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"Gambler": Behavioural-Cognitive Treatment of Online Gambling Disorder. A Step-by-Step Treatment Guide

Mariano Chóliz*, Marta Marcos

Department of Basic Psychology Psychology School Avda. Blasco Ibáñez, Spain.

**Corresponding Author: Mariano Chóliz*

Abstract

"Gambler" is a step-by-step guide for the psychological treatment of online gambling addiction based on the principles of learning psychology (classical and operant conditioning) and motivational psychology. It comprises 15 sessions arranged in five modules that aim to decondition and reduce gambling behavior and to promote alternative behaviors. In several sessions, patients are trained to recognize risk situations and develop strategies to avoid gambling. Information on gambling is given to raise awareness of the problem of gambling addiction and to facilitate the necessary shift in attitudes to prevent a return to gambling and foster a new lifestyle without it.

The treatment was applied to 40 patients diagnosed with online gambling addiction by 10 different therapists from eight different treatment centers. Of the 40 patients, 28 remained abstinent after one year of follow-up, indicating 70% efficacy. Most of the patients who did not benefit from the treatment abandoned it during the therapeutic process.

Keywords: gambling disorder treatment; behavior therapy; cognitive-behavior therapy; ethical gambling; treatment guide

Introduction

Background

"Gambler" is a behavioral-cognitive treatment for online gambling addiction, whose theoretical assumptions are the following:

Gambling addiction is a clinical phenomenon (Hunt & Blaszczynski, 2019) characterized by a loss of control over behavior that results not only in spending excessive amounts of money but also in alterations in emotional adjustment and interpersonal relationships.

This disorder is addictive in nature (APA, 2013; WHO, 2018), as playing activates the same reward pathways as drugs, inducing dopaminergic activity.

- However, to understand the appearance of this disorder, several factors must be considered:
- Psychological (Navas et al., 2019), biological (Limbrick-Oldfield et al., 2020), or social (Rintoul et al., 2013) factors modify one's vulnerability to this mental disorder.
- There are notable differences in addictive potential among different types of gambling that are based on both the structural characteristics of games (Griffiths, 1993) and the environmental conditions in which they occur (Chóliz & Sáiz-Ruiz, 2016).

The main criteria for addiction highlight the frequent repetition of gambling behaviour, which is carried out in a ritualized and stereotyped way. Ritualized repetition of gambling (which is characteristic of all types of addiction) results in:

- Association between the physical and psychological events related to gambling activity. These events will become conditioned stimuli (Carey et al., 2014).
- Reinforcement of gambling behaviour if monetary rewards are obtained. A contingency reinforcement program consolidates the gambling behaviour (Weiss, 2010).

The way gambling is organized always benefits companies, as the mathematical expectation of any kind of gambling game is favorable to the company that runs it (Chóliz, 2018). Therefore, the more frequently a patient bets, the more the behaviour is consolidated (conditioning effects) and the greater are the gambler's losses, as gambling is organized so that, in the long run, the company always wins.

This addictive cycle is especially serious in online gambling because online gambling is more addictive than traditional gambling, and the environmental and social conditions in which it occurs favor excessive gambling (Chóliz et al., 2019).

Step-By-Step Treatment Guide

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Cognitive-behavioral therapy is currently considered the most efficient method of treatment for gambling disorder (Gooding & Tarrier, 2009). There are many examples and models in which different techniques and procedures are included whose efficacy has been demonstrated (Dowling et al., 2008; Ladouceur et al., 1994; Oei et al., 2010; Patry et al., 2006; Raylu & Oei, 2020; Petry et al., 2006; Petry & Roll, 2001; Sharpe & Tarrier, 1992; Sylvain et al., 1997; Tolchard & Battersby, 2013). However, there are psychological (Jiménez-Murcia et al., 2007) or psychopathological (Echeburúa et al., 2017) variables that affect the efficacy of cognitive-behavioral treatment, which must be taken into account in therapy outcome (Raylu et al., 2016).

The treatment presented is intended to reduce or eliminate gambling behaviour and to promote other alternatives that foster a new lifestyle. It is based on the principles of learning psychology and uses therapeutic tools that have been effective in treating addictive behaviours.

First module

Analysis of gambling behaviour and clinical anamnesis (Sessions 1, 2).

Objectives

- Assessment of gambling disorder and clinical implications.
- Analysis of the factors that maintain gambling behaviour.
- Persuading the patient to recognize the existence of a problem, accept the therapeutic objectives, and commit to carrying out the activities.

Tools

- Clinical anamnesis.
- Functional analysis of behaviour.
- Diagnostic questionnaires: NODS, SCL-90, etc.
- Behavioural contract.

Foundations

Gambling addiction is classified as a mental disorder in the same category as drugs of abuse. DSM-5 (APA, 2013) includes online gambling addiction in the global category of gambling disorders, and ICD-11 (WHO, 2018) distinguishes online gambling addiction as a subtype of gambling disorders.

As with other addictions, gambling addiction can be comorbid with other mental disorders; among these, mood and anxiety disorders and substance use predominate (Lorains et al., 2011). Many people with gambling addiction perform illegal acts to obtain money to continue playing (Potenza et al., 2000), and some of them may commit suicide due to problems caused by gambling (Petry & Kiluk, 2002). The problem of suicide is more common than in most mental disorders, except for major depression and bipolar disorder.

Therefore, it is necessary to carry out a psychological evaluation to determine whether there are comorbid mental disorders and to make an accurate diagnosis of gambling addiction. Some disorders, such as substance use disorder, often precipitate excessive gambling behaviours (Molinaro et al., 2018). Therefore, it is usually necessary to treat these other mental disorders therapeutically at the same time as online gambling addiction.

In addition to the presence of other mental disorders or clinical symptoms, another factor that must be considered before applying the *Gambler* treatment is the patient's motivation for change (DiClemente et al., 2004). This is especially important early in the development of a gambling disorder, as in the case of young people or adolescents with addiction to online gambling. The proposed behavioural-cognitive treatment plan requires high involvement and effort on the part of the patient as well as modification of the patient's lifestyle, which, in some cases, may be very substantial. For this reason, this first stage may take longer than the two sessions planned for evaluation and diagnosis to achieve adequate commitment on the part of the patient.

Procedure

At least two sessions are devoted to a complete assessment of gambling addiction and any other associated disorders. Both a behavioural interview and specific diagnostic tools are used to determine whether the patient needs any additional intervention for other psychological problems. To evaluate clinical symptoms, the symptom Checklist-90 (SCL-90) (Derogatis, 1983) or a similar measure is used, and to diagnose gambling disorder, the National Opinion Research Center DSM-IV Screen for Gambling Problems (NODS) (Gerstein et al., 1999) is used.

NODS makes it possible to diagnosis gambling disorder, calculate the severity of mental disorders based on the DSM-5 criteria (mild, moderate, or severe), and identify such criteria in the patient's behaviour, which is very relevant to defining therapeutic goals.

To determine the antecedents that induce gambling and the consequences of such behaviour, a functional analysis of behaviour is carried out. Functional

analysis of behaviour (Carr & LeBlanc, 2003; Haynes & O'Brien, 1990) provides information about the conditions that induce gambling, as well as the time and situations that present risks. This information will allow treatment to be adjusted individually, which is very important in stimulus and exposure control techniques.

Once the patient has recognized his or her problem, accepts the conditions of treatment, and agrees to carry out the necessary behaviour to overcome the disorder, a behavioural contract (Houmanfar et al., 2003; Levendusky et al., 1983) is established between the patient, therapist, and co-therapist. This contract specifies the objectives of the treatment and the commitments agreed to by the parties.

Second module

Abstinence and overcoming discomfort (Sessions 3, 4, 6).

Objectives

- Motivate the gambler to stop betting (gambling abstinence) as a means of reducing habitual gambling behaviour.
- Overcome discomfort caused by gambling abstinence.
- Establish a debt repayment plan.
- Promote alternative behaviours to gambling.

Tools

- Stimulus control techniques.
- Psychotherapeutic techniques for overcoming discomfort.
- Problem-solving techniques and legal advice.
- Training in alternative behaviours and behaviours incompatible with gambling.

Foundation

The objective is to stop the gambling habit. Online gambling has become a well-established habit, leaving patients strongly dependent on gambling. Functional analysis is employed to determine which devices are most frequently used for betting and which moments or situations are the most problematic for loss of control.

To get the patient to stop playing, two techniques based on conditioning will be used. As far as classical conditioning is concerned, all conditioned stimuli that provoke a conditioned withdrawal response, generating the need to play, will be eliminated (Echeburúa & Fernández-Montalvo, 2005). Regarding operant conditioning, one of the ways to reduce behaviour is by reinforcing alternative behaviours (Wallace & Robles, 2003). If possible, these behaviours should be incompatible with online gambling. The clinical interview will provide the therapist with information about which behaviours the patient could perform that will serve as substitutes for online gambling behaviour. Functional analysis will be used to gather information about when and for how long these should be employed. From among the behaviours in the patient's behavioural repertoire, the therapist will choose those that are not only viable and effective in reducing gambling behaviour but also those that can be sustained in the future and will serve to promote a healthy lifestyle without gambling.

One of the main symptoms of gambling addiction is the discomfort caused by the deprivation of online gambling and the persistence of the problems it has caused (Blaszczynski et al., 2008; Rosenthal & Lesieur, 1992). Thus, it is necessary to eliminate the discomfort caused by gambling deprivation because not only is gambling a habit but the gambler has become dependent on the behaviour. This means that when the patient stops playing, he or she will be likely to feel bad emotionally. Therefore, during these first treatment sessions, abstinence from gambling should be sustained until the main effects of deprivation (irritability, anxiety, etc.) disappear.

The debts contracted through gambling are another source of discomfort (Matthews & Volberg, 2013), so it will be necessary to intervene to help solve economic problems. Patients must take care of their own debts and economic troubles, but they will probably need financial advice to do so.

Procedure

Stimulus control techniques

Stimulus control techniques are aimed at modifying the environmental conditions that induce or facilitate gambling with the aim of preventing the patient from gambling (Echeburúa et al., 1996). The most relevant techniques are the following:

- Avoid having cash. A co-therapist must manage the patient's money and give her or him only what is needed. The patient must justify any expense by receipts.
- Cancel credit and/or debit cards and any other tool for obtaining money electronically (PayPal accounts, etc.).
- Exclude oneself from gambling websites. Use legal procedures that exist in many countries, which are

often included in responsible gambling protocols of gambling companies and are also provided by the government.
- Do not enter casinos or game rooms that have online games.
- Do not enter gambling websites. Format the computer to delete cookies from gambling companies.
- In short, eliminate any condition that is an antecedent of online gambling behaviour.

It is necessary to emphasize that these measures are temporary and are aimed at hindering the emergence of gambling behaviour, which has become a habit. Little by little, these measures will be reduced and will eventually disappear when these conditions do not inspire the need to play, as they currently do.

Techniques for overcoming discomfort

Many psychotherapeutic techniques can be used to help overcome discomfort. The therapist must know which techniques are the most appropriate for each patient based on their needs, how to teach them to the patient, and how to encourage the patient to follow up.

Some of the most appropriate techniques to avoid discomfort caused by gambling deprivation are the following:

- Muscle relaxation techniques (long or abbreviated).
- Breathing techniques.
- Thought-stopping techniques.
- Imagination techniques.
- Distraction techniques.
- Others, as appropriate.

If gambling abstinence does not cause significant discomfort for a given patient, training in these techniques may not be necessary. This would simplify the treatment, which is already quite extensive.

Financial problem solving

Third, financial problems and contracted debts are a problem that generate the greatest discomfort and often cause relapse (Matthews & Volberg, 2013). For this reason, it is necessary to establish a payment plan to pay off the debts incurred even with the closest relatives, such as parents. In the case of debts owed to lenders or financial entities, legal advice may be necessary to proceed with stage-wise payment.

On many occasions, microcredit companies offer online gamblers loans so they can play and thereby try to recover the money lost. Thus, the patient enters a vicious cycle of loans to play and losses that increase the debts assumed by acquiring more loans, which results in another round of borrowing that leads to increased debt. The patient must pay off the debt with the financiers and remove himself or herself from the contact lists of financiers and advertisements through the Robinson List, (an opt-out list of people who do not wish to receive marketing transmissions) and similar resources.

It is very important that patients take charge of their debts and accept their responsibilities so that gambling takes on negative connotations. This will favor the reduction of gambling behavior and the change of attitudes necessary for therapeutic improvement.

Reinforcement of alternative behaviours

Another way to reduce a behavior is to reinforce alternative behaviours—incompatible ones, if possible (Wallace & Robles, 2003). The functional analysis will provide information about which behaviours should be encouraged at which time and under which circumstances to both prevent the patient from betting and provide an alternative. The therapist and the patient should organize the activities on a weekly schedule, indicating at all times what they are going to do, how, and when. Behaviours should be operationalized so that the execution can be verified: taking walks, doing physical activity, engaging in cultural activities, reading, listening to music, etc.

If problematic gambling occurs on a computer, access to computers should be limited, and all activities that can be carried out offline should be done in that way. All activities must be recorded on a self-registration card, and the therapist will verify that the patient has carried them out correctly.

Third module

Deconditioning and training in self-control skills (Sessions: 8, 10, 12)

Objectives

- Extinction of conditioned withdrawal responses
- Acquisition of coping skills in response to gambling conditions

Tools

- Exposure techniques
- Self-control techniques

Foundations

Classical and operant conditioning, which are essential in the development and maintenance of

gambling behaviour, are indispensable in the therapeutic intervention aimed at deconditioning the gambling behaviour (Wallace & Robles, 2003; Weiss, 2010).

One of the characteristics of addictive behaviours is that they are ritualized. This is especially important in the case of addiction to online gambling, in which bets are carried out in a specific order. Many of the stimuli that are present during the sequence of online gambling are associated with the process and its consequences, and they become conditioned stimuli. As with other addictions, conditioned stimuli generate conditioned withdrawal responses that provoke the need to play again (Sodano & Wulfert, 2010; Wulfert et al., 2009). Regarding operant conditioning, the role of discriminative stimuli is central. The behavioural chain that is gambling is strongly influenced by discriminative stimuli (Fantino et al., 2005).

For that reason, it is essential to reduce the conditioned responses by means of extinction procedures. That is, the conditioned stimulus must be present without the unconditioned stimulus (gambling). The psychotherapeutic technique based on extinction is exposure (Ashrafioun et al., 2012; Riley et al., 2018).

But gambling behaviour is also maintained by reinforcement contingencies (Crossman, 1983; Schüll, 2012; Weatherly & Dixon, 2007). Games that provide the best reinforcement contingencies (immediacy of the reward, reinforcement of high rates of behaviour, association of the behaviour with the reward, etc.) increase behavioural consolidation. Many structural characteristics of online gambling are very favorable for operant conditioning; in fact, online gambling is associated with excessive gambling and with higher rates of gambling disorder than offline gambling (Chóliz et al., 2019).

Behaviour modification techniques have been shown to be effective in reducing or eliminating excessive behaviours. In the case of online gambling addiction, operant extinction and training in coping techniques are proposed (Dowling et al., 2008).

Procedure

Several techniques based on classical and operant conditioning are proposed for deconditioning gambling behaviour.

Exposure

Exposure is based on extinction, but it is a psychotherapeutic treatment technique. For that reason, it is necessary, to the extent possible, that the intervention be as non-aversive as possible. The presentation of conditioned stimuli must be gradual; that is, the conditioned responses must be extinguished in order, from the lowest to the greatest intensity (Echeburúa et al., 1996). For this, a hierarchy of conditioned stimuli must be presented during different sessions in a manner similar to systematic desensitization (Wolpe, 1961). For the extinction of a conditioned stimulus to proceed, the conditioned responses produced by the previous conditioned stimuli in the hierarchy must have been substantially reduced to induce an inhibitory conditioned process (Van Holst et al., 2012).

To avoid making the hierarchy excessively long, three levels are proposed: low, medium, and high. For each step of exposure, the patient must do exposure sessions twice a day for at least two weeks. The different degrees of exposure are defined (low, medium, and high) in the therapeutic sessions (8, 10, and 12). The correct execution of the sessions will be managed through self-registration during sessions 9 to 13.

Contingency management and coping strategies training

In gambling, gambling companies use algorithms to offer reinforcement (winning money) following the desired behaviour (gambling) (Schüll, 2012; Yücel et al., 2018). Online gambling companies have control of the reinforcement level and, for this reason, the intended behaviour (betting) should be avoided, thereby ensuring that it is never reinforced. So, the patient must learn to navigate websites that offer online gambling (slot games, electronic roulette, sport bets, etc.) without actually placing a bet.

Thus, the patient must be able to carry out all steps of the gambling behaviour and, at the last moment, not make the bet. To achieve this, the patient can use distraction techniques, imagination, impulse-control techniques, etc. In the sessions, the therapist will teach the patient how to stop the behaviour and how to reinforce herself or himself for having been able to do so (positive self-verbalizations, scores on the self-registration card, etc.). If the therapist deems it necessary, a contingency management program can be carried out (vouchers, token economy, etc.) in a manner similar to that used in drug addiction treatment (Lussier et al., 2006).

Fourth module

Cognitive–attitudinal intervention (sessions 5, 9 and 13).

Objectives

- Provide preventive information about online gambling and gambling addiction.
- Raise awareness of the problems caused by gambling and online gambling.
- Change attitudes about online gambling.

Tools

- Cognitive restructuring.
- Discussion groups.

Foundations

Information on the effects of risky behaviours is necessary, but it is not sufficient for behaviour change. The same is true for attitudes. However, accurate information and favorable attitudes toward behaviour change help patients to understand the meaning of their behaviour and the need for change, as well as to maintain the effort required by behavioural treatments. They are also necessary for withstanding frustration at times when goals are not met or relapses occur. Therefore, a cognitive–attitudinal intervention is necessary to increase the effectiveness of behavioural treatments.

Online gambling is a business for companies that present gambling as a leisure activity, one that is fun and risk-free if played responsibly. In addition, it is widely publicized and promoted in those societies where it has been legalized. Furthermore, gambling empowers beliefs, cognitive biases, and superstitions about luck and the probability of winning that are not only unrealistic but also help maintain the behaviour of gambling even when losses occur (Toneatto et al., 1997). It is therefore necessary to provide information on how gambling is organized so that the patient understand that gambling is a business for the gambling companies, not for the gambler.

Procedure

During three sessions interspersed between the stimulus control and exposure sessions (Modules Two and Three), cognitive–attitudinal restructuring is carried out in which the information is given in a credible and convincing way through 54 cards providing information, press releases, testimonies, examples, and audiovisual presentations.

The information is based on the principles of ethical gambling (Chóliz, 2018):

- **Session 5:** Online gambling is an economic activity. Main topics are the following: magnitude of online gambling figures; concept of mathematical expectation; company profits come from player losses; social and cultural dimensions of gambling and online gambling.
- **Session 9:** Gambling disorder. Description of the criteria for gambling addiction; repercussions of gambling disorder on personal, family, social, and work levels; cognitive biases underlying gambling and gambling disorder.
- **Session 13:** Online gambling disorder. Main topics analyzed are why online gambling is more addictive than offline; publicity and marketing techniques used in online gambling; gambling policies and their relationship to gambling addiction; differences and similarities between responsible gambling and ethical gambling.

Fifth module

Relapse prevention (sessions 7, 11, and 14).

Objectives

- Learning the nature of relapses and their causes.
- Learning to identify risk situations.
- Training in coping strategies in risk situations.

Tools

- Cognitive restructuring.
- Discussion groups.
- Role playing.

Foundations

Relapses are very common throughout the change process of addiction (Prochaska et al., 1993). Sometimes, the relapses involve a return to previous stages and a reversal in recovery or in overcoming the disease. As with the development and maintenance of addiction, relapses can be analyzed from a conditioning perspective, recognizing their antecedents and consequences.

With respect to antecedents, relapses, like addictive behaviours, do not appear in a vacuum but are caused by antecedents that must be recognized. Some of the main causes are the following:

- Conditioned withdrawal responses that have not been deconditioned, even if psychotherapy treatment has been carried out.
- Reappearance of previously extinguished conditioned withdrawal responses (spontaneous recovery) due to the passage of time (Baum, 1988; Bouton, 1994).
- Appearance of emotional reactions similar to the previous conditioned withdrawal responses but

actually due to other causes, for example, aversive situations (Steiner & Barry, 2011, 2014).

These situations (personal or environmental) generate emotional reactions similar to those that provoked in the past the conditioned stimuli associated with the addictive process, and they therefore induce a need to gamble again. If the patient returns to play, the conditioning strengthens quickly, as in any relearned behaviour.
The patient must learn to recognize these emotional reactions and avoid gambling so that conditioned dependency reactions caused by these emotional reactions will be extinguished.
Regarding the consequences, relapses result in:

- Relearning and consolidation of addiction. Before treatment, online gambling was a strongly learned behaviour, so the return to the previous conditions favors relearning that is faster than the initial learning process, as with other behaviours that are relearned. The more relapses the patient has had, the more difficult deconditioning will be.
- Abstinence Violation Effect (Marlatt & Gordon, 1980, 1985). Relapses result in emotional and cognitive reactions that favor a return to gambling. Patients assume that their gambling behaviour is due to internal, stable, and global causes, which may lead them to gamble again. Relapses also cause emotional discomfort and guilt, which the patient solves by gambling again.

Furthermore, relapses can be understood as a behavioural chain (Williams & Burkholder, 2003), in which stimuli and responses are successively conditioned and directed toward the final behaviour: gambling. The training in relapse prevention will consist of learning to detect such risk situations (conditioned and discriminative stimuli) and reacting appropriately with alternative responses that break the chain of behaviour and thereby prevent relapse from occurring.

Procedure

Sometimes, patients relapse even during the therapeutic process. This is a good time to analyze the factors that have caused the relapse, how the patient has felt, and what could have been done to prevent gambling. Relapses can also occur during exposure. For this reason, it may be important to advance relapse prevention to an earlier session. If no relapses have occurred during the therapeutic process, advancing the relapse prevention sessions may help to manage exposure sessions more appropriately.

Cognitive restructuring

Cognitive restructuring of the abstinence violation effect is very similar to the procedure used for the cognitive treatment of depression (Clark, 2014; Jacobson et al., 1996). It is very important to analyze the emotional reactions caused by relapse (depression, anxiety, guilt, frustration, etc.), as the negative emotional states generate a need to play again. Likewise, dysfunctional cognitions (internal, global, and stable locus of control in failure to stop playing) may induce gambling again and justify the relapse, with the patient assuming a sick role.

Discussion with group or with therapist

The objective was to analyze a relapse that has occurred in the past or recently so as to learn how to detect risk situations and train the behaviours that would have prevented the relapse.
For this, it is useful to understand relapse as a behavioural chain (Williams & Burkholder, 2003) in which a situation induces a behaviour, and this in turn favors the next behaviour until the final behaviour is reached, which is betting. Relapse can be divided into six or seven links in a chain, with the aim of successively selecting three or four different responses for each link. In this way, the chain would be broken and the patient would not have reached its end point. It is very important to train these alternative responses using appropriate techniques, for example assertiveness, impulse control techniques, social skills, etc., so the patient can perform such behaviours automatically if necessary.

Role playing

If feasible, the process described above can be carried out in a group using techniques such as role playing. It is helpful if the patient takes the role of a gambler, spouse, husband, friend, etc., which can be very useful to understand relapse and learn to react appropriately to risk situations.

Sixth module

Ending (session 15, three follow-up sessions)

Objectives

- Maintain abstinence from online gambling permanently.
- Acquire a new lifestyle.
- Check that changes are maintained over time.

Tools

- Behavioural interviewing.

- Therapeutic balance.

Foundations

Throughout the previous sessions, the goal has been for the patient to stop gambling and replace gambling with other behaviours that are more functional personally and socially. But in addition, the treatment is also aimed at ensuring that the conditions that previously led to gambling cease to cause the need to gamble and that the patient is convinced of how harmful gambling has been for her or his life. Throughout the treatment, the therapist will teach the patient to recognize risk situations and determine how to react to them.

If the patient has not only managed to stop gambling but has also developed skills for dealing with risky situations and has changed his or her attitudes toward gambling, it is time to end the treatment sessions.

However, relapses are likely in addiction (Prochaska et al., 1993), and the patient may suffer from this problem again. If this occurs, the violation of abstinence effect (Marlatt & Gordon, 1980, 1985) makes the patient feel worse than at the beginning, and her or his own relatives may not understand why the individual has returned to gambling.

For this reason, the therapist must be alert to possible relapses that may appear during that time and intervene early. Otherwise, the addiction can easily consolidate again. The new lifestyle acquired with the treatment will improve the quality of life and this will help prevent relapses (Sander & Peters, 2009).

Procedure

The last session occurs when the objectives of the previous modules have been met and there has been a period of at least 3 months of abstinence. However, this does not mean that treatment has ended as, during the first year after treatment for addiction, relapses are usually frequent (Kirshenbaum, 2009). For this reason, it is necessary to schedule short follow-up sessions in which the patient and therapist consider whether a relapse has occurred as well as the patient's general condition and degree of life satisfaction.

These sessions tend to be short, probably no more than fifteen minutes. The main objectives are to detect any relapse early if the patient has gambled again; if the person has not gambled, the goals are to reinforce the behaviours that are maintaining abstinence and creating feelings of self-efficacy and to check on the therapeutic objectives.

Material And Methods

Gambler, an online gambling addiction treatment, was designed at the Gambling and Technological Addictions Research Unit of the University of Valencia (Spain) for UNAD (*Unión de Asociaciones y Entidades de Atención al Drogodependiente*), an entity that includes more than a hundred addiction treatment centers from all over Spain. A textbook with all the therapeutic instruments and tools (Chóliz & Marcos, 2020) has recently been published.

Gambler consists of 15 sessions plus three follow-up sessions (one month after completion, after three months, and after one year) divided into six modules. Each module has specific therapeutic objectives and specific techniques, and each consists of several sessions, generally three. Sessions from several modules can be interspersed.

Tables 1, 2 and Figure 1 represent the psychological processes and techniques applied and applied techniques.

Table 1: Modules of treatment and psychological processes

Module	Psychological processes involved	Sessions	Condition
1	Analysis of gambling behaviour and clinical history	1, 2	Individual
2	Abstinence, incompatible behaviours with gambling and overcoming discomfort	3, 4, 6	Individual
3	Deconditioning and self-control skills	8, 10, 12	Individual
4	Cognitive–attitudinal processes	5, 9, 13	Individual or group
5	Relapse prevention, alternative behaviours with gambling	7, 11, 14	Individual or group
6	Consolidation and ending	15	Individual

Table 2: Treatment sessions and psychological techniques applied

Session	Psychological techniques applied	Content of techniques
1, 2	1.-Clinical anamnesis	1.-Gambling personal history, mental health assessment, recreational activities; interpersonal and familiar relationships; debts, etc.
	2.-Functional analysis of gambling behaviour	2.-Gambling pattern; antecedents and consequences
	3.-Psychological tests related to gambling disorder and other mental disorders	3.-NODS, SCL-90 and those that the therapist considers necessary (anxiety, depression, impulsiveness, etc.)
3, 4	1.-Stimulus control I	1.-Strict control of money and electronic devices (computer, mobile, tablet, etc.) to impede gambling; prevent access to gambling rooms
	2.-Alternative behaviours training I	2.-Replace gambling with other behaviours: leisure, physical, cultural, academic activities, etc.
	3.-Psychotherapeutic techniques for overcoming discomfort	3.-Those that the therapist considers necessary (relaxation, distraction, mental control, breathing, etc.)
	4.-Financial advice	4.-Debts payment plan
5	-Information and attitude change I	-Gambling as economic activity
6	1.-Stimulus control II	1.-Attenuated stimulus control to difficult gambling
	2.-Alternative behaviours training II	2.-Design a new lifestyle with the most rewarding alternative activities
7	-Relapse prevention I	-Relapses and classical and operant conditioning; Abstinence Violation Effect
8	-Exposure and coping strategies training I	-Low level of exposure
9	-Information and attitude change II	-Gambling addiction as health problem
10	-Exposure and coping strategies training II	-Medium level of exposure
11	-Relapse prevention II	-Training in recognition of risk situations and in coping strategies
12	-Exposure and coping strategies training III	-High level of exposure
13	-Information and attitude change III	-Online gambling addiction
14	-Relapse prevention III	-Training in recognition of risk situations and in coping strategies
15	-Ending of treatment	-Therapeutic balance analysis
	-Follow-up	-Three brief relapse control sessions (1-3-12 months later)

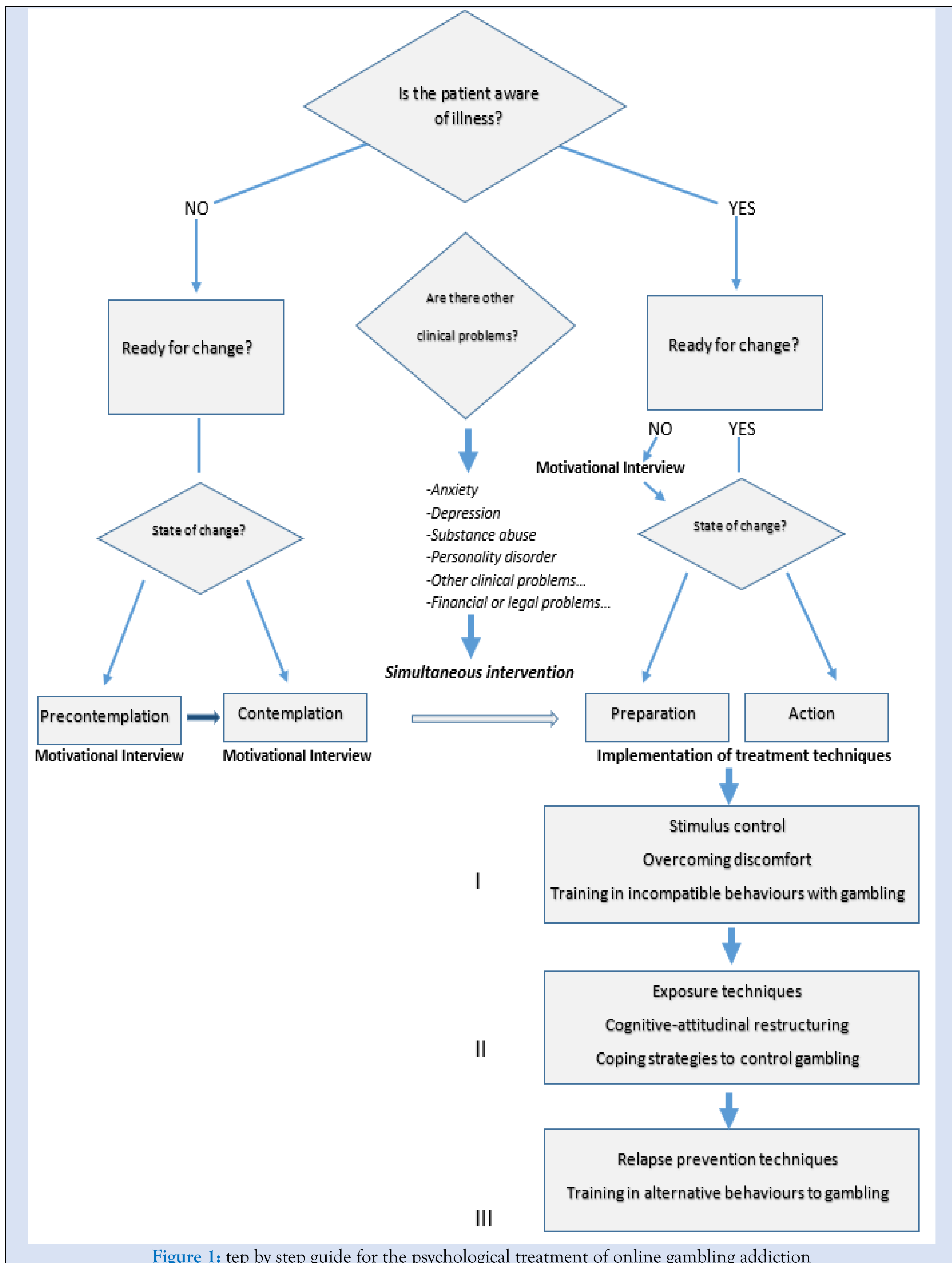

Figure 1: tep by step guide for the psychological treatment of online gambling addiction

Participants

The *Gambler* treatment was applied to 40 patients (38 men and two women), diagnosed with online gambling disorder and aged between 19 and 71 years old, by ten different therapists in eight Spanish cities.

-*Inclusion criteria*. Patients older than 18 years who came to public addiction treatment centers, diagnosed as online gambling disorder (NODS scores higher than 4) . 42 pathological gamblers were selected, but two of them were not included in the study due to the existence of a serious mental disorder (schizophrenia and psychopathic disorder).

Instruments

Gambler anamnesis: A semi-structured interview was developed to carry out the clinical anamnesis in which online gambling addiction and related psychosocial and medical problems were evaluated.

In addition, the following questionnaires and self-registrations were used:

Functional analysis of behaviour to analyze antecedents and consequences of online gambling behaviour.

Gambling pattern scale, which measures the frequency and type of gambling.

National Opinion Research Center DSM Screen for Gambling Problems (NODS) (Gerstein et al., 1999), which consists of 17 items and is derived from a semi-structured interview for the diagnosis of gambling disorder based on the DSM-IV criteria (APA, 1994). The scores range from 0 to 9. The corrected version of NODS was adapted to the current DSM-5 (APA, 2013), which eliminated the criterion involving obtaining money illegally to continue gambling.

Results

Figure 2 describes the participation (occasionally or frequently) of patients in the main online games.

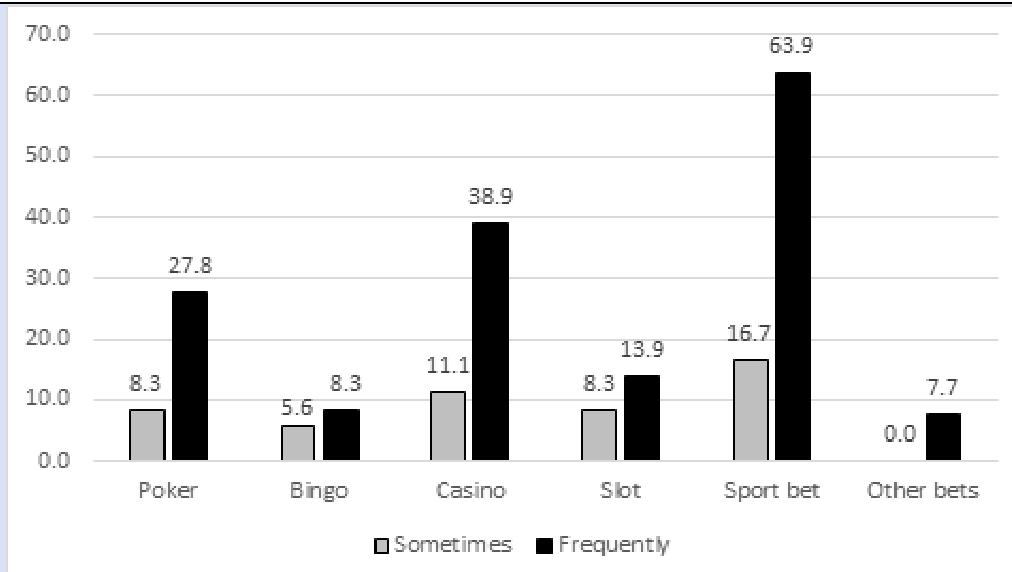

Figure 2: Participation in online gambling

Table 3 describes the distribution of patients according to the diagnosis of gambling disorder and the efficacy of the treatment at the end of the sessions.

Table 3: Treatment efficacy

	Initial Patients	Abstinence at the ending session
Mild gambling disorder	6 (15%)	6 (100%)
Moderate gambling disorder	10 (25%)	8 (80%)
Severe gambling disorder	24 (60%)	19 (79.2%)
Gambling disorder (total)	40	33 (82.5%)

After a follow-up period of one year, 28 patients remained abstinent, which represents 70% of the

patients who started the treatment initially. A patient committed suicide due to problems caused by gambling.

Figure 3 describes the effectiveness of the treatment in gamblers who frequently gamble to the different online games.

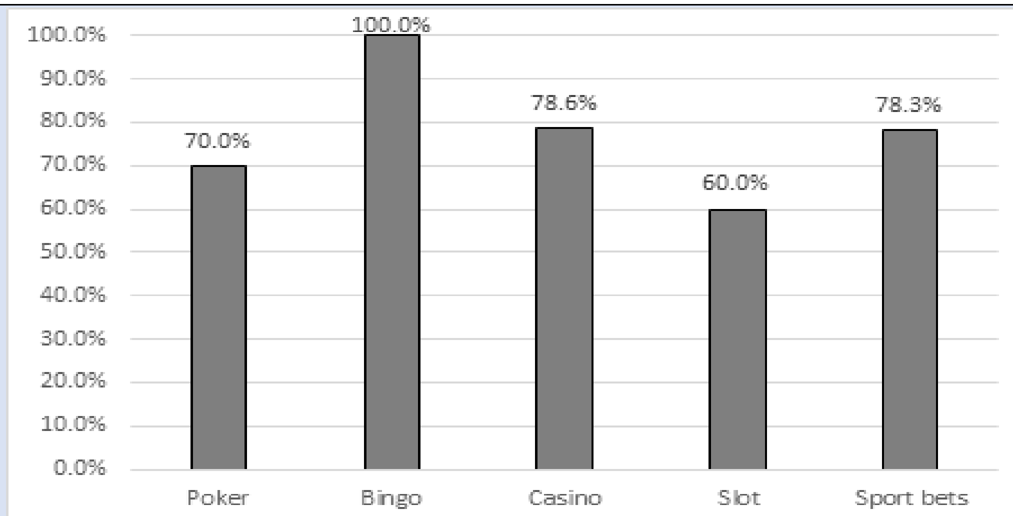

Figure 3: Treatment efficacy for different games

Discussion and Conclusions

Gambler is a psychological treatment based on the principles of learning and motivation. It is grounded in the assumption that online gambling is a learned behaviour that, due to its high addictive potential, can lead to a mental disorder ("online gambling disorder") (WHO, 2018) in vulnerable people. Previous studies showed no differences in clinical, psychopathological and personality characteristics between online pathological gamblers and non-online pathological gamblers (Jiménez-Murcia et al., 2011). Probably, the main cause of the appearance and maintenance of gambling disorder is the gambling behaviour itself. Therefore, that behaviour is what must be eliminated. For this reason, *Gambler* is based on learning principles and uses behaviour modification techniques to eliminate gambling behaviour and promote a new lifestyle without gambling.

However, gambling is also a social and economic activity that is presented to citizens as a legal and normal activity. Thus, it is necessary to inform patients and modify their attitudes so that they understand that there is no gambling without risk of addiction. This is the foundation of cognitive restructuring techniques based on the principles of ethical gambling (Chóliz, 2018).

Thus, *Gambler's* main objectives are as follows: a) to decondition the situations that induce online gambling behaviour; b) to train the patient in strategies for avoiding gambling; c) to modify attitudes toward gambling; and d) to promote alternative behaviours that generate a new lifestyle. All of these changes favor an overall improvement in mood as well as in interpersonal relationships that were affected by gambling.

This would be the basic and fundamental issues that any intervention with patients suffering from online gambling addiction should have. But patients with this pathology may suffer from other mental disorders that would also require therapeutic intervention or to be able to tailor *Gambler* treatment to specific patients' needs according to individual characteristics (Echeburúa et al., 2000). Otherwise, the psychological treatment would not be complete. We are referring to substance use, depressive disorders, personality disorders, etc., which present high comorbidity with gambling addiction and, in some cases, induce gambling or make the person more vulnerable to gambling disorder (Bischof et al., 2013; Kessler et al., 2008; Lorains et al., 2011). Obviously, in this step-by-step guide cannot specify how to deal with such mental disorders, and leaves it up to the psychotherapist to apply the corresponding evidence-based psychological techniques.

Gambler treatment has been used by 10 therapists from nine different treatment centers and has been shown to be relatively effective. The fact that it has been applied by different therapists of different psychological orientations (not all psychotherapists had a behavioural orientation) in different therapeutic centers suggests that it is a useful guide for psychotherapists and patients. However, further

research with other therapists in other countries is required to determine whether *Gambler* can be considered an effective treatment.

This study has some limitations that must be considered. The main limitation is that the efficacy of the treatment should have been greater. The disappointing outcome may have been due to the difficulty of applying *Gambler* in these differing contexts or to the fact that the causes behind dropouts were not analyzed. Most of the therapeutic failures were due to dropouts during the therapy process, indicating that the *Gambler* treatment should be applied by specialists in clinical psychology who can not only employ the principles of learning psychology to gambling behaviour but can also use other treatment approaches for psychological problems that occur together with gambling addiction.

Declarations

Conflict of Interest: The authors declare that they have no conflicts of interest with any gambling company. The authors subscribe to the Auckland Code of Ethics for gambling researchers.

Ethical Approval: This study is in accordance with the ethical standards of the Spanish government and with the 1964 Helsinki Declaration and its later amendments. All data are anonymous and are in accordance with Law 15/1999, on the protection of personal data.

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