

# The Use of Virtual Reality for Stress Reduction in Healthcare Workers

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## Background

**Workplace stress** occurs when job demands exceed workers' resources, leading to high stress levels among healthcare workers (HCWs). **Burnout**, characterized by emotional exhaustion, depersonalization, and reduced professional efficacy, has risen in nursing to 49.2%, costing the U.S. healthcare system approximately **\$4.6 billion annually**. **Virtual reality (VR)** is an innovative technology that has proven effective in reducing stress in HCWs. **Needs assessment** using ProQOL showed moderate burnout on unit.

## Objective

Implement a nature-based, virtual reality experience to reduce feelings of stress and burnout among staff in a 24-bed Pediatric Intensive Care Unit.

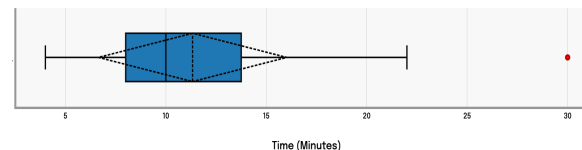
## Review of the Literature

- **Articles Reviewed:** 11 articles included.
- **Stress Reduction:** VR significantly reduced stress levels.
- **VR Usage:**
  - Duration ranged from 3 minutes to 1 hour.
  - Average time: 16 minutes (Median: 10 minutes, SD: 19.7 minutes).
  - Stress reduction in as little as 3 minutes.
- **Effective Environments:** Nature-based VR environments were most studied and effective.

PRISMA, Literature Table, and References Available Upon Request

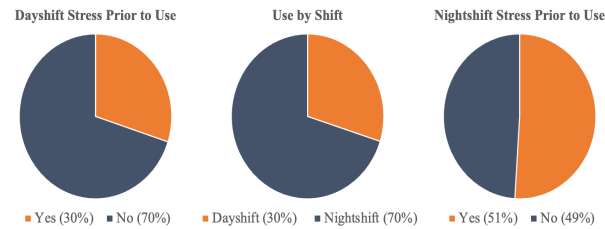
## Results

Distribution of VR Session Duration

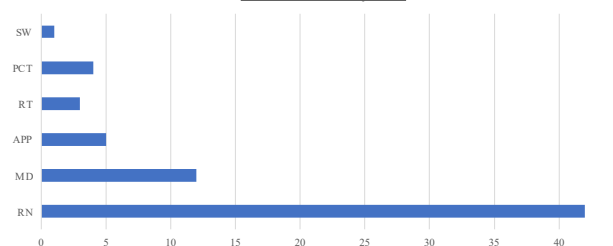


Mean: 11.3 minutes (SD 4.7min)

Median/Mode: 10 minutes



Number of Uses by Staff



## Change Process

- **3-10 Minute VR Nature Intervention**
- **Device:** MetaQuest 3
- **Application:** Nature Treks VR
- **July-September 2024:**
  - Promotion of VR intervention
  - Dedicated space for intervention
  - Build capacity to maximize utilization
  - Integrate VR into workflow
  - Recruit R&R Committee members as VR advocates
- **October-November 2024:**
  - VR device available on unit in dedicated space
  - VR use instructions + disclaimers provided
  - 1:1 VR walkthroughs
  - Usage data collected

## Takeaways and Next Steps

- Organizational buy-in, workflow with contingencies, and adaptation to feedback needed for successful implementation.
- Overwhelmingly positive feedback and high use led to PICU purchasing own VR device for sustained practice change.
- Increased accessibility for dayshift staff still needs further improvement.
- Once VR is better established among staff, potential for use by patients and/or their caregivers.