

Virtual reality as an acute pain reliever during laceration repair in emergency departments

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Introduction:

Virtual Reality is a promising distraction technique immersing the participant in a 3-dimensional virtual presence. The purpose of this study is to investigate the effect of virtual reality on reducing pain in adult patients during laceration repair in the emergency department.

Methods:

This is a randomized clinical trial conducted in the emergency departments of Rasoul Akram, Haftom-e-Tir and Firozgar hospitals, all under supervision of Iran University of Medical Sciences. A total of 160 patients with laceration in need of suturing were divided into two equal groups of 80 patients; one group receiving virtual reality glasses during the suturing whilst the other group did not. All the patients in both groups received local analgesics. The pain intensity of the patients was obtained before and after the intervention using a numerical scale (from 1 to 10). The patients' satisfaction in terms of pain reduction was measured based on the Likert scale score as: 1=bad, 2=poor, 3=moderate, 4=good, 5=excellent. The gathered data of both pain intensity and patient satisfaction was compared before and after the intervention.

Results:

the average age of patients in the VR+ group and VR- group was 37.04 ± 17.21 and 39.18 ± 5.09 years, respectively. The average pain intensity of VR+ patients before and after using VR glasses were 4.87 ± 1.2 and 2.13 ± 1.32 , respectively, of which demonstrated a significant reduction in the pain intensity of VR+ patients (P -value = 0.028). The level of VR+ patients' satisfaction in terms of pain intensity before and after using VR glasses was 1.44 ± 0.52 and 3.23 ± 0.64 , respectively, indicating a significant increase in the patients' satisfaction in terms of pain reduction after using VR glasses (P -value = 0.033).

Conclusion:

Virtual Reality has a positive effect on attenuating patients' pain and increasing their satisfaction in terms of pain reduction.

Keywords:

Virtual Reality; Pain reduction; Emergency; Virtual Glasses.