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Title

Evaluating a Virtual Reality Intervention for Stress and Burnout in Healthcare Providers: A Within-Subjects Study

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Background: Advanced practice healthcare providers experience high levels of stress and burnout risk, yet time constraints limit engagement with traditional interventions. Brief, accessible interventions are needed to support provider well-being in demanding clinical settings.

Objective: This study examines whether a brief, daily immersive VR intervention can reduce stress and burnout and improve well-being among advanced practice providers (APPs).

Data and Methods: APPs (N = 39) completed a within-subjects study with a 4-week baseline period (no intervention) followed by a 4-week VR intervention period. Participants engaged in daily 10-minute sessions using Compassion Island, an immersive VR world combining guided mindfulness, relaxation, and compassion-focused experiences. Outcomes were assessed at three timepoints (baseline, post-baseline, post-intervention) and included validated self-report measures (stress, burnout, well-being, mindfulness, self-compassion, empathy), physiological metrics (HRV, sleep), and biomarkers (cortisol, C-reactive protein). Within-subject comparisons assess differences across psychosocial, physiological, and biological outcomes.

Results: Final analyses are underway. Of 40 enrolled, 39 completed the study (97.5% retention).

Conclusions: Findings will provide evidence on feasibility and effectiveness of brief, technology-assisted interventions for provider burnout and inform scalable approaches to supporting healthcare workforce well-being.