Developing and examining the efficacy of Virtual Reality base treatment as a component of Cognitive Behavioural therapy intervention for eating disorder in young people.

Section 1 – Project Details:

Maximum 800 words, using the following headings

Rational:

Between 0.1% and 1.4% of males, and between 0.3% and 9.4% of females suffer from eating disorders, such as anorexia or bulimia nervosa like disorders (Hudson et al, 2007). Eating Disorders are a life-threatening illness with high mortality rates (Arcelus et al, 2011) and primarily affects young people (Le Grange et al, 2011). The illness usually develops during adolescence and can profoundly disrupt the quality of life of the sufferer. Cognitive Behavioural Therapy (CBT) is the treatment recommended for people with eating disorder by the NICE guidelines (NICE, 2004). A trans diagnostic approach to treatment has been suggested for patients with eating disorders, which means that CBT is used for people with anorexia nervosa as well as those with bulimia nervosa (Fairburn 2008). CBT-E (CBT-Enhanced) for eating disorders, which was developed by the Oxford team (Fairburn, Cooper & Shafran, 2003), helps patients identify the abnormal thoughts attached to food in order to challenge them. The therapist and the individual examine the patient's thoughts, beliefs, and values that maintain the eating problem. The cognitive treatment is then practiced in the patient’s home environment and feedback is brought back to the therapist during CBT sessions. Currently CBT is offered in most eating disorders services in the United Kingdom and beyond.

The Problem:

Despite CBT being recommended as the primary talking therapy for eating disorders, at best, only between 40-50% make a full recovery. For other interventions for eating disorders (such Interpersonal Psychotherapy) the rates of recovery are worse (35% only) (Fairburn et al., 2015; Wilson & Fairburn, 2007). In light of the lack of effectiveness of eating disorders treatment, NICE has recommended further research to improve our understanding of eating disorders and their treatment (NICE, 2004).

One of the difficulties identified by patients and therapist is the fact that patients are expected to translate and practice the techniques learned during therapy to their home environment. This is not always easy as many struggle to challenge the thoughts when confronted with food. It is because of this that some clinical settings offer intensive CBT-E adding assisted eating to CBT (Dalle Grave et al., 2008). During the meals, the clinician who uses cognitive behavioural procedures assists patients to help them eat. Patients are encouraged to consider food like a “medication”, and to eat mechanically, without being influenced by any external (e.g. food availability) and internal (hunger, anxiety and thoughts) cues (Garner, Vitousek, & Pike, 1997). Other therapeutic techniques adopted are support, education, distraction, and in patients who
are not too preoccupied decentering from problematic thoughts and urges (Dalle Grave et al., 2008). This can be a costly add on therapy and only offered to those with high severity of problems.

**Aims and methodology:**
This project aims to use new digital technology, in the form of virtual reality (VR), to help translate the therapeutic gains from the therapist's office to the patient's home environment so it can be used to assist eating. Similarly, it will also aim to bring the patient's “home”, and it's inherent challenges, back into the therapy session.

VR has previously been used in the field of eating disorders but mainly in non-clinical populations and in small scale studies aimed at challenging body dissatisfaction and body distortion (Ferrer-Garcia et al, 2013). However, VR has not been used as an adjunct to eating disorders CBT treatment aimed at challenging the thoughts of patients when confronted with food, which has been found to be necessary for a better outcome (Dalle Grave et al., 2008). Studies by Gutierrez-Maldonado and colleagues, key researchers in the field, have demonstrated that food in the VR environment can elicit emotions that are closer to those elicited by food in the real world, as compared to the emotions aroused by conventional methods of therapeutic exposure, such as photographs or guided imagination (Wiederhold et al, 2016). This evidence provides a sound basis for using VR to target thoughts and emotions about food for individuals with eating disorders.

The aim of this PhD will be to develop and evaluate a VR paradigm that will adjunct traditional CBT for eating disorders. This paradigm will utilize new virtual reality technologies, such as immersive, 360 degree photography and 3D virtual environments, to simulate experiences with food, at home, in a guided and controlled way. These simulations can incorporate the patient’s own surroundings, which can also be brought back into the therapy session if the patient is experiencing specific challenges that require further work with a therapist present.

The PhD will use consumer based - “off the shelf” - VR technology (e.g. Samsung Gear VR http://www.samsung.com/uk/wearables/gear-vr-r322/; Oculus, https://www.oculus.com/rift/; Samsung Gear 360 too http://www.samsung.com/global/galaxy/gear-360/). This will ensure that the paradigm can be developed and evaluated in a cost-effective and accessible way that can be later scaled with minimal hardware and running costs to the NHS.

First, a series of focus groups with patients and clinicians will aid the development of the VR paradigm. They will provide guidance on the potential format, content and safety of the VR experiences. The developed VR paradigm will then be evaluated in a pilot feasibility and acceptability study. Finally, the student will examine the efficacy of the VR experiences in conjunction with CBT treatment within an outpatient population.

**Benefits and suitability as a PhD project:**
It is expected that the development of VR package as an adjunct to CBT for young people with ED and the collection of pilot data will aid the development of a RCT using the new instrument. Given that ED develops during adolescence, targeting a young population (those
below 25 years old) with digital technology could provide an incentive to engage with and commit to therapy.

The student will work with eating disorder sufferers and clinicians and will be supervised by clinical academics in the field, a health psychologist and technology psychologist. The project will also be supported by the University's NIHR MindTech and BRC, which would provide the student with invaluable experience of a multi-disciplinary environment.

Key References:


Fairburn, C., Bailey-Straeber, S., Basden, S., Doll, H., Jones, R., Murphy, R., O'Connor, M., and Cooper, Z. A (2015). Transdiagnostic comparison of enhanced cognitive behaviour therapy (CBT-E) and interpersonal psychotherapy in the treatment of eating disorders, Behavioral Research Therapy, 70, 64-71


Section 2 – Training Provision:

The student will be offered the opportunity to take modules from the Masters in Mental Health research, including advanced qualitative and quantitative methods. They will also be provided with access to a 3 day systematic review course. Depending on the clinical experience of the candidate, the student will be able to spend some time, as a clinical attachment, with the eating disorders team to understand the clinical skills required to work with ED and vulnerable populations. Training will also be provided through the IMH and MindTech on patient and public involvement in mental health research. The PhD student will be closely supervised by clinical academic in the field of eating disorder and will work closely with the two clinical teams involved in this project. The PhD will have the main base at the Institute of Mental Health and will work closely with the Mindtech team.

Maximum of 250 words. Please detail the training provision that will be made available to the student.