Clin Schizophr Relat Psychoses
Volume 15: S8, 2021
Doi:10.3371/CSRP.CSSA.122321

Clinical Schizophrenia & Related Psychoses

Case Report

Hybrid Open Access

Schizophrenia and Pathological Gambling: Case Report and Literature Review

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Abstract

Background: Pathological Gambling translates into a persistent and recurrent maladaptive gambling behaviour that compromises negatively the personal, family, social and work domains of the individual.

Case: Report of a 37-year-old male patient diagnosed with Schizophrenia since the age of 25. The patient started to exhibit Pathological Gambling behaviour at 35 years old. After a pharmacological adjustment, replacing Paliperidone 100 mg IM (Intramuscular) monthly for Paliperidone 350 mg IM trimestral, the subject demonstrated a reduction in the afflicting gambling behaviours.

Discussion: This case aims to promote and support new research between possible links and factors that may be involved in the comorbidity of Schizophrenia and Pathological Gambling. Preventive and therapeutic intervention can play a significant role to improve the overall functioning of this group of patients.

Keywords: Pathological gambling • Schizophrenia • Therapeutic intervention • Addiction • Substance abuse

Introduction

Pathological Gambling translates into a persistent and recurrent maladaptive gambling behaviour that compromises negatively the personal, family, social and work domains of the individual.

Therefore, this is a disorder that has several negative consequences and it is associated with high suicide rates.

Epidemiological studies carried out until now suggest that the majority of individuals who develop Pathological Gambling are male, with lower academic background and from an unfavorable socioeconomic level.

Pathological Gambling is a disorder often comorbid with other psychiatric conditions [1]. Dowling, et al. through a systematic review and meta-analysis, concluded that up to 75% of individuals with Pathological Gambling may have a Comorbid Axis I Disorder [2]. The most frequently reported psychiatric disorders were Mood Disorders (23%); Alcohol Use Disorder (21%); Anxiety Disorders (18%) and other Substance Use Disorders (7%).

There are studies in the literature that also suggest the concomitant presence of Schizophrenia and Pathological Gambling.

In this article, we present a clinical case of an individual diagnosed with Schizophrenia who later started to develop behaviours congruous with Pathological Gambling. Moreover, we reviewed the clinical cases reported in the literature describing this comorbidity.

Clinical Case

A male patient is followed in the psychiatry consultation since the age of 25, with an established diagnosis of Schizophrenia and a history of cannabinoid use.

At the age of 30 he was hospitalized due to a psychotic acute episode, characterized by persecutory and body dysmorphic delusions and auditory hallucinatory activity in the form of voices that refer to the patient in the third person. The last known psychotic decompensation occurred when the patient was 33 years old, after he abandoned the pharmacological therapy. In this episode, the patient presented again delusional ideation of persecutory content. After three months, he resumed the prescribed medication with Paliperidone 100 mg IM monthly, with complete remission of the delusional ideation.

Nevertheless, the patient, at the time with 35 years old, began exhibiting behaviours compatible with Pathological Gambling.

The pharmacological therapeutic was adjusted, with the Paliperidone 100 mg IM monthly replaced by Paliperidone 350 IM quarterly, as a matter of convenience for the patient. Given the persistence of pathological gambling behaviors, a cognitive behavioral therapy intervention was initiated.

After 8 months, the patient showed complete remission of this type of maladaptive behavior and a significant improvement in his daily functioning.

Schizophrenia and pathological gambling

Other clinical cases in the literature report the existence of this comorbidity. In 2001, a clinical case described a 31-year-old female patient, divorced, diagnosed with Schizophrenia and Pathological Gambling. At the age of 19, she had her first psychotic break, characterized by delusional, paranoid ideation and disorganized thinking. At that time, she was hospitalized and medicated with haloperidol (5 mg/day to10 mg/day). Her parents were casino goers and participated in poker games. The first time the patient gambled was with her mother at the age of 8. Four months after having her first child, the patient is hospitalized again for psychotic decompensation. She had suspended the medication due to a lack of money to buy it, stopped paying the house's rent and providing the necessary care for her

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Received date: December 02, 2021; **Accepted date:** December 16, 2021; **Published date:** December 23, 2021

son. She was discharged from the hospital, medicated with olanzapine (10 mg/day). Since then, she remained psychopathologically stabilized and without gambling. When asked about the reasons for gambling, the patient referred a sensation of pleasure and excitement while playing alongside a decrease in the levels of anxiety. Another case report of this comorbidity focus on a 40 years old female patient diagnosed with Schizophrenia since she was 25 years old. At the age of 37, the patient is diagnosed with Pathological Gambling. The increasing number of debts associated with marked distress, functional impairment and the medication incompliancy led to several psychotic decompensations with subsequent hospitalizations. The patient did not have a family history of pathological gambling. As factors that perpetuate the behaviours related to the gambling, the patient evoked relief from the anxiety, the feelings of pleasure and excitement that the gambling provided. After beginning the medication, clozapine 200 mg/day and Cognitive-Behavioral Therapy sessions, it was possible to stabilize the patient, thus allowing her to identify the wrong cognitions along with the expectations associated with the gambling.

In 2009, Desai and Potenza gathered a sample consisting of 337 patients diagnosed with Schizophrenia or Schizoaffective Disorder to assess the prevalence of gambling-related disorders in these patients and the associated characteristics [3]. 10% of the participants fulfilled the criteria for the diagnosis of Pathological Gambling. Also, the authors concluded that patients diagnosed with Pathological Gambling were those who had the highest use of mental health services in the last month, as well as those who obtained the highest amount of points in the applied scores related to alcohol consumption (ASI) and the depressive symptoms presented (CES-D). In this context, the authors stressed the need to develop prevention and treatment strategies for pathological gambling in individuals with psychotic disorders.

In 2018, Desai and Potenza used the same sample to study the distribution of different variables across four groups (non-players, infrequent players, frequent players and pathological players): sociodemographic variables, characteristics of gambling behaviours (age at the start of gambling, favourite game, reasons for playing, etcetera.), family history of behaviours related to the gambling, social interactions, score obtained on the PANSS (Positive and Negative Syndrome Scale) and the ASI (Addiction Severity Index). It was observed the existence of an inverse correlation between the age of onset of behaviours related to the game and their current frequency. Thus, frequent and pathological players started activities that involved gambling earlier than infrequent players or non-players. Individuals who met the criteria for Pathological Gambling preferred games that involved sports betting. In this group, the reason most often cited for playing was the fact that gambling translates into a challenging activity and a means for socializing with family and friends. A positive association was found between individuals with gambling-related behaviours and family history of gambling problems. No association was found between the PANSS score and the severity/frequency of the gambling behaviours and no linkage was observed between the level of social interaction and the different groups. However, about the resulting ASI score for alcohol and other toxics, there was a linear correlation between the increase in values obtained and the severity/frequency of gambling behaviours.

Aragay, et al. compared the prevalence of gambling-related disorders in different psychiatric disorders [4]. The authors concluded that in patients with psychotic disorders, there was a significantly higher prevalence of gambling-related problem than in other psychiatric conditions, including mood and anxiety disorders. In 2015, Haydock, Cowlishaw, Harvey and Castle conducted in Australia conducted a study that focused on the correlation between Psychosis and Pathological Gambling [5]. In a sample of 442 participants diagnosed with Psychotic Disorders, 4% were classified as low-risk players, 6% as moderate risk players and, 6% met the criteria for pathological players. The risk factors identified for problems related to gambling were: male gender, low educational and socioeconomic level and history of school dropout. There was a significant association between Pathological Gambling and Substance Use Disorders, including Alcohol Use and Cannabis Use Disorders. Finally, these authors also concluded that individuals with Psychotic Disorders are four times more likely to develop gambling-related disorders than the general population.

In the scope of psychotherapies, there are some studies carried out in patients with Schizophrenia and Pathological Gambling that have shown the benefit of Cognitive-Behavioral Therapy in reducing maladaptive behaviours related to gambling [6]. In 2010, a study gathered a sample consisting of 44 patients diagnosed with Schizophrenia and Pathological Gambling and who were undergoing pharmacological treatment in the various Mental Health Centers in Barcelona between 2000 and 2005. The ages of the patients ranged from 18 to 65 years old. The performance of Cognitive-Behavioral Therapy revealed statistically significant results in decreasing the frequency of pathological gambling behaviours.

A clinical case of a female patient, 32 years of age, with a diagnosis of Schizophrenia and Pathological Gambling was published in 2014. After her first psychotic episode, the patient stopped the prescribed pharmacological medication. The justification provided by the patient for the origin of the behaviours related to gambling in a maladjusted and persistent stemmed from the relief of the anguish caused by the positive symptoms resultant from psychotic episodes. The patient was integrated into a meditation training program and a Cognitive- Behavioral Therapy, with a reduction in the maladaptive gambling behaviours and an overall improvement in her functioning [7].

Thus, in the majority of cases with this comorbidity reported in the literature, the main reasons cited by patients to explain gambling behaviours were: seeking to relieve the feeling of anguish caused by positive symptoms, trying to reduce anxiety levels, pleasure felt while gambling and the need to feel active and integrated with the society [8,9] (Table 1).

Table 1. Summary of the clinical cases reporting the comorbidity of schizophrenia and pathological gambling.

Article	Year	Patient	Factors	Outcome
Schizophrenia and Pathological Gambling	2001	Female, 31 years old. Schizophrenia, 19 years old. Pathological gambling, 25 years old	Relief from the anxiety Pleasure and excitement	Pharmacological Therapy - Oral Olanzapine (10 mg at night) - End of maladaptive behaviours related to the gambling
Schizophrenia and Pathological Gambling	2007	Female, 40 years old. Schizophrenia, 25 years old. Pathological gambling, 37 years old	Relief from the anxiety Pleasure and excitement	Pharmacological Therapy - Clozapine (200 mg/day) and CBT - reduction and control of maladaptive behaviours related to gambling

A Cross Sectional Study of Problem and Pathological Gambling in Patients with Schizophrenia/Schizoaffective Disorder	2009	65 patients with Diagnosis of Schizophrenia / Schizoaffective Disorder and Pathological Gambling	Pleasure	-
Cognitive-Behavioural Treatment of Pathological Gambling in Individuals with Chronic Schizophrenia: A Pilot Study	2011	44 patients. Diagnosis of Schizophrenia and Pathological Gambling. Average age: 38 years	-	CBT proved to be effective in reducing maladaptive behaviours related to gambling
Pathological Gambling in a Psychiatric Sample. Comprehensive Psychiatry	2012	100 patients	-	-
Cognitive Behavioral Therapy (CBT) and Meditation Awareness Training (MAT) for the Treatment of Cooccurring Schizophrenia and Pathological Gambling: A Case Study	2014	Female, 32 years old. Schizophrenia, 30 years old. Pathological gambling, 31 years old	Relief of distress caused by positive symptoms	CBT and meditation training → reduction of maladaptive behaviours related to gambling
A Qualitative Analysis of the Effects of a Comorbid Disordered Gambling Diagnosis with Schizophrenia	2015	6 patients. Diagnosis of Schizophrenia and Pathological Gambling. Average age: 46 years	Feeling of pleasure; need to feel active, functional and integrated into society	-
Correlates of Frequent Gambling and Gamblingrelated Chasing Behaviours in Individuals with Schizophrenia-Spectrum Disorders	2018	337 patients Diagnosis of Schizophrenia / Schizoaffective Disorder	Challenging activities and Socializing with friends and families	-

Discussion

The existing literature suggests that individuals with Schizophrenia can be particularly vulnerable and prone to developing gambling-related problems. The existence of similar neurobiological mechanisms in psychotic disorders and Pathological Gambling is one of the main hypotheses that have been proposed in the literature to explain the correlation between both pathologies [10]. Individuals with Schizophrenia and gambling behaviour may, in this case, share similar changes in the neurotransmission's pathways, involving serotonin, dopamine, or glutamate [11-14].

On the other hand, some studies end up questioning and challenging this hypothesis. While in regard to gambling-related disorders, they have been associated with aggravation of maladaptive behaviours [15].

Nevertheless, the glutamatergic agents have shown efficacy in both groups of patients with psychotic disorders [16,17] and gambling-related disorders [18,19].

The cognitive deficits caused by the pathology may lead to difficulties in understanding the risks associated with excessive gambling and its potential negative consequences. Moreover, the difficulty in controlling impulses and Substance Abuse related disorders, frequently observed in psychotic patients, can also contribute to the development of gambling-related disorders.

Conclusion

Despite some studies already suggesting a possible link between Schizophrenia and Pathological Gambling, the research carried out in this field is still scarce, thus emerging the need for further research on this topic.

In such a manner, it is crucial to identify the factors that may be involved in this comorbidity in order to enable a preventive and therapeutic intervention towards this group of patients and, consequently, an overall improvement in their functioning.

Acknowledgments

Not applicable.

Declaration of Interest

The authors declare that they have no competing interests.

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How to cite this article: Carneiro, Sara, Sónia Azenha and Pedro Morgado. "Schizophrenia and Pathological Gambling: A Review of the Literature Regarding a Clinical Case." *Clin Schizophr Relat Psychoses* 15(2021). Doi:10.3371/CSRP.CSSA.122321.