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Is virtual reality useful to treat pathological gambling?

Submission date
15/01/2015

Recruitment status
No longer recruiting

Registration date
31/03/2015

Overall study status
Completed

Last Edited
18/10/2019

Condition category
Mental and Behavioural Disorders

[ ] Prospectively registered
[ ] Protocol
[ ] Statistical analysis plan
[X] Results
[ ] Individual participant data

Plain English summary of protocol

Background and study aims
Pathological gambling is characterized by a loss of control over gambling, deception about the extent of one's involvement with gambling, family and job disruption, theft, and chasing losses, or the effort to win back money lost while gambling. About 1% of the adult population is said to be a pathological gambler. Scientific data suggest that combined cognitive and behavioural therapies (CBT) are "somewhat" successful in treating this addiction. An important issue in treating pathological gambling is that, despite understanding the negative consequences of their behaviour, problem, gamblers continue experiencing an overwhelming craving to gamble. In CBT sessions, patients remain emotionally detached from the gambling situation and the associated cravings. Being in the safety of the psychologist's office makes it difficult to evoke all high risk situations and associated behaviours and thoughts, as well as practicing skills that would prevent them from gambling when they feel a craving to do so. An alternative solution would be to use virtual reality (VR) to help people to walk away when faced with a situation where they may be tempted to gamble (relapse prevention). In a previous study, called "My turn to play", gamblers were enrolled in a an inpatient CBT program where they could choose between being exposed to one of two situations (an easy one and a more difficult one) that may encourage them to gamble (gambling stimuli) where they could practice CBT relapse prevention exercises either through the 7 steps of the virtual environment or an individualized typical situation. It was found that being exposed to a more intense gambling stimuli during the relapse prevention exercises was more successful.
VR has not yet been tested to see how successful it could be when combined with CBT. Before launching a large, expensive trial, this study sets out to answer:
1. Can VR help identify high risk situations and dysfunctional beliefs, early in the treatment
2. Can VR be useful for relapse prevention exercises, late in the treatment
3. Does using VR raise ethical issues with patients during the treatment (e.g., uncontrollable urges to gamble)?

Who can participate?
French speaking pathological gamblers aged 18-75.

What does the study involve?
Participants are randomly allocated into one of two groups. Those in group 1 (experimental

group) attend one VR session which identifies situations where the participant is at high risk of being compelled to gamble and one VR session where they practice relapse prevention exercises. Those in group 2 (control) attend similar sessions but use their own imagination to visualize situations rather than VR. All participants are treated with a standardized cognitive-behavioural program run by experienced therapists. Adherence to the research protocol is assessed regularly by independent raters who review videotapes of therapy sessions. Diagnostic interviews and questionnaires are completed before and after the treatment, and at follow-up sessions 6 months and then 12 months later.

What are the possible benefits and risks of participating?
The fact that participants are exposed to virtual environments that includes gambling machines can trigger the desire to gamble. In the worst case scenario, this desire will not be any stronger than that triggered by real gambling machines. It is important to mention that the first source of motivation to play is to win. In this project, participants cannot get real gains since it is all in virtual reality. We recruit participants located in inpatient therapy centers that specializes in the treatment of pathological gambling in order to ensure there is always a therapist present in case of a problem. These centres have accommodations on site for clients that requires a safe environment away from gambling. Participants are informed of what is expect and are free to refuse or quit the project at any time. The Gambling Craving Scale measures desire to gamble and will allow the therapist to know, after each virtual reality sessions if the participant's desire to gamble is high and will be able to stop the sessions. Possible adverse effects of participating in the study are mild symptoms of cybersickness. Cybersickness is similar to motion sickness and typically occurs during or after an immersion in a virtual environment. The temporary side effects associated to cybersickness include (1) visual symptoms (eyestrains, blurred vision, and headaches), (2) disorientation (vertigo, imbalance) and (3) nausea (vomiting, dizziness). If cybersickness occurs and become uncomfortable for the participant, the session will end immediately. All participants will be asked to remain in the therapist's office 15 minutes after the session before leaving, as a preventive measure. If symptoms do not subside after 15 minutes (although it never happened before in many years of experiments), the assistant or therapist will take appropriate actions, such as waiting longer in the waiting room, going to rest in their room at the inpatient clinic, or bring the participant directly to the local emergency room (which is extremely unlikely).

Where is the study run from?
Laval University - School of Psychology and two drug addiction centres (Canada)

When is the study starting and how long is it expected to run for?
June 2013 to March 2017

Who is funding the study?
Quebec Research Fund - Society and Culture (Canada)

Who is the main contact?
Dr Stephane Bouchard
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Contact information

Type(s)
Scientific

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Additional identifiers

Protocol serial number
FRQSC (Funding): 2014-JU-171635 and UQO Ethic committee no: 1778

Study information

Scientific Title
Testing the usefulness of virtual reality (VR) in the treatment of pathological gambling with a randomized controlled trial

Acronym
VR_GAMBLE

Study objectives
In comparison with traditional CBT treatment, Immersions in virtual environments that induces desire to gamble will:
1. Facilitates the identification of high risk situations and dysfunctional beliefs, early in treatment
2. Facilitates self-efficacy perceptions and relapse prevention exercises, late in the treatment and at 6 and 12 month follow-ups

Ethics approval required
Old ethics approval format

Ethics approval(s)
1. Comité d'Éthique à la Recherche de l'Université du Québec en Outaouais, 05/06/2013, ref:1778
2. Université Laval, 28/04/2014, ref: 2014-024

Study design
Two arms non-inferiority randomized control trial in two centers offering inpatients psychological services for pathological gambling

Primary study design
Interventional

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Treatment and relapse prevention for adults suffering from pathological gambling

Interventions
After receiving an appropriate diagnosis and completing the ethics procedures, participants will be randomly assigned to one of the following two conditions:
1. Experimental (Virtual Reality (VR) Condition):
1.1. One session identifying high risks situations with exercises in VR.
1.2. One session practicing relapse prevention with exercises in VR.

2. Control condition:
2.1. One session identifying high risks situations with exercises in imagination.
2.2. One session practicing relapse prevention with exercises in imagination.

A standardized treatment will be conducted inside a traditional (cognitive-behavioral therapy) program delivered by experienced therapists in each centers. Treatment fidelity will be enhanced by the use of treatment manuals and weekly supervisions. Adherence to the research protocol will be assessed regularly by independent raters who will review videotapes of therapy sessions.

Intervention Type
Behavioural

Primary outcome(s)
Pre, 2-week post, 6 and 12 month follow-up:
1. Indice Canadien du Jeu Excessif (ICJE; McCready & Adlaf, 2006): will be administered to document the program effectiveness.
2. Perception d'Efficacité Personnelle (Sylvain et al., 1997): based on the description of three situations assessing excess risk in gambling. Participants can rate how much they can control their gambling behaviors in these situations.

Note that there is a 2-week period between post and the end of the treatment. This period of time allows the participant to finish their program and return into their familiar environment.

Key secondary outcome(s))
Pre, 2-week post, 6 and 12 month follow-up:
1. Fréquence de jeu (Sylvain et al., 1997) : Gambling Frequency is a questionnaire that indicates gambling frequency during the last week. They also note the amount spent and how long they played.
2. Gambling Craving Scale (GACS; Young & Wohl, 2009) This 9-item questionnaire has three subscales measuring anticipation, desire to gamble et and relief. Each subscale has three items and participants have to answer to questions on a scale of 1 (strongly disagree) to 7 (strongly agree).
3. Mon Traitement (Bouchard et al., 2012) : My treatment is a scale composed of two types of information : (a) presence at the end of the day of desire to gamble and possible cybersickness following virtual reality sessions, and (b) assiduity in therapy sessions and motivation to continue treatment.

Note that there is a 2-week period between post and the end of the treatment. This period of time allows the participant to finish their program and return into their familiar environment.

Completion date
30/03/2017

Eligibility

Key inclusion criteria
40 participants suffering from pathological gambling (according to DSM-V diagnostic critera) will be recruited in two treatment centers that offers a closed-inpatient setting (Centre Casa and Maison Jean Lapointe), allowing a more secure environment for trying a treatment that involves voluntary interventions related to the desire to gamble. In each centers, participants will be randomly assigned to one of the two experimental conditions.

1. Ambulatory man and woman
2. At least 18 years old and at most 75 years old
3. French speaking
4. Receiving a principal diagnosis of Pathological gambling based on DSM-5 diagnostic criteria. Assessed with a semi-structured diagnostic interview (EDTJ)

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
18 years

Sex
All

Key exclusion criteria
1. Having a principal diagnosis other than Pathological gambling
2. Currently suffering from a severe organic disease, dementia, mental retardation, schizophrenia, amnesia, substance abuse, borderline personality disorder, psychosis or bipolar disorder
3. Active suicidal ideations

Date of first enrolment
01/12/2013

Date of final enrolment
15/12/2015

Locations

Countries of recruitment
Canada

Study participating centre
University of Quebec at Outaouais (Université du Québec en Outaouais (UQO))
Department of Psychology (Dept. psychologie)
C.P.1250 succ. Hull
Gatineau
Canada
J8X 3X7

Study participating centre
Laval University - School of Psychology (Université Laval - École de psychologie)
Pavillon Félix-Antoine-Savard
2325 rue des Bibliothèques
Québec
Canada
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Study participating centre
Maison Jean Lapointe
367, rue Marguerite-D'Youville
Montreal
Canada
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Study participating centre
Centre CASA
4965, Lionel-Groulx
Saint-Augustin-de-Desmaures
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Sponsor information

Organisation
Fonds de Recherche du Québec - Société et culture (FRQSC)

ROR
https://ror.org/00shpc021

Funder(s)

Funder type
Not defined

Funder Name
Quebec Research Fund - Society and Culture (Canada)

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	24/02/2017	18/10/2019	Yes	No