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Title: Psychological Effects of Virtual Reality for Patients in Protective Isolation

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Introduction:
Patients undergo bone marrow (BMT) or haematopoietic stem cell transplantations (HSCT) for the treatment of haematological malignancies. Patients that undergo these treatments require high doses of chemotherapy, which results in high infection risks. Hence, they are required to be kept in protective isolation.

Protective isolation means that the patients are confined to single isolation rooms. According to a Christchurch Hospital's specialist, most patients that require protective isolation at Christchurch Hospital are confined up to a week, with 2-3 days being the most common.

Patients in protective isolation may develop anxiety and depression due to the feeling of isolation. Patients feel lonely, disconnected with the outside world, and have limited interaction with family and friends.

Aim:
The goal of this research is to explore the potential of virtual reality (VR) in improving patients' experience in protective isolation. We expect to discover that VR can help reduce the sense of isolation in protective isolation, and hence, improve patients' overall experience.

Impact:
If VR can help reduce the sense of isolation developed in patients in protective isolation, the benefits would range from improving the patients' experience, to encouraging patients to undergo the treatment.

Method:

There will be a VR headset that the patient can wear to immerse in the VR environment. The content of the VR will be made upon patients' wishes on what they would like to see. This research aims to explore the potential of VR with 360◦ videos for improving patients' experience in protective isolation.

This research aims to investigate the following:

- **10 isolated patients with VR**
- **10 isolated patients without VR**

Then, a detailed comparison will be made to see if VR can reduce anxiety and depression that may develop, and hence, improve the overall patients' experience.

Procedure:

1. A patient that is admitted into the protective isolation will be asked by a hospital staff if they would like to participate in the study. If the patient agrees to participate, a hospital staff will call the researcher by phone to come to the hospital and meet with the patient immediately. The researcher will provide the information sheet, explain the study, and ask for their consent. The researcher will try to make himself available at all times (including weekends).
2. The patient will be asked on what they would like to see in the VR.
3. The researcher will make the content of the VR based on the patient's requests.
4. When the VR content is designed (expecting to complete within 1-2 days), specific times will be scheduled between the researcher, a hospital staff, and the patient, to decide when is the best time to experience the VR.
5. To let the patient experience the VR, the researcher will guide the patient under the supervision of a hospital staff.
6. At the end of the isolation, the patient will answer a questionnaire.

Results:

Due to the limited time, our research is unable to complete. The reason being is that, we were unable to gather 20 patients within the timeframe. Getting a lower number of patients will result in an unreliable data that could not be generalized for the whole population.

Without compromising the quality, and not letting this research goes to waste, we decided to pass this research to a Masters student. This Masters student will resume this research in February 2018. We will be assisting throughout his/her Masters period.

Conclusion:

No conclusion can be made as the research is incomplete.