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Cognitive versus exposure therapy for problem gambling: Randomised controlled trial

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ABSTRACT

Background: Problem gambling-specific cognitive therapy (CT) and behavioural (exposure-based) therapy (ET) are two core cognitive-behavioural techniques to treating the disorder, but no studies have directly compared them using a randomised trial.
Aims: To evaluate differential efficacy of CT and ET for adult problem gamblers at a South Australian gambling therapy service.
Methods: Two-group randomised, parallel design. Primary outcome was rated by participants using the Victorian Gambling Screen (VGS) at baseline, treatment-end, 1, 3, and 6 month follow-up.
Findings: Of eighty-seven participants who were randomised and started intervention (CT = 44; ET = 43), 51 (59%) completed intervention (CT = 30; ET = 21). Both groups experienced comparable reductions (improvement) in VGS scores at 12 weeks (mean difference −0.18, 95% CI: −4.48–4.11) and 6 month follow-up (mean difference 1.47, 95% CI: −4.46–7.39).
Conclusions: Cognitive and exposure therapies are both viable and effective treatments for problem gambling. Large-scale trials are needed to compare them individually and combined to enhance retention rates and reduce drop-out.

1. Introduction

Maladaptive gambling behaviour is harmful to individuals, families, and communities with consequences including financial ruin, broken marriages, problems with the law, depression, anxiety and suicide. There is an urgent need to identify and develop effective treatments for problem gambling that are consistent with the inclusion of Gambling Disorder as an addiction in DSM-5 (American Psychiatric Association, 2013). The current evidence-base for gambling treatments suggests that psychological interventions, mainly variations of cognitive behavioural therapy (CBT), are the most promising (Cowlishaw et al., 2012).

The theoretical underpinnings of CBT include cognitive and psychobiological processes which are the basis of two dominant approaches to explaining decision-making during gambling (Clark, 2010). Cognitive therapy (CT) for problem gambling focuses on teaching the concept of randomness, increasing awareness of inaccurate perceptions and restructuring erroneous gambling beliefs (Ladouceur et al., 2001). Treatments that target gambling related psychobiological states (e.g. the "urge" to gamble) are predominantly behavioural (exposure-based) (Battersby, Oakes, Tolchard, Forbes, & Pols, 2008; Oakes, Battersby, Pols, & Cromarty, 2008; Tolchard, Thomas, & Battersby, 2006). Of the few randomised trials that have investigated behavioural (exposure-based) techniques for disordered gambling over the past 30 years none have attempted to isolate and compare their efficacy with pure cognitive therapy (Grant et al., 2009; McConaghy, Armstrong, Blaszczynski, & Allcock, 1983; McConaghy, Blaszczynski, & Frankova, 1991). It is important to dismantle combined CBT approaches to determine if each core component can be delivered independently and if one is more efficacious than the other. This has major clinical and policy implications if single modalities can be as efficacious and delivered in less time than combined approaches.

Therefore, in this randomised controlled trial, the research question we addressed was: Among treatment seeking problem

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gamblers can exposure therapy alone improve gambling related outcomes across intervention period and 6-month follow-up compared with cognitive therapy alone? The broader aims of the study were to establish whether exposure and cognitive therapy for problem gambling could be isolated, manualised and administered in a reliable and consistent manner across therapists whilst maintaining fidelity. As a phase II study, it would provide the basis for a phase III randomised trial comparing cognitive, exposure and combined cognitive and exposure therapy to assess the relative benefits of the individual and combined elements of CBT and determine underlying mechanisms of change.

2. Methods

2.1. Study design and participants

A detailed description of the study protocol has been published elsewhere (Smith, Battersby, Harvey, Pols, & Ladouceur, 2013). Comparing outcomes of cognitive and exposure therapy for problem gamblers was conducted using a two-group randomised, parallel design, with outcomes assessed up to 9 months after randomisation for treatment seeking problem gamblers. The study site was the Statewide Gambling Therapy Service (SGTS) in South Australia. The service offers free mental health and cognitive-behavioural treatment for help-seeking problem gamblers in key geographical areas. We recruited 99 participants from consecutive new outpatients attending SGTS Flinders site in South Australia between April, 2011 and April, 2012, and completed outcome data collection January, 2013.

To assess study eligibility, an independent clinician conducted semi-structured interviews by telephone with treatment seeking problem gamblers who contacted SGTS during the recruitment period. The interview comprised an assessment of demographic data, recent gambling activities, and administration of the well-validated South Oaks Gambling Screen (SOGS) as a screening questionnaire (Lesieur & Blume, 1987). The SOGS is a 20 item questionnaire based on DSM criteria for pathological gambling using a binary response method. It has previously been used in a population-based cross-sectional study of South Australian adults when administered by telephone (Gill, Dal Grande, & Taylor, 2006). A score of 5 or more is indicative of probable pathological gambling. In gambling treatment samples the scale has good reliability, exhibits high correlations with DSM-IV diagnostic criteria, and good to excellent classification accuracy (Stinchfield, 2002).

Study eligibility was based on the following inclusion criteria: 18 years of age or older; treatment seeking for problem gambling with electronic gaming machines (EGM's); not involved in a concurrent gambling treatment program; gambled in the past month using EGM's without any psychological treatment for problem gambling in the previous 12 months; willing to: participate in the study; to read and respond to self-rated questionnaires written in English; be randomised to one of two psychological treatments; provide follow-up data; have treatment sessions audio recorded; as well as scoring 5 or greater on the SOGS; and not suicidal, exhibiting acute psychosis or mania or experiencing significant mental distress such that the problem gambler would not be able to participate fully in the treatment offered or research procedures. Individuals were not excluded if they exhibited co-morbid anxiety disorders, depression, personality disorders or drug and alcohol abuse.

The study received approval from the Southern Adelaide Health Service/Flinders University Human Research Ethics Committee, and was registered with the Australian New Zealand Clinical Trials Registry (ACTRN12610000828022) at the trials' inception.

2.2. Randomisation

Eligible individuals were randomly assigned to one of two treatment groups with 1:1 allocation ratio before their pre-treatment assessment with a therapist. From the trial outset, randomisation was blocked to increase the likelihood of equal group sizes, using a standard permutated block algorithm in which block sizes were randomly chosen from 2, 4, and 6 to protect concealment. To ensure balance on potential confounders, block randomisation within strata was used. Stratification variables were age, gender and SOGS scores for gambling severity. Based on previous SGTS data, age was stratified as 18–42 years, and 43 years or more (Smith et al., 2010). Recent population data for South Australia showed a median age of 39.5 years (Australian Bureau of Statistics, 2011). Gambling severity was stratified according to previous treatment-seeking problem gamblers SOGS scores of either 5–11 or 12–20 (Riley, Smith, & Oakes, 2011). A biostatistician independently generated random sequences for each stratum using Stata version 11.1 software and delivered these to the clinical trials call centre of a centrally located hospital pharmacy. Staff enrolling and referring participants, collecting and entering data and administering interventions did not know in advance which treatment the next participant would receive.

2.3. Masking

In this trial, therapists knew what treatment they were administering and participants were provided with information that rationalised and described their assigned therapy protocol. It was intended that participants were masked to the study hypothesis in order to help limit the likelihood for self-report bias. Participant information sheets referred to treatments as “well known and commonly used psychological treatments”. To avoid contamination of masking, SGTS administration staff members were instructed not to reveal specific treatment labels to any participants and therapists not to reveal the alternative treatment label.

2.4. Procedures

Table 1 shows a summary of therapy sessions and manuals are available from authors upon request. Participants in each group received, on average, twelve 60-min individual treatment sessions conducted at weekly intervals. For this study, both CT and ET manuals were written as a session-by-session guide for therapists treating individuals with a gambling disorder where EGMs were the main form of gambling. Participants in both groups were given home exercises with rationale and instructions and a review of these was conducted at the beginning of each session. After eligibility screening by the research assistant and randomised allocation to the intervention, all participants were provided with a screening interview by the allocated CT or ET trial therapist at study commencement that comprised a gambling focused cognitive behavioural assessment including DSM-IV-TR criteria for identifying pathological gambling. All subsequent therapy sessions were audio recorded and 20% were randomly selected from early, mid, and late study phases and checked for therapy fidelity. For this, a 10 item checklist was developed based on the Cognitive Therapy Scale (CTS) which is an 11-item instrument with good reliability when used by experienced clinicians (Young & Beck, 1980). Treatment drop-out was determined using the approach based on therapists' judgement of participant progress up to the point of self-initiated termination (Melville, Casey, & Kavanagh, 2007). Specifically, participants were classified as drop-outs if they stopped attending therapy before completion of the therapy program-either without