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NHS staff tackling COVID-19 use virtual reality to help reduce anxiety and stress

Researchers and clinicians hope pioneering VR use can be rolled out to workers across the UK

NHS staff tackling COVID19 on the front line are, for the first time, using virtual reality (VR) to help support their mental health and wellbeing. The DR.VR™ Frontline Relief evaluation is available on the new FutureVision.Health web platform, a portal set up to promote the benefits of immersive technologies in healthcare, and shows how a collaboration between Cwm Taf Morgannwg University Health Board (CTM UHB), the Centre for Trials Research (CTR) at Cardiff University, and Rescape Innovation, a pioneer in the use of VR to support patient recovery and rehabilitation, has produced really positive results in evaluating VR as a useful aid to support the mental health and wellbeing of frontline NHS staff during the COVID-19 pandemic.

Evaluation co-author Dr Michelle Smalley, a Clinical Psychologist working in Intensive Care Units in Royal Glamorgan and Prince Charles Hospitals in CTM UHB, expanded her remit on the outbreak of COVID-19 to provide psychological support for staff and wider teams. Dr. Smalley said: "Roles radically changed on March 13, with a dramatic increase in stress and anxiety amongst frontline medical and nursing teams for both themselves and their loved ones. My role pivoted to focus on staff wellbeing and support, and trying to limit burn out, so we worked with Rescape to bring in DR.VR™ headsets to see if it would prove a useful aid in reducing anxiety, and give the medical teams some much needed relief.

"Being a clinical psychologist in unprecedented times has called for unprecedented measures to help support staff. From the moment I tried these headsets out myself, I realised their potential for helping with anxiety and stress, but we have to be evidence based in our approach. The results from this service evaluation are an important step in identifying an effective and user- friendly self-help tool for wellbeing. I'm excited to see the results from a wider scale implementation."

Emily James, 29 is an ITU nurse at the Royal Glamorgan Hospital and has benefitted from using the VR technology. She said: "I work in ITU, and the past few months have been busy and emotionally difficult for us all. I began using the VR head set at home after busy shifts and I found the meditation and breathing programmes very calming. The VR technology has the potential to really help those working in healthcare, particularly if it could be used at break times and mid shift."

21 staff had access to a single use headset over a period of two weeks before being asked to complete an online survey. Participants selected their global virtual reality of choice, from a tour around the glorious landscapes of Wales culminating in the Principality Stadium and the anthem before the Wales v England match; to a guided journey through a rain forest; a voyage under the sea; travel through the Great West Way of England; or a wildlife safari.

The main results from the evaluation suggest that staff found using VR was an enjoyable experience, and they would recommend use to their colleagues to aid relaxation and for reducing stress. In particular, staff valued the meditative spaces and breathing exercises.

Lead author Dr Kim Smallman, Research Design and Conduct Service Consultant and Research Associate at Cardiff University's Centre for Trials Research, said: "The impact on the mental health and wellbeing of frontline healthcare workers - and the need to provide emotional support for those working in such exceptional and distressing circumstances - became clear very early on in the pandemic.

"We decided to evaluate use of virtual reality to see if this could be a useful aid for staff and the results have been remarkably positive. Staff using VR said they found the experience to be enjoyable and relaxing and they found it helpful in reducing feelings of stress and anxiety.

"We now hope to trial this on a much larger scale and we think it has real potential to help many more people - and to further our understanding of how VR can be used in the management of stress and anxiety."

Paul Sweet is a nurse at Prince Charles Hospital. He said: "I found the use of the VR very therapeutic and relaxing. It took my mind off work completely as I became immersed in my new surroundings. It was easy to watch as the software was kept to a minimum and did not need a lot of thought to keep watching. I found that it reduced my levels of stress quickly and would be very beneficial to

reduce anxiety if used in the right environment. The technology is great because it is completely portable and easy to use, and the software can be easily tailored to the individual.”

The work has highlighted the potential of VR to support the mental health and wellbeing of frontline staff. Rescape Innovation CEO Matt Wordley said: “We’re now looking for research funding to investigate how VR can be used to support mental health and wellbeing, and we would like to test, at scale across the UK, its effectiveness for helping to manage stress and anxiety currently being experienced by many frontline workers. FutureVision.Health has been set up to act as a repository of outcomes and learnings to further the beneficial use of immersive technologies like virtual reality in healthcare. We’ve already had interest from a number of hospitals across the UK, and welcome further expressions from hospitals and care homes looking to use VR to help their staff. Future projects will feature VR benefits in maternity, Chronic Obstructive Pulmonary Disease (COPD), informational impact and more as we look to increase the adoption of VR in a range of medical treatment plans.”

The evaluation is available on <http://futurevision.health/research/>

Cwmtafmorgannwg.wales

Cardiff.ac.uk/centre-for-trials-research

Rescape.me

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Editor’s Notes

Evaluation Background

We know that frontline staff within the NHS are experiencing higher levels of distress during the coronavirus pandemic which could put them at risk of mental ill-health. This could include experiencing symptoms associated with stress, depression, anxiety and post-traumatic stress disorder.

Immersive virtual reality is showing promise in a variety of health settings, including for the management of pain, reducing anxiety during medical procedures and in the treatment of phobias. However, we still have a lot to learn about using VR to help manage stress and anxiety.

Current treatments for stress and anxiety might involve face-to-face support, including skills training and learning in areas of visualisation, mindfulness, relaxation and breathing. There is also good evidence that support practices of meditation and breathing for reducing stress and anxiety.

Review of Results

The averages for each of the scaled questions exceeded the minimum requirement score of 7 identified ahead of data collection and indicate a positive outcome overall. The questions with the highest average scores suggest firstly, that DR.VR™ is enjoyable to use. Secondly, staff would recommend use to colleagues to aid relaxation and thirdly, staff would recommend use to colleagues to reduce stress. These results indicate a good level of acceptability from within the staff group and point toward potential benefits of use.

In considering what was helpful about the use of DR.VR™, staff within this evaluation highlight the benefit of distraction provided from the immersive experiences and in particular valued the meditative spaces and breathing exercises. This demonstrates promise when reflecting on potential mechanisms of how DR.VR™ may assist in reducing stress and anxiety as well as aiding relaxation. The positive narrative from open text responses reinforce the results from the quantitative scores demonstrating that DR.VR™ is an enjoyable and relaxing experience that can assist with reducing stress and aid relaxation.

This brief evaluation sought to assess the acceptability of using DR.VR™ with frontline staff working during the COVID-19 pandemic and the results are primarily positive. Results indicate that the use of DR.VR™ can provide a helpful distraction from current work conditions. There is the potential for DR.VR™ to provide stress relief from work for frontline workers and help with anxiety that may be experienced by this group.

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