Virtual reality versus companion-delivered therapeutic touch for reducing pain and anxiety during suturing: a randomized controlled trial

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Abstract

Background Wound suturing is a common procedure in emergency departments and can cause considerable pain and anxiety. Non-pharmacological approaches, such as virtual reality (VR) and therapeutic touch, may help improve patients' comfort during the procedure.

Objective This randomized controlled trial compared the effects of VR and companion-delivered therapeutic touch on pain and anxiety during emergency suturing.

Methods The trial was conducted in the emergency department of Shahid Bahonar Hospital in Kerman, Iran, between 2025 and 2026. In total, 87 patients were allocated to three groups: VR ($n=30$), therapeutic touch ($n=27$), and standard care ($n=30$). Pain was assessed using the Visual Analog Scale (VAS), and state anxiety was measured using the State-Trait Anxiety Inventory-State scale (STAI-State) immediately before and after suturing. The data were analyzed using statistical methods that adjusted for baseline differences between the groups.

Results The groups differed significantly in age and baseline anxiety. After adjustment for baseline values and age, both the VR and therapeutic touch groups had significantly lower post-procedure pain scores than the standard-care group ($P<0.001$), whereas the difference between the VR and therapeutic touch groups was not statistically significant. For state anxiety, both intervention groups had significantly lower adjusted post-procedure scores than the standard-care group, and the VR group had significantly lower anxiety scores than the therapeutic touch group ($P<0.001$).

Conclusion Both VR and therapeutic touch were associated with lower pain and anxiety during emergency suturing than standard care. VR appeared to provide an additional advantage over therapeutic touch for reducing anxiety, but not pain. These non-pharmacological interventions may offer practical options for improving patients' comfort during stressful emergency procedures.

Clinical trail The trial was prospectively registered with the Iranian Registry of Clinical Trials (IRCT20260627069963N1) on July 3, 2026.