REVIEW

PATHOLOGICAL GAMBLING IN WOMEN: A REVIEW

Silvia Saboia Martins, Daniela S. S. Lobo, Hermano Tavares and Valentim Gentil

Pathological gambling was only recently recognized as a psychiatric disorder (DSM-III, APA, 1980). Most studies of pathological gambling include only male subjects. Despite the paucity of information, it is likely that at least one-third of pathological gamblers are women. The objective of this article is to review clinical and epidemiological characteristics of female gamblers as compared to their male counterparts. MEDLINE and PsycINFO were searched for investigational studies and reviews of the past 10 years on clinical (sociodemographic, course and progression, psychiatric comorbidities, genetics, and personality) and epidemiological aspects of female gamblers. Other relevant articles were also selected from reference lists. It is concluded that the current literature indicates some common characteristics in female and male gamblers, but it also indicates the possibility that each gender may carry etiopathogenic differences that when better understood should lead to improved treatment and prevention strategies.

members and verified that 29 (58%) had already sought help from a mental health professional. Of these, 17 (34%) did not mention that they were gamblers, 8 (16%) were considered to have a minor gambling problem, and only 4 (8%) were sent by their therapists to G.A.

METHODS

MEDLINE and PsycINFO were searched for PG studies and reviews of the past 10 years with special emphasis on clinical (sociodemographic, course and progression, psychiatric comorbidities, genetics, and personality) and epidemiological aspects of female gamblers. Other relevant articles published previously, were also selected from reference lists.

EPIDEMIOLOGY

Most PG studies are conducted with male subjects, despite the fact that one-third of PG are women. Lesieur showed that only 2% of New Jersey’s G.A. members were women, and only 14% of the calls to “800 - Gambler” were done by female gamblers. Volberg and Steadman verified that only 7% of gamblers in PG treatment programs in New York (USA) were women. A clinical sample in our country found a male-female ratio of 4:1, which reinforces the hypothesis that this problem appears later in women than in men.

SOCIO-DEMOGRAPHIC CHARACTERISTICS

In the few studies about female gamblers, noteworthy is the description by Strachan and Caster of 52 female gamblers of the Las Vegas G.A. in 1989. They identified the typical gambler as Caucasian (83%), 30-49 years-old (76%), married (67%), with children (75%), with a high school education (74%), and a video poker player (90%). Problems related to gambling were suicide attempts (23%), alcoholism (10%), illicit drug addiction (23%), and licit drug addiction (15%). The authors reported that 10% of the women engaged in prostitution solely to obtain money to gamble. No comparison with male gamblers was done.

Tavares et al. described 39 female gamblers and obtained similar results, except for marital status (the majority of women, 59%, were single), and a preference for bingo (54%). In this study, there were no significant sociodemographic differences between male and female subjects.

PSYCHIATRIC COMORBIDITY

Male gamblers have high lifetime comorbidity with affective disorders (21% to 60%) and with drug addiction (25% to 65%). Mark and Lesieur suggest that these comorbidities may also occur in women. Some authors state that women gamble more frequently as a means to escape from problems or alleviate dysphoria.

GENETICS

A genetic inheritance mode for drug addicts and PG has not yet been established. Eisen et al. analyzed 3359 twin pairs and concluded that familial factors (both genetic and environmental) explained 56% to 62% of the occurrence of PG, with significant evidence of PG familial aggregation. Mono (MZ) and dizygotic (DZ) PG twins had a lifetime prevalence of 22.6% and 9.8%, respectively, which are significantly higher than the prevalence in the general population.
Some authors suggest that gamblers become addicted to an euphoric sensation, similar to that elicited by drugs\(^5\). Therefore, the concept of PG is being changed towards that of an addiction similar to alcohol and drug addiction\(^{46-50}\). Corroborating this is the fact that gamblers have high rates of comorbidity with alcohol and drug addiction. For instance, 19\% to 50\% of gamblers in clinical samples had a previous history of either alcohol abuse or drug addiction\(^{44,45}\).

Slutske et al.\(^{51}\) investigated the familial aggregation of PG and alcohol dependence (AD) to examine how much rates of AD were increased among MZ and DZ PG twins. A comparison of co-aggregation patterns among PG and AD revealed whether there was a common genetic and environmental vulnerability between PG and AD. Even though there were no significant differences between rates of AD among gamblers’ siblings, MZ presented higher AD rates compared to DZ, which suggests that genetic factors may explain familial co-aggregation. The authors verified that AD risk contributes for significant share of genetic vulnerability for PG and AD, as well as a specific genetic vulnerability for PG.

Unfortunately, all studies above had only male subjects; therefore, these findings may not apply to female gamblers. Perez de Castro et al.\(^{52}\) found a more significant genetic association of PG and the DRD4 gene in female gamblers. Comings\(^{53}\) found an association of PG and allele D2A1 of the DRD2 gene that was correlated with gambling severity. Regarding gender, there was a very significant difference in the presence of D2A1, despite the small female sample (\(n = 17\)): 83.3\% of the non-depressed female gamblers had the allele, against only 9.1\% of depressed female gamblers. Therefore, it is possible that non-depressed women gambled in search of risk and excitement, thus illustrating the importance of “reasons to gamble” in the molecular biology of PG\(^{55}\). According to Comings\(^{53}\), DRD1, DRD2, and DRD4 genes were also associated with PG, but here no gender difference was investigated.

Ibañez et al.\(^{54}\) analyzed MAO-A and MAO-B gene polymorphisms among 47 male and 21 female PG, compared to normal controls, and found a possible association between allele B of MAO-A in male gamblers, which was not confirmed for female gamblers.

PERSONALITY

Few studies analyze the impact of gender on personality characteristics of individuals with the diagnosis of substance abuse or addiction\(^{55,56}\). According to Mark and Lesieur\(^{20}\), all studies about gamblers’ personality characteristics were performed in predominantly male subjects.

Roy et al.\(^{57}\) compared 19 male gamblers to normal controls and found higher neuroticism and psychoticism in gamblers compared to normal controls, and differences regarding “Reward Dependence” factor. These data suggest a common genetic vulnerability for PG and AD, as well as a specific genetic vulnerability for PG.

From the epidemiologic data, we observed that the occurrence of PG in women is higher than the previously supposed. However, a minority of female gamblers seeks G.A. groups and treatment programs\(^{20,25}\). There are no prevalence studies of PG in Brazil, which limits the interpretation of data.

Only recently has gambling become more accessible in Brazil, especially after the legalization of commercial bingo. Culturally, amateur bingo is seen as a means of raising funds for charity. It is possible that this fact may have favored the acceptability of commercial bingo, and therefore, females have more access to gambling activities.

Countries have different legalized gambling venues. There is also evidence that genders differ in relation to the type of game preference\(^{69}\) and attitudes towards gambling\(^{30}\). However, these studies were not performed in PG subjects. Therefore, as Mark and Lesieur\(^{20}\) state, gender susceptibility to PG in relation to cultural aspects and different types of gambling, remains a promising and still unexplored research field.

Regarding sociodemographic characteristics, one important limitation found in the few studies about female men. Studies in normal populations in Japan also obtained the same results\(^{69,66}\). Meszaros et al.\(^{63}\) found the “Harm Avoidance” factor (Cloninger’s model\(^{62-64}\)) higher in female alcoholics compared to males. Pomerleau et al.\(^{68}\) found the same in nicotine addicts. In contrast to the studies with normal volunteers, there were no gender differences regarding “Reward Dependence” factor. There still have not been studies published that investigate gender personality differences in PG, which deserves to be studied.

DISCUSSION

From the epidemiologic data, we observed that the occurrence of PG in women is higher than the previously supposed. However, a minority of female gamblers seeks G.A. groups and treatment programs\(^{20,25}\). There are no prevalence studies of PG in Brazil, which limits the interpretation of data.

Only recently has gambling become more accessible in Brazil, especially after the legalization of commercial bingo. Culturally, amateur bingo is seen as a means of raising funds for charity. It is possible that this fact may have favored the acceptability of commercial bingo, and therefore, females have more access to gambling activities.

Countries have different legalized gambling venues. There is also evidence that genders differ in relation to the type of game preference\(^{69}\) and attitudes towards gambling\(^{30}\). However, these studies were not performed in PG subjects. Therefore, as Mark and Lesieur\(^{20}\) state, gender susceptibility to PG in relation to cultural aspects and different types of gambling, remains a promising and still unexplored research field.

Regarding sociodemographic characteristics, one important limitation found in the few studies about female
gamblers is that they were performed in clinical populations\textsuperscript{11,30}. Since few female gamblers reach treatment settings, it is possible that the majority of them, who are not being treated, have not been adequately studied. According to Mark and Lesieur\textsuperscript{20}, PG studies have not discussed the gender of study subjects or reported and investigated gender-specific results, and most of them were performed in gambling venues frequented predominantly by male gamblers.

It is known that females start gambling later than men\textsuperscript{20}. However, because of T.E., they reach treatment at the same age as men\textsuperscript{11}. Since T.E. is a phenomena common to alcohol and drug addiction as well as PG, studies that explore the physiopathology of these conditions could clarify the biologic (genetic and/or hormonal) and sociocultural factors that contribute to this accelerated course in women. Another implication of this finding is that the time for intervention before progression to advanced stages of PG is reduced in females, reinforcing the importance of the development of specific strategies of prevention and treatment for this population\textsuperscript{45}.

As yet, there have been no comorbidity psychiatric studies specifically about female gamblers. Study subjects were male-only or predominantly male\textsuperscript{43,44}. Future research must investigate the occurrence of psychiatric comorbidity in female gamblers and compare it with male gamblers. Accordingly, it should not be forgotten that depressive and anxious disorders are more prevalent in females in the general population\textsuperscript{71}. Regarding genetic aspects, the study that investigated familial occurrence of PG\textsuperscript{46} found significant evidence of PG heritability (environmental and genetic). Another important factor, seen in the study of Slutske et al.\textsuperscript{51} is that as in alcohol addiction\textsuperscript{72}, PG presents a specific heritability that is common to alcoholism. This data strengthens the proposal for studying PG as an addiction. Though there are still only 2 genetic studies with female gamblers\textsuperscript{52,54}, both with small sample sizes, Ibañez et al.\textsuperscript{54} suggest that the association between allele B of MAOA and PG may be gender-specific, which could imply an etiopathogenic difference between male and female gamblers.

There are no studies comparing personality aspects of male and female gamblers. Though the relationship of gender, PG, substance addiction, and personality may be promising, it is necessary to emphasize that the few studies that explored this field failed to control 2 important areas of bias: variations in sociodemographic background, and prevalence of depressive symptoms\textsuperscript{45,55,57,67,68}. Mendlowicz et al.\textsuperscript{61} analyzed normal volunteers and found that occupational status influences “Reward Dependence” and “Cooperativeness”. It is also well established that depressive disorders are more prevalent in females\textsuperscript{71} and that the “Harm Avoidance” factor is influenced by depression, which transiently overemphasizes this factor\textsuperscript{73}. Since personality aspects play an important role in PG\textsuperscript{11}, it is necessary to study them in female gamblers.

CONCLUSION

Gender studies are clearly more numerous in substance addictions than in PG. Similarities between these disorders suggest that a better understanding of the relationship between PG and gender is promising. The few studies found in this area indicate that gambling impacts genders in different ways. Gender may carry factors that determine distinct etiopathogenic mechanisms. Although they share the same symptoms, a better understanding of the differences between male and female gamblers may help in developing more efficient strategies of prevention and treatment of PG.

ACKNOWLEDGMENT

The authors thank Dr. Mônica L. Zilberman for her contribution in text review.

This study was partially supported by FAPESP (The State of São Paulo Research Funding Agency, process 00/14215-9).

RESUMO


Ainda que jogos de azar e os problemas a eles relacionados sejam antigos para a humanidade, o Jogo Patológico, como alteração do comportamento humano, somente passou a ser reconhecido oficialmente como transtorno psiquiátrico a partir de sua inclusão na 3\textsuperscript{a} Edição do Manual Diagnóstico...
tico e Estatístico de Transtornos Mentais (APA, 1980). A maioria dos estudos sobre jogadores patológicos tem como base uma população eminentemente masculina. Entretanto, estima-se que pelo menos um terço dos indivíduos que recebem este diagnóstico sejam mulheres. O objetivo deste estudo foi revisar características clínicas e epidemiológicas de jogadoras comparadas a jogadores. As bases de dados MEDLINE e PsycINFO foram consultadas a respeito de estudos sobre Jogo Patológico publicados nos últimos dez anos, com especial enfoque para características clínicas (dados sócio-demográficos, curso e evolução, comorbidade psiquiátrica, genética e personalidade) e epidemiologia. Artigos relevantes publicados anteriormente ao período escolhido de revisão foram selecionados a partir da lista original de referências. Os autores concluem que a literatura atual indica que jogadoras e jogadores apresentam semelhanças, mas carreiam possíveis diferenças etiopatogênicas cujo esclarecimento deverá aprimorar as estratégias de tratamento e prevenção.


REFERENCES


15. SHAFFER HJ - The most important unresolved issues in addictions: conceptual chaos. Subst Use and Misuse, 1997; 32 (11), 1573-1580.


SEPTEMBER-OCTOBER

37. QUINBY PM & GRAHAM AV - Substance abuse among women. Prim Care, 1993; 20: 131-140.


63. CLONINGER CR, PRZYBECK TR & SVRACKIC DM et al. - The temperament and character inventory (TCI). A guide to its development and use- St Louis, MO. Washington University, Center for Psychobiology of Personality, 1994.


71. REGIER DA, MYERS JK, KRAMER M et al. - The NIMH epidemiological catchment area program: historical context, major objectives, and study population characteristics. *Arch Gen Psychiatry* 1984; 45: 934-941.


Received for publication on August 13, 2001.