
Substance abuse counselor (not therapist or sponsor)	0	0	2	5.6	0	0	3.91
Day treatment[4]	0	0	1	2.8	0	0	1.96
Residential program, shelter or halfway house	4	11.4	1	2.8	1	2.9	3.18
Inpatient for psychiatric or substance problems[4]	1	2.9	0	0	0	0	2.05
Psychiatric medication[4]	9	25.7	15	41.7	13	37.1	2.10
Marital or family therapy	0	0	3	8.8	3	8.3	3.19
Other treatment	2	5.7	3	8.3	2	6.7	

Part II: Helpfulness and amount of treatment	Mean	SD	Mean	SD	Mean	SD	*F*
How helpful or harmful current psychosocial treatments are (of 9 treatment types)[5] ($n = 51$)	1.58	.67	1.57	.65	1.23	.92	1.15
Number of current treatment types (of 10 treatment types)[3] ($n = 106$)	1.66	1.06	2.08	1.13	2.00	1.26	1.36
Number of days in past 30 attended treatment (of 6 treatment types) ($n = 44$)	2.17	1.54	2.92	1.94	3.12	1.49	.91

[1] Superscripts denote pairs that are significantly different; [a] refers to PG versus PTSD; [b] is PG versus BOTH; [c] is PTSD versus BOTH

[2] * $p < .05$; ** $p < .01$

[3] Of the 10 types of current treatment listed in part 1 of the table

[4] Current defined as "past 30 days"

[5] Ratings were −2 = very harmful, −1 = slightly harmful, 0 = neutral, 1 = slightly helpful, 2 = very helpful. Rated only by those in the treatments (part 1 of the table, except for psychiatric medication)

most common types of treatments for all three groups are individual therapy and psychiatric medications. Very low use (less than 15% of each of the three groups) was found for all other types: professional group therapy, gambling counseling, substance abuse counseling, day treatment, residential treatment, inpatient treatment, marital or family treatment, and "other." The latter included coaching, energy therapy, acupuncture, self-help (each $n = 1$). Of particular note, there were two treatment types that not a single PG nor PG/PTSD participant were engaged in: substance abuse counseling and day treatment. Finally, it is also worth observing that the PG/PTSD group did not have significantly higher treatment utilization on any variable; this is surprising considering that they have two major current diagnoses and might be expected to engage in more treatment.

Lifetime Treatment Utilization

See Table 2. Results overall indicate significantly lower lifetime treatment utilization by the PG group compared to the other two (on any lifetime treatment, individual therapy, and number of lifetime treatments). The only exception was gambling counseling, on which both PG and PG/PTSD groups were higher than PTSD; however, this is not meaningful as the PTSD sample by definition did not include people with diagnosable gambling problems. Other lifetime utilization patterns mirror those of current treatment utilization described above: the PG/PTSD group was not significantly higher on any variables than the single-diagnosis groups; the most common treatment was individual therapy; and the PG group had low utilization of any lifetime treatment (only 46% of the sample had used any type). Note, however, that three treatment types were not assessed for lifetime utilization: medication, couples or family treatment, and "other" and thus the overall lifetime utilization rates are likely lower than if these had been included. Also, group therapy was more commonly used lifetime than current.

Discussion

This is the first empirical study of treatment utilization among pathological gamblers with and without comorbid PTSD. Study strengths include a rigorously diagnosed sample, all with current PG and/or PTSD; an extensive interview-based assessment of treatment utilization, and exploration of both current and lifetime utilization patterns.

The overall pattern, both current and lifetime, was the PTSD sample had the highest treatment utilization, followed by PTSD/PG, with PG the lowest. Indeed, the PG sample had significantly lower treatment utilization than PTSD (current and lifetime) and PTSD/PG (lifetime). It might have been expected that the comorbid group would utilize treatment more than the other two groups as they had two current diagnosed disorders rather than one. Yet it seems that having PTSD is associated with substantial treatment utilization, whether or not it is comorbid with PG—i.e., the PTSD "drives" the treatment engagement. Indeed, it is striking that only a minority of those with PG had used any treatment, lifetime or current, whereas the majority of the other two groups utilized both lifetime and current treatment.As to why the PTSD/PG group was lower on some variables than PTSD, we could similarly speculate that the presence of PG reflects some level of escapism or self-medication such that these patients are less motivated to seek treatment than those with PTSD alone.

Also clear, however, is that those with PG who had engaged in treatment did not have any lower satisfaction or attendance at it. This suggests that there need to be stronger

Table 2 Lifetime treatment utilization

Part I: Number and percent utilizing treatments[1,2]	PG		PTSD		BOTH		Chi square
	n	%	*n*	%	*n*	%	
In any lifetime treatment[3]	16[a,b]	45.7	34[a,c]	94.4	27[b,c]	77.1	21.74***
Individual therapy	11[a,b]	31.4	31[a,c]	86.1	22[b,c]	62.9	22.32***
Group therapy, professionally-led	11	31.4	16	44.4	16	47.1	2.02
Gambling counselor	9[a]	25.7	0[a,c]	0	4[c]	11.8	10.81**
Substance abuse counselor (not therapist or sponsor)	2	5.7	7	19.4	3	8.8	3.62
Day treatment	3[a]	8.6	11[a]	30.6	6	17.1	5.70[†]
Residential program, shelter or halfway house	4	11.4	11	30.6	9	26.5	4.05
Inpatient for psychiatric or substance problems	7	20.0	11	30.6	10	29.4	1.21

Part 2: Amount of treatment	Mean	SD	Mean	SD	Mean	SD	*F*
Number of lifetime treatments (of 7 treatment types)[1] ($n = 106$)	1.03[a,b]	1.36	2.22[a]	1.49	1.80[b]	1.57	5.94**
Number of different therapists seen on a regular basis in lifetime ($n = 65$)	2.55	1.57	5.74	8.98	3.39	2.46	1.41

[1] Superscripts denote pairs that are significantly different; [a] refers to PG versus PTSD; [b] is PG versus BOTH; [c] is PTSD versus BOTH

[2] [†] $p < .10$; ** $p < .01$; *** $p < .001$

[3] Of 7 of the types of lifetime treatment listed in part 1 of table (individual therapy, day treatment, group therapy, residential, substance abuse counseling, gambling counseling, inpatient psychiatric/substance abuse)

outreach efforts to help those with PG make the initial entry into treatment; and/or to help better identify subgroups of those with PG (characteristics of those who engage versus those who do not). Either way, adapting PG treatments to the realities of their low engagement in treatment is a necessity. Every study thus far has found low treatment utilization by those with PG for their gambling problems (Suurvali et al. 2008; Kessler et al. 2008; Pulford et al. 2008). (Note that our result of a 45.7% rate of liftime utilization was for *any treatment,* not just treatment for PG, and is comparable to the 49% rate found in Kessler et al. 2008, for any lifetime treatment of substance abuse/mental health problems.) Creative solutions to low treatment attendance for gambling problems might include treatments offered at gambling locations such as casinos; conducting "classes" rather than formal treatments per se; web- and other technology-based approaches; and getting input from gamblers themselves on what might help them engage in treatment more. Greater exposure to different types of treatment types might also be helpful, as this study found relatively high rates for some modalities (e.g., individual therapy) but relatively low rates for others (e.g., couples or family therapy, day treatment).

With regard to the comorbidity of PG/PTSD, it might be surmised that PTSD generally causes significant distress to those it affects and is less subject to denial; in contrast, PG may feel reinforcing at times (when winning) and may persist for years before distress and decreased denial set in. For those who have both PG and PTSD, identifying treatments that are helpful to address both issues and how they are linked may be important. This has been quite well developed in the substance use disorder/PTSD comorbidity area (Najavits et al. 2008), which may serve as a guide for the development of PG/PTSD treatments. We know of no treatment studies thus far on this comorbidity, and thus this is an important area for future research.

Despite the strengths of this project, there were also several limitations. This study was limited to one timepoint and thus did not allow exploration of change over time or test–retest reliability of responses. It also focused solely on current diagnoses; lifetime diagnoses might also be interesting to assess in a future study. The study interview asked for modalities of treatment, but did not assess for specific subtypes within those (theoretical orientation of the therapies, whether the treatment was evidence-based or not, the type of clinician who provided it, etc.). The study relied on participants' self-report of their treatment utilization rather than on actual treatment-program data, and thus is subject to all of the inherent limitations of self-report. Finally, the sample was recruited from various sources, including local treatment programs and postings on the Internet, and thus may not be fully representative nor comparable to purely community-based studies. In future research, it may be useful to better understand how results differ depending on context. For example, those in treatment may differ from those not in treatment in various ways; yet we did not have the statistical power to explore this. Other subsample questions also could not be explored (e.g., differences within group by gender, type of trauma, type of gambling problem, age, ethnicity/race, and other factors that would have required larger samples). Future research would also need to address the efficacy of treatments in relation to their utilization. Nonetheless, this project represents a first foray into an area of direct clinical importance: how people with PG, PTSD, or both utilize treatments over their lifetime and in the present. Both disorders are treatable, especially if care arrives early and uses evidence-based models (Leung and Cottler 2008; Pallesen et al. 2005). It thus appears that there is a long way to go to better understand how to engage these clients in treatment (especially those with PG), how to provide high quality treatment, and how to reduce the public health impact and personal suffering associated with the disorders. This is important when considering that both PG and PTSD are known to persist chronically for years and

decades, especially in the absence of effective treatment (Ouimette and Brown 2002; Petry 2004).

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