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Efficacy of Cognitive Behaviour Therapy in Gambling Disorder (A Case study)

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ABSTRACT

Context: Gambling disorder is a mental health condition in which a person repeatedly engages in gambling behaviour despite various negative consequences. The condition is also known as gambling addiction, pathological gambling or compulsive gambling. Recent studies have demonstrated the efficacy of Cognitive Behaviour Therapy in treating gambling disorder.

Aim: In the present study, the efficacy of cognitive behaviour therapy in treatment of an adult patient with gambling disorder was examined.

Settings and Designs: A single case design with pre- and post-assessments on clinician-rated scales were adopted.

Materials and Methods: Fourteen bi-weekly sessions of Cognitive Behaviour Therapy were conducted on an inpatient basis. Assessments were carried out on Gambling Symptom Assessment Scale and Hamilton Anxiety Rating Scale, at pre- and post-therapy points.

Analysis: Pre- and post-therapy changes were examined using the method of clinical significance.

Results: A significant decline was seen on the Gambling Symptom Assessment Scale, and Hamilton Anxiety Rating Scale

Conclusion: Application of CBT was effective in treating the anxiety, and gambling symptoms in the patient with Gambling Disorder.

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Introduction

Gambling disorder is a chronic and persistent condition defined by one's inability to resist gambling urges, wherein the gambling behaviour disrupts or harms personal, familial, functioning of the individual. People who are diagnosed with gambling disorder must show at least four symptoms listed in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) — they include a need to gamble more to achieve the same level of excitement, being unable to cut back or stop gambling, and jeopardizing a job or relationship because of gambling.

The pathological gambling has been found to be associated with a range of negative consequences both in the intrapersonal and interpersonal areas of one's life including negative impact on gamblers' physical and mental health and performance in vocational situations. It leads to financial hardship (via debts and asset losses) and may lead to legal consequences, such as bankruptcy, loans or criminal acts to gain money. Interpersonal problems between gamblers and their significant others include domestic violence, relationship breakdown, neglect of family.

Cognitive Behavioural Therapy in Gambling Disorder

Numerous researchers who have reviewed the problem gambling treatment literature agree that behavioural, cognitive and especially CBT interventions appear to have the most treatment outcome literature and appear to be the most effective in the treatment of problem gambling [1].

Cognitive Behaviour Therapy (CBT) primarily focuses on altering the dysfunctional thoughts and behaviours that perpetuates the problematic gambling. It involves techniques such as thought restructuring, coping skills training, problem solving and imaginal desensitization.

The application of CBT also has some advantages over other therapeutic modalities. It is structured therapy that can be delivered in a set format and is a short-term therapeutic modality compared to other types of psychotherapy such as psychodynamic therapy and focuses mainly on building new skills that helps in decreasing the risk of relapse [1].

Case Summary

Index patient was maintaining well 8 years ago when he was preparing for college exams, he saw his cousin brother betting Rs 1000 on an IPL match. It was a bet about which team would win or lose. The cousin asked the patient to try it so the patient bet Rs 100 on a team. The team he placed his bet on won and he received Rs 200 for it but the patient did not feel excited about

it, as it was his usual daily expenditure. He placed a bet again the next day because his cousin insisted. He lost 200 Rs this time but he did not feel sad about it. Around 6 and ½ months later during a big match season of cricket, he had gone out with his friends to party in a bar in Bangalore. There he saw his senior betting on the sessions of the match. He got interested and betted Rs 2000. He won double the amount he betted so he was excited and spent the money in buying drinks for his friends. He began thinking that he could make money and could use it for his expenses. The patient then betted during the entire season of big match and won approximately 10000 rupees. He was overjoyed by it and spent most of the money on parties with friends. He continued to bet in 2014 and betted 20000 rupees and finally won Rs 50000. It was after this that the patent started betting large amount like 20,000 rupees and in over a span of 2 months in 2014, he won 3 lakhs. He used this money to go on trips with his girlfriend, partying and bought a new bike. The patient became overconfident after this and started betting in sums of 40000- 50000 rupees. He would win some matches and lose some matches but this time the losses would be of large amounts. He would continue betting in every session and he lost a significant amount of 80,000. To pay this, he sold his bike for 80000 which had originally cost him 1.5 lakhs. To recover the lost amount, he would then arrange for money by borrowing from his friends on interest, or keep his mobile phone / laptop as collateral and go to bet. Some of his friends tried to stop him and his other group would encourage him to bet more and more as they also got to spend the money he won. In 3rd and 4th semester the patient lost a significant amount of money (undisclosed). Because of this he would be restless and anxious.

At the end of 4th semester, he got into a huge fight with his batch-mates as they had been taunting him about his losses and making fun of him for being in debt. Physical altercations occurred and college authorities had to intervene. The patient's father was informed about the fight and he went to Bangalore to assess the situation. There he came to know through the patient's batch-mates that he was involved in gambling and that he had lost a significant amount. After coming to know about this the father got upset and worried about his son's condition, he withdrew the patient from the college and brought him back to his hometown in 2016. After returning to the hometown, the patient had to resume his studies in a different college. In the initial 2-3 months the patient did not gamble but whenever he saw a match, he would become restless and that time all he could think about was gambling he would have the need to bet money no matter how small the amount was.

It was his feelings of guilt that prevented him from betting. After the 3 months of returning home, the patient then contacted an old friend to get in touch with a local professional bookie. At this time all he could think about was the money that he had lost and how to recover it. He started to bet small amount starting from 500 to 1000 but as he would win the bet, his amount for the next bet would increase so as to recover the money quickly. This continued to the next few years and he lost over 3 lakhs. The patient became anxious and he decided to use the money that was saved in his grandfather's bank account.

He withdrew the total amount of 3 lakhs from the ATM over 4 days. The patient had opened the bank account for his grandfather and hence had the ATM card with him. The family came to know about it 1 week later when his grandfather had gotten transaction history on his passbook.

When he came back, they found that the patient had been missing from the house.

The patient had been unable to face his family had run away from the house. He stayed at the railway station at night and would travel on the train without ticket at times when he did not have the money. He did not take care of his personal hygiene and would walk around aimlessly. He returned home after 10days. He felt extremely guilty for his act and sought apologies from his family members.

After this incidence the patient was restricted from going out of his house and his mobile phone was taken away from him. This went for 1 month, during which the patient would remain in his room, would watch tv, listen to music eat the food that was served to him by his mother or aunt. He did not read books or study for his classes. But the entire day he would have the thoughts of ways to recover the lost money. Eventually when surveillance by his family decreased, would again start betting on the cricket matches and once he started, he would not be able to stop himself until he had a loss of large amount. He acquired money by borrowing from his friends up to 20,000 Rs or by borrowing money from brokers by keeping his mobile phone and his laptop as collateral. As he would bet large amount in the anticipation this time it would be better, he would win and recover all the losses and return the money to his family but. This continued for next few years.

In December 2019, during a big match the patient once had a strong urge to gamble but did not have the money, he went to a mobile store to sell his mobile phone, and sold the phone for mere amount of 5000. He lost the amount that he got. This time the patient himself realized that he had a gambling problem.

He would remain anxious and distressed, thinking about his loss and ways to pay back the loss amount. His distress became increasingly evident to the family members as well and they decided to take him for a consultation.

Baseline psychological tests/ rating scale findings

Scales	Scores obtained	Interpretation
Temperament and Character Inventory (TCI)	-	Harm Avoidance=24, (very high), Novelty seeking= 31 (very high), Reward dependence=19 (High), Persistence=4 (Very low), (Self-directedness=9, cooperativeness=26, Self-transcendence=8) very low
Hamilton Anxiety Rating Scale (HAM-A)	20	Mild Anxiety
Gambling Symptom Assessment Scale (GSA-S)	14	Mild level of Gambling Symptoms

Case Formulation

The case was conceptualized using the cognitive behavioural framework for gambling. In the present case, permissive parenting, low levels of supervision along with high novelty seeking of patient were the factors identified as the predisposing factors. Initial encounter with the cousin brother and the first gambling episode after observing him was identified as the precipitating factor that initiated the gambling behaviour. Further the process of gambling was perpetuated by a vicious cycle of distorted thoughts such as "I can win back my loss", "Today feels lucky for me" etc. making the patient more excited and impulsive in initiating

a gambling episode. As the patient wins the bet, it strengthens his cognitive errors and gambling behaviours. On the other hand, when he loses a huge sum of money in a bet, he withdraws from gambling for months in guilt. However, the cognitive error "I can win back my money" triggers another episode of gambling.

Cognitive Behaviour Therapy Intervention

Initial Phase

In the initial sessions, rapport establishment was done, and a detailed history of the patient was taken. Additionally, Hamilton Depression Rating Scale, Hamilton Anxiety Rating Scale and Gambling Symptom Assessment Scales were applied. After the assessments were conducted, the patient was explained the structure of therapy. Relevant information regarding the course of therapy was explained and the rationale and process of therapy was explained. His role in the process was described and the ground rules for the subsequent sessions were laid after discussion with the patient. A clear treatment plan including the number, duration and frequency of sessions and the use of homework assignments were explained to the patient. It was made clear to the patient that equal involvement of the patient and the therapist was required for the success of the therapy. He was given detailed psychoeducation regarding the nature of his illness. He was explained the details of the disorder such as the etiological factors causing the disorder and how it is being maintained. Micro process skills such as, ability potential responses, reflection and reassurance were used to make the patient understand that he was not the only one with such a disorder and a brief account of the prevalence of the disorder was given. Following this, a brief introduction to the cognitive behavioral model of gambling and depression was given. The relationship between thought, behavior and emotion was explained; describing how thoughts and emotions and behavior affects each other. The patient's issues and problems were summarized and reduced to a few key points to reassure the patient and prevent him from feeling overwhelmed by his problems.

The patient reported feeling tensed, anxious whenever he has flashbacks of his gambling loss episodes and thinking about his future. He was made to rate his anxiety on a distress scale of 1-10, which he rated on 8. Following which he was made to sit on the chair and taught about the Jacobson Progressive Muscle Relaxation Training (JPMRT) using the JPMR script. He was then asked to practice it by himself in the session. He reported having a significant decline in his anxiety and rated it 5. Following this he was given homework to practice relaxation daily and whenever he feels anxious and tensed.

Assessing what he does every day revealed that his levels of activity and engagement had reduced, and he was experiencing a significant reduction in pleasurable and rewarding behaviors. This cycle of withdrawal, reduced reinforcement and low mood, contributed to his feelings of being stuck in depression; it leads him to feelings of helplessness and self-blame, and this further undermines his ability to change his mood and behaviors. Given that reduced positive reinforcement was a key maintaining factor in his depression, it followed that behavioral work with him involved helping him increase positive reinforcers, or in other words to increase or re-introduce the opportunities for pleasure. Getting him back into doing things he enjoys, widening his range of activities, giving him a sense of achievement and purpose, and providing a structure to his days was targeted. For that, an activity schedule was prepared by the patient and therapist collaboratively. The schedule included reading newspaper daily, play badminton, studying, talking to others, etc. The patient was also requested to record the degree of mastery or pleasure associated with each recorded activity. Graded task assignments were eventually given to him in order to develop his interest and help him regain his confidence. He was asked to maintain a mood thermometer where he could rate his mood through the day from 1 to 10, 1 being worst and 10 being best. The patient was willing to address his feelings of guilt and sadness and wanted to engage in set activities despite having some difficulties in managing exercise and work. The patient by himself was able to identify his emotional states while engaging in particular activities. He would initially be hesitant to go for library and badminton but his regularity increased over the next few weeks. He was making efforts to engage in conversation with the fellow patients in the ward and outside the ward.

Middle Phase

Initially the patient was once again explained about the Cognitive model of gambling addiction and explained how different factors contribute to the problem. The agenda to be addressed in the session was identified by the patient and the therapist as 'management of triggers". Wherein the patient was explained that the, 'Gambling does not just happen'. There are a range of thoughts, places or actions that can increase urges or thoughts to gamble. These are called ''triggers''. Triggers can be either external (something outside of the individual) or internal (something internal of the individual).' Some examples of triggers that could be identified in the patient's case included: having money available; being in a place where gambling was possible such as a club, knowing that money will be available shortly from home, contact with people associated with gambling (e.g., hanging around with people who gamble); – hearing/seeing gambling situations, like cricket match; meeting friends who the client used to gamble with. Apart from this it included internal states loneliness, boredom, negative thoughts or assumptions such as "I will surely win today".

The patient was explained that sometimes the urges to engage in gambling can be too strong that he may get carried away with it. Therefore, it was advised to prepare himself by listing the safeguards when the likeliness for a lapse is too high. Based on his triggers, various safeguards practices were negotiated with the patient. This included cash control strategies, and his father was identified as a significant member to take responsibility of his financial transactions. Secondly avoidance was negotiated with the patient. Wherein he was advised to avoid the places, people and situations immediately which are related to high-risk situations. The patient was taught the avoidance skills within sessions with the help of role plays, and assertiveness training. The patient was advised to engage in healthy non-gambling behaviors and prepare an activity schedule for himself as he goes back to the home environment. In the following sessions the patient was also explained about the behavioral techniques including positive self-talk practices. He was made to write some sentences on self- talk such as "Due to my gambling I am in debt.",' "I have saved money already by not gambling", 'I have already made the first step towards seeking help. I don't want to go back.''. he was asked to carry coping cards with these statements written on it. He was advised to immediately pull out and read the scripts whenever he experiences strong urges for gambling. Following this he was asked to immediately distract himself from the situation, by engaging himself in alternative activities such as going for a walk, watching TV, talking to someone, listening to music on his phone etc.

Once the management of urges was properly discussed with the patient, the next agenda of the sessions was jointly set as cognitive restructuring of the gambling behavior. The main goal was to identify the cognitive errors related to gambling and restructure

it in an adaptive way. The patient was initially explained how his thoughts about a gambling episode leads to feelings of excitement which is then followed by the actual act of gambling. The patient was asked to write down in his diary, the automatic thoughts that come to his mind right before his gambling and the negative automatic thoughts that leads to distress.

The Socratic questioning and the downward arrow technique was used to identify the cognitive errors present in the patient related to gambling and his distress. The thinking errors or distortions identified in the patient related to gambling were Gambling fallacy, chasing and personalization. Wherein he would often after a series of losses would expect a definite win, secondly, he would repetitively engage in gambling endorsed by an underlying thought to compensate for the losses. The client was then psych educated about the operation of gambling episodes on absolute chance factors rather than his abilities or skills. He was explained how he cannot predict or control the outcome of gambling in any manner. He was also explained that each gambling episode is independent and that the outcome is not determined by the past losses or wins. In order to further test the validity of his thoughts such as "I have lost multiple times and this time I will definitely win" and "I have lost so many times and if I bet for a big amount, I will compensate for all the loses in the past", "It is all my fault that I messed up my life and family". The patient was explained about how he can challenge the thoughts by looking for evidences for and against the thoughts. The evidences in support of these thoughts and the evidences against these thoughts were collected within the session. It was observed that the patient had lost multiple times despite of having such thoughts and he was further burdened with debts from others. Hence the patient could understand that these thoughts that motivate him to repetitively engage in gambling are invalid, baseless and harmful for him. Further, the utility of these thoughts was also checked by using the decisional matrix, wherein the benefits and costs of these thoughts were listed. He could reflect that he has suffered losses amounting to lacs of rupees and it further put a major strain in his relationship with the family. Therefore, these thoughts and gambling are seen by the patient as absolutely unhelpful and destructive for him. Further he was asked about his future goals and aspirations, where he responded that eh want to get a job for him and have a family of his own. He could reflect that continuing with the gambling will not let him achieve the goals in long term and it is in his best interest to completely abstain from it. Similarly, other cognitive error i.e., identified as personalization wherein he would put all the blame on himself was also subjected to test for validity and utility by the patient. The client could understand that blaming himself for the past will not solve the problem and whatever he has learnt from these sessions, he can put it to use and correct his behaviors in future.

Following this, he was also made to write down a list of rational self-statements on his diary. These included for example "gambling outcomes are more determined by luck than skill," when my urges are strong, I have a tendency to remember only my wins not losses," gambling outcomes are not related to previous outcomes or random events so there is no way I can predict gambling. He was explained the need to make coping cards out of these rational self-statements and how it will always keep him aware of the cognitive errors and prevent him from engaging in a future gambling episode.

The patient was also given assertiveness skills training, explaining the difference between positive and negative assertions, refusing requests and responding to unwanted advice. His understanding of assertiveness training was enhanced through role play wherein the therapist and patient interchanged roles and practiced assertiveness in various situations involving risk.

Terminal Phase: 2 Sessions

Everything that had been discussed in the initial and middle phases was summarized for the patient. He was also made aware about seeking timely medical help on identifying sign of relapse. Gambling as a problem behavior was reiterated and the need to stay abstinent was emphasized. Doubts and queries were clarified. The guardians were psycho-educated about the patient's condition and need constant supervision for initial few months after discharge was proposed. Parental and family factors that play a role in relapse were discussed collaboratively with patient and guardian. For assessing the outcome, HAM-A and GSAS was re-administered.

Post intervention rating scale findings:

Scales	Scores obtained	Interpretation
Hamilton Anxiety Rating Scale (HAM-A)	7	Not significant
Gambling Symptom Assessment Scale (GSA-S)	2	Not significant

Patient showed improvement in his symptoms as his scores were lower than at baseline. His interaction with other ward members improved and he was maintaining activities of daily living. The patient was practicing breathing exercises, regularly. At the time of discharge, patient was asked to come for booster session after one month and for regular follow up in the OPD.

Discussion

Several authors have proposed that multiple factors contribute to pathological gambling including bioilogical, social and psychological [2,3]. Similar to these theories, in the present study it was found that the patient had a biological temperament with high novelty seeking, impulsivity and social factors such as permissive parenting from the parents, and a persistent peer pressure that highly predisposes the patient towards pathological gambling. It is pertinent to address the various psychological as well as social factors in the course of treatment. Further, at the cognitive level, it has been found that patients with gambling disorder employs a set of thinking errors that motivates them to repeatedly gamble despite of a huge losses. Therefore, treating a patient at a cognitive level involves challenging and restructuring these thinking errors (cognitive distortions) and facilitating a space wherein the patient develops a realistic as well as adaptive perspective of his thoughts and behaviors related to gambling [4,5]. A meta-analytical study conducted by Gooding & Tarrier found that cognitive behavior therapy is an effective intervention in persons with gambling disorder [3]. In consistent with it, the present study also shows that cognitive behavior therapy is an effective intervention in treatment of gambling disorder. However, long-term efficacy of the intervention needs to be studied with larger samples.

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