

ORIGINAL RESEARCH

Gambling Dreams in Pathological Gambler Outpatients: A Pilot Study

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Main Points

- This study shows for the first time the presence of gambling dreams, i.e. dreams about the craving to gamble, in a group of pathological gambler outpatients, offering some insight on the vicissitudes of the patients' craving and their propensity to cope with it.
- The gambling dreams reported here are absolutely comparable, also in terms of contents, with drug dreams in drug addictions. These dreams have the craving to gamble as their main theme, just as drug dreams focus on craving for drug.
- These initial observations apparently support the hypothesis that gambling dreams can be considered, in terms of appearance / frequency, content, and relationship with craving, in the same way as drug dreams in other forms of addiction.
- The same type of clinical and prognostic usefulness would seem to arise for gambling dreams, as it does for drug dreams in the treatment of drug-addicted patients.

Abstract

Drug dreams, i.e., dreams in which drug-addicted patients use or attempt to use drugs, are a well-documented clinical phenomenon in drug addiction. These dreams offer a useful way to understand the vicissitudes of drug craving in patients who are drug addicts as well as their ability to cope with it. Authors consider drug dreams as a valuable clinical tool in the treatment of drug addiction. Although pathological gambling disorder is a form of behavioral addiction that has several aspects in common with substance addiction, gambling dreams (i.e., dreams about gambling) are seldom described in scientific literature. This study aimed to provide the first systematic investigation on the presence of "gambling dreams" among abstinent pathological gamblers. A total of 10 individuals who arrived consecutively for outpatient treatment at the Centre for Drug Addiction were evaluated on the basis of South Oaks Gambling Scale. They also completed a questionnaire on gambling dreams. The results showed that most pathological gamblers report gambling dreams. These dreams can be considered in terms of frequency, content, and relationship with craving in the same way as drug dreams for drug addiction. Further studies might also shed light on the clinical utility of gambling dreams for treatment of pathological gamblers.

Keywords: Gambling disorder, gambling dreams, drug dreams, drug craving, addiction

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Introduction

Psychotherapeutic and psychological consulting sessions with outpatients who are addicted to drugs have rarely involved the use of classical psychoanalytic dream interpretation. However, recently, emphasis has been placed on the occurrence of one specific type of a dream, the so-called drug dreams (or drug-related dreams) (Colace, 2014a). In these dreams, the drug addicts use or attempt to use their

drug of choice (or otherwise seek, handle, or buy drugs) (Christo & Faney, 1996; Colace, 2000, 2004, 2014a; Yee, Perantie, Dhanani, & Brown, 2004; Tanquay, Zadra, Good, & Leri, 2015). Several studies have shown that drug dreams are a well-documented clinical phenomenon in all forms of drug addiction (i.e., alcohol, heroin, cocaine, tobacco, lysergic acid diethylamide [LSD], and benzodiazepine) with comparable frequency, phenomenology, and clinical

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usefulness (Sòrio, Schiefelbein, Balbinot, Santos, & Araujo, 2016; Silva & Nappo, 2019; Choi, 1973; Christo & Faney, 1996; Colace, 2004; 2006; 2010; 2014a; Hajek & Belcher 1991; Parker & Alford, 2009; Steinig, Foraita, Happe, & Heinze, 2011; Yee, Perantie, Dhanani, & Brown, 2004; Frías Ortiz, León Alegria, Fernández Guerra, Ali Al Shaban, Fernández Miranda, & Gonzalez Fernández, 2016). Drug dreams are often short, with simple and clear content that refers directly to daytime experiences and do not require interpretation to understand their meaning. These dreams offer a useful way to understand the degree and evolution of drug craving (i.e., the desire for the previously experienced effects of a psychoactive substance) in patients with drug addiction as well as on their current ability to manage the craving for the drug. The presence of drug craving is considered one of the distinguishing signs of drug dependence, and most studies suggest a close relationship between drug craving and the appearance and/or increased frequency of drug dreams (Araujo, Oliveira, Piccoloto & Szupczynski, 2004; Choi, 1973; Christo & Franey, 1996; Fiss, 1980; Persico, 1992; Tanguay et al. 2015; Colace, 2004; 2014a; Silva & Nappo, 2019). Furthermore, it has been shown that drug craving increments obtained by means of active stimulation (in nature or experimentally induced) might favor the appearance of drug dreams (Christensen, 2009; Looney, 1972; Yee et al., 2004; Ziegler, 2005).

Frequently, (about 80% of individuals) patients with drug addiction report drug dreams, especially (but not only) in their early period of stopping the drug use (Colace, 2004; Choi, 1973; Hajek & Belcher, 1991; Reid & Simeon, 2001; Sorio et al., 2016; Silva & Nappo, 2019), and some authors consider drug dreams as a valuable clinical tool throughout the course of the therapy as well as a resource for treatment (Colace, 2014a; Flowers & Zweben, 1996, 1998; Hajek & Belcher, 1991; DeCicco & Higgins, 2009; Silva & Nappo, 2019). The possibility of using drug dreams as a clinical “thermometer” of variation in drug craving has been described. Moreover, a change in the frequency of drug dreams indicates a change in the intensity of drug craving, and drug dreams are considered as a “window” into vicissitudes of drug craving and coping with it. The content of drug dreams (and its variation during therapy) indicates how the patients deal with drug craving and how determined they are to stay clean. Studies suggest that a sudden reappearance of drug dreams or an increase in their frequency after a drug-free period might indicate a recrudescence of drug craving, considering drug dream as an “alert signal” (Colace, 2014a,b,c; Steinig, Foraita, Happe, & Heinze, 2011; Makaric, 1979; Persico, 1992).

Although pathological gambling disorder is a form of behavioral addiction that has several aspects in common with substance addiction (i.e., presence of craving or a compulsive urge to gamble), gambling dreams (i.e., dreams about gambling) among pathological gamblers are rarely described in scientific literature. A PubMed research (“gambling”[All Fields]) AND (“dreams”[All Fields]) shows only 8 results that do not relate to the description and study of dreams about gambling. From this point of view, some breakthrough investigation on the possible presence of gambling dreams among pathological gamblers could help for a better understanding of whether these dreams have some clinical usefulness, similar to how drug dreams have for patients

with drug addiction. In particular, the start of a systematic investigation of gambling dreams could detect if these are useful in predicting the changes in craving for the game and could give indications for the short-term prognosis and the risk of relapse.

This study aimed to provide the first systematic investigation, as a pilot study, on the presence of “gambling dreams” among abstinent pathological gamblers and observe whether these dreams show the same content about dependence and whether they have a comparable relationship with the craving for gambling as it occurs in the relationship between drug dreams and the drug of choice in other forms of drug addiction.

Methods

Subjects

A total of 10 individuals (9 men, 1 woman) aged between 30 and 54 years who arrived consecutively for outpatient treatment at the Centre for Drug Addiction of the National Health Service, at Civita Castellana, Viterbo, Italy between February 2019 and February 2020 were enrolled in the study. All participants were diagnosed according to the South Oaks Gambling Scale (SOGS) (Lesieur & Blume, 1987). The preferred games of those pathological gamblers were slot machines and lotto.

Assessments

These patients were evaluated during routine individual psychological and motivational sessions. They were asked to fill out the 12-dichotomous-items version (Poulin, 2002) of the SOGS. The SOGS is a validated and reliable questionnaire for screening patients for a gambling disorder. The authors deemed a score of 5 or more as the optimal cutoff point for reducing false positives and false negatives. SOGS was found to correlate with the Diagnostic and Statistical Manual of Mental Disorders-III-Revised criteria for pathological gambling ($r=0.94$, (degree of freedom) $df=747$, $p<0.001$) (Lesieur & Blume, 1987) (Table 1), and its reliability was determined through an internal consistency check (using Cronbach’s $\alpha=0.97$, $p<0.001$) and test-retest correlation (0.71, $df=110$, $p<0.001$) (Lesieur & Brume, 1987; Lesieur & Blume, 1992). The 12-dichotomous-items Italian version of the SOGS has been validated in a sample ($n=14.910$) of Italian students (Colasante et al, 2000). The kappa statistic for test-retest concordance ranged from 0.53 to 0.80. Internal consistency was acceptable ($\alpha=0.780$). The Italian version confirmed the scoring of the original version. Moreover, 4 degrees of problems concerning the game have been indicated. A score between 0 and 2 relates to a “non-problem” gambling, a score between 3 and 4 relates to “at risk” gambling behavior, a score between 5 and 8 indicates that the gambling is a “problem,” and a score of ≥ 9 indicates that gambling is a “serious problem.”

The patients also completed a 10-item questionnaire on gambling dreams that evaluates the presence or absence of dreams about gambling since they stopped gambling. The patients who had experienced gambling dreams were asked to write down “the last gambling dream you can remember.” The other questions with multiple choice answers were about the details of dream content (i.e., if the patients gambled, tried to gamble, saw others gamble, or refused to gamble) and about how patients felt during their dreams as well as about their emotional reaction upon awakening from those gam-

¹ An analysis of the Pubmed and Scholar databases finds that no further investigations on drug dreams have been published recently.

Table 1.

*DSM-III-R: Diagnostic Criteria for Pathological Gambling***Maladaptive gambling behavior as indicated by at least 4 of the following:**

- 1 Frequent preoccupation with gambling or with obtaining money to gamble
- 2 Frequent gambling with larger amounts of money or over a longer period of time than intended
- 3 A need to increase the size or frequency of bets to achieve the desired excitement
- 4 Restlessness or irritability if unable to gamble
- 5 Repeated loss of money by gambling and returning another day to win back losses (“chasing”)
- 6 Repeated efforts to reduce or stop gambling
- 7 Frequent gambling when expected to meet social or occupational obligations
- 8 Sacrifice of some important social, occupational, or recreational activity to gamble
- 9 Continuation of gambling despite inability to pay mounting debts or other significant social, occupational, or legal problems that the person knows are exacerbated by gambling

DSM-III-R: Diagnostic and Statistical Manual of Mental Disorders-III-Revised.

Table 2.

Contents of Dreams About Gambling

Gamble or attempt to gamble	2	33%
See others gamble	1	17%
Having lotto game numbers	2	33%
At home with strong craving for gamble	1	17%

bling dreams. The last 2 questions of the questionnaire were about the patients’ self-evaluation of their craving for gambling upon awakening and about their relapse, if any, on the following day.

Ethical Standards

The study was carried out according to the principles of the Helsinki declaration. In particular, the study respected the general principle #4 i.e., “It is the duty of the physician to promote and safeguard the health, well-being, and the rights of patients, including those who are involved in medical research” and #7 i.e., “Medical research is subject to ethical standards that promote and ensure respect for all human subjects and protect their health and rights” (<https://www.wma.net/policies-post/wma-declaration-of-helsinki-ethical-principles-for-medical-research-involving-human-subjects/>).

Results**SOGS scores**

The evaluated patients reported a mean score of 8.5, indicating that gambling is a problem. The patients’ sum scores were 4, 6, 8, 8, 8, 10, 10, 11, and 12.

General Dream Recall

The patients generally recalled 2 (general) dreams per week (mean score). This result is not directly comparable with that of the previous studies. However, a study by Herman & Shows (1984) found that healthy subjects generally recall 5 – 7 dreams per month.

Frequency and Onset of Gambling Dreams

A total of 6 patients (60% of the group) reported of having had gambling dreams since they stopped any gaming activity. The remaining 4 did not report of having had any gambling dreams. Typically, the patients reported gambling dreams in the early period since they stopped their gaming activity. The gambling dreams

were experienced by 3 patients (50%) after a few days of abstinence from gambling; 2 patients reported gambling dreams after about 3 months and 1 after 1 month of stopping the gaming activity.

Interestingly, patients who reported gambling dreams showed a higher SOGS mean score than those who did not report such dreams (mean score 9.8 vs.6.5).

Contents

In most gambling dreams, the patient gambles or attempts to gamble in a dream scenario or has lotto game numbers (Table 2). A few examples are given below.

“I went to play, I started the game, but I never got the winning combination of numbers.”

“I was in a bar, I saw a person playing, and I heard the sound of the money he won, flowing in the slot machine. I was happy with his win.”

The dreams mentioned below are very similar to the drug dreams in various forms of addiction:

Drinking dream

“I was drinking. I felt apprehension and guilt” (Flowers & Zweben, 1998, p. 195).

Drug dream (cocaine addiction)

“I dreamt I was in the cafeteria, teaching other patients here how to chop lines of cocaine and snort them” (Gillispie, 2010, p. 1).

Drug dream (LSD addiction)

“I was with friends at a rave party, and the guys were offering various drugs; they gave me LSD and I used it. It was a pleasant dream” (Colace, 2010, p. 192).

Drug dream (benzodiazepine addiction)

“A woman doctor gave me Valium and thought it was okay, even though I was an addict. I was smiling. I really got over” (Johnson, 2001, p. 87).

Drug dream (heroin addiction)

“I found the money for the heroin, and then I went out to buy it, but I could not find the pusher” (Colace, 2014a, p. 17).

Feelings while dreaming and on waking up

A majority of patients who dreamt reported feelings of pleasure in their gambling dreams (3/6). Moreover, one of them said that after feeling pleasure in playing and winning, he also felt guilty in his dream. Another patient felt frustrated because he was unable to complete the game in the dream; 2 patients were not able to report their feelings in their dreams.

Upon awakening from his dream, 1 patient felt reactions of anger and disappointment in finding out that he was not really gambling or had not really won. Another patient felt satisfied with having dreamt about the winning numbers and the possibility of playing them in reality. Another patient felt frustrated because he thought that if he had this kind of a dream, his desire for gambling was so strong that he would never be able to stop. Other patients had no reactions at all upon awakening.

Gambling Dreams, Craving to Gamble, and Relapse

Half of the patients who dreamt reported that they felt more craving to gamble when they woke up from their gambling dreams. The same patients reported having had a relapse the next day.

The other patients who dreamt experienced no change in their craving to play and had no relapse.

Discussion

Pathological gambling is a major health problem with severe consequences for the individuals involved and their relatives, with important repercussions on their personal and professional lives (Goudriaan, Oosterlaan, de Beurs, & Van den Brick, 2004). Studies have indicated the prevalence of pathological gambling among adults to be between 0.12% and 5.8%, and between 0.2% and 12.3% among adolescents (Koksoy, Vayisoglu, Oncu, & Guven, 2019; Calado & Griffiths, 2016; Calado, Alexandre, & Griffiths, 2017). Therefore, every new tool and/or strategy that may help in the treatment of this pathology deserves further investigation.

This study shows, for the first time, the presence of gambling dreams, i.e., dreams about the craving to gamble in a group of pathological gamblers, offering some insight into the vicissitudes of the patients' craving and their propensity to cope with it (i.e., to manage the craving).

More than half of the patients reported of having had gambling dreams in the period after stopping the gaming activity. This result is in line with what happens with other drug addictions. For example, drug dreams in heroin or cocaine addiction are frequent in the early period of treatment, from the first or second week up to 2-3 months, in those patients who remain abstinent from drugs rather than during regular drug use (Choi, 1973; Colace, 2004; 2014a; Fiss, 1980; Hajek & Belcher, 1991; Sorio et al., 2016). Hajek & Belcher (1991), who studied the drug dream phenomenon in tobacco smokers, claim that drug dreams can be viewed as an abstinence effect.

According to the Freudian dream theory (Freud, 1916-17), drug dreams and gambling dreams may be explained as a clear and direct wish fulfillment (or fulfillment attempt), i.e., an infantile-like form of dreaming in adults that expresses a frustrated pathological wish (i.e., craving) returning in hallucinatory form in the

dreams (Choi, 1973; Colace, 2004, 2014a; Denzin, 1988; Makaric, 1979).

The gambling dreams reported in this study are absolutely comparable in terms of the content with drug dreams in drug addictions. The most frequent themes of drug dreams are: using drugs (or alcohol); attempting to use drugs; seeking, preparing, handling drugs; and seeing others using drugs (Silva & Nappo, 2019; Colace, 2014a). Our patients dreamt of playing and engaging in other activities related to gambling or on seeking a big win and feeling an urge to play. This suggests that these dreams have the craving to gamble as their main theme similar to how drug dreams focus on craving for the drug.

A common type of emotional pattern in drug dreams that has been described in various studies is characterized by the presence of pleasure in using drugs, a strong desire to use them, and a feeling of relief upon awakening when the patient realizes that no substance use has happened in reality (Choi, 1973; Christo & Franey, 1996; Colace, 2000, 2004; Colace, et al., 2014; Hajek & Belcher, 1991; Reid & Simeon, 2001; Sorio et al., 2016). Sometimes, the use of drugs in dreams may be followed by feelings of guilt and/or regret (Choi, 1973; Christo & Franey, 1996; Colace, 2000, 2004; Colace, Claps, Antognoli, Sperandio, Sardi, & Benedetti, 2010; Colace, et al., 2014; Denzin, 1988; Hajek & Belcher, 1991; Marshall, 1995; Reid & Simeon, 2001; Scott, 1968; Steinig, Foraita, Happe, & Heinze, 2011; Tracy, 1994; Sorio et al. 2016). In other cases, upon awakening from their drug dreams, patients addicted to drugs felt angry and disappointed after realizing that they had not really used the drug or did not really have it (Brown, 1985; Colace, 2004; Colace, et al., 2014; Flowers & Zweben, 1996, 1998). Finally, there are also patients who wake up from drug dreams and feel frustrated because they think that if they have these kinds of dreams, their desire for the substance is so strong that they will never be able to stop using it (Colace, 2014a). The gambling dreams reported here replicate some of the feeling patterns in the dream and some of the emotional reactions upon awakening that have been observed in drug dreams. For example, pleasure in gaming along with a sense of guilt appears in the dream scenario; a feeling of disappointment when the patients realize that they were not really engaged in gaming activities but it was only a dream; and the frustration in thinking that if they have this kind of dreams, they will never be able to stop gambling. These are the emotional reactions upon awakening that we found in these pathological gamblers. In other words, at the phenomenological level, gambling dreams may be regarded just as another example of dreams of dependence that appear selectively in cases of drug dependence or, as in this case, pathological addictive behavior (Colace et al., 2010; Keeley, 2004; Parker & Alford, 2009; Scott, 1968).

The authors who study drug dreams have suggested that the prognostic value of these dreams is not clearly outlined (Colace, 2014a; Steinig et al., 2011). Some studies have found that patients who are addicted to drugs and have drug dreams are more likely to remain abstinent (i.e., positive prognosis) than those who do not have such dreams (Choi, 1973; Kibira, 1994; Hajek & Belcher, 1991). Some others have found that drug dreams, by giving an alert of the recrudescence of drug craving, might predict an imminent relapse (i.e., negative prognosis) (Mooney, Eisemberg, & Eisemberg, 1992; Christo & Franey, 1996; Sorio et al., 2016). Further

studies might help to understand if such prognostic use can also be helpful in gambling dreams as it is in drug dreams. As in the case of drug dreams, some of the gambling dreams reported here seem to have a psychic correlation of an increase of the craving to gamble on the following day, which if not properly managed by the therapist, might prelude a relapse. At the same time, other gambling dreams seem to help the patients in maintaining their abstinence from gaming, at least at a hallucinatory level, by satisfying the craving to gamble without altering it and diverting the risk of relapse upon awakening.

At the moment, our observations on gambling dreams suggest that they might be a helpful clinical tool for gaining insight into drug craving and into the mood of the pathological gambler. Clinicians may use these dreams in 2 ways: (i) to observe the frequency of variations in gambling dreams (for example a sudden increase could indicate beginning of the craving for gaming activity) and (ii) to analyze the content of these dreams to understand how the patient manages the craving (for example, the presence or absence of guilt after gambling in the dream, full satisfaction of craving in the dream, playing in the first person, or just seeing other people playing, and so on).

One aspect of the pathological gambling disorder may be peculiar in studying dreams of dependence. The pathological gambling disorder is characterized by a failure to resist the compulsive urge to perform an act that is harmful to the person. Here, the addictive behavior is not confounded by a drug and/or by the effects caused by stopping its use. Therefore, gambling dreams could be strategic to understand the significance of physical and psychological abstinence in triggering this type of dreams of dependence. Some studies suggest that drug dreams are not, strictly speaking, the result of a “withdrawal syndrome” or physical abstinence (Colace, 2004; Hajek & Belcher, 1991). Moreover, several abstinent patients who reported drug dreams were treated with agonist pharmacological medications that mimic the effects of the drug of abuse and prevent the onset of adverse withdrawal symptoms by replacing such drugs. For example, the presence of drug dreams was noticed among patients with heroin addiction under pharmacological treatment with methadone (Colace, 2000, 2004; Colace, et al., 2014; Colace et al., 2010). Drug dreams seem more related to psychological abstinence and drug craving rather than to a neurochemical deficit *per se*. Indeed, the basis of a gambling dream could be an increase in the peculiarly psychological drive similar to the push of an unstoppable desire. Gambling dreams appear when the patient is busy trying to stop playing, which probably involves his attempt to reject and control his pathological urge for the game that nevertheless appears in his dream.

Limitations and Directions/Suggestions for Future Research

This study was based on a small group of outpatient pathological gamblers and intended to be the first attempt to find the presence of gambling dreams, considering these as a typical form of “dreams of dependence,” like those observed in other forms of addiction (i.e., drug dreams). The questionnaire used to collect information about the dreams was not validated; however, it was derived from the ones used in previous in-depth studies about drug dreams in patients with drug addiction (Colace, 2014a).

Conclusion

These initial observations apparently are in line with the hypothesis that gambling dreams could be considered in terms of appearance/frequency, content, and relationship with craving in the same way as drug dreams in other forms of drug addiction. If the initial observation that gambling dreams offer a clear insight into the craving for the game can be confirmed by further studies, these dreams could have the same clinical and prognostic value as drug dreams in the treatment of patients with substance abuse.

Ethics Committee Approval: The study was carried out according to the principles of the Helsinki declaration. In particular, the study respected the general principle #4 i.e., “It is the duty of the physician to promote and safeguard the health, well-being, and the rights of patients, including those who are involved in medical research” and #7 i.e., “Medical research is subject to ethical standards that promote and ensure respect for all human subjects and protect their health and rights” (<https://www.wma.net/policies-post/wma-declaration-of-helsinki-ethical-principles-for-medical-research-involving-human-subjects/>).

Informed Consent: Written informed consent was obtained from the patients who participated in the study.

Peer-review: Externally peer-reviewed.

Conflict of Interests: The author has no conflicts of interest to declare.

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