Augmented Reality-Based Tele-Mentoring - An Innovative Approach for Scenario-Based Training: A protocol

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Background

• Many rural and remote areas in Australia experience challenges around the quantity, skill set, and skill mix of the healthcare workforce. 1
• Many health services experience difficulties in attracting and supporting a skilled health workforce to work rurally. 2
• Tele-mentoring can potentially offer a solution to maintain the professional skills and retention of isolated rural healthcare workers ‘at a distance’. 3
• Tele-mentoring is a method using a technological communication device to provide instruction from an expert to a less-experienced practitioner at a different geographic location in real-time. 4
• The incorporation of Augmented Reality (AR) technology into tele-mentoring systems has been reported internationally. 5
• Augmented Reality is defined as a form of immersive experiences in which the real world is enhanced by computer-generated three-dimensional content, which is overlaid on the real environment. 6

Method

Assessment for eligibility (n > 42 third-year nursing students)
Exclusion (n=…)
Randomization (n=42)
HoloLens group (n=21) Perform scenario with HoloLens under tele-mentoring condition
Control group (n=21) Perform scenario under face-to-face mentoring condition
Scenario Acute Coronary Syndrome on a SimMan manikin in an emergency room
Compare outcomes (measurements) between groups
• Skill performance (Checklist);
• Task completion time;
• Task performance (NASA Task Load Index);
• AR system performance (System Usability Scale) (for HoloLens group only).

Significance

• Contributes to continuing medical education of rural and remote healthcare workers.
• Provides rural healthcare workers the access to expert professional guidance and instruction from a distance.
• Promotes understanding of the use of advanced educational technologies in remote assistance in rural health.

References


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