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Effects of Analgesics and Virtual Reality Therapy on Patients’ Pain and Anxiety in Changing Dressing

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Background: The previous studies used analgesic drugs and composite other approach to relieve pain while changing wound dressings in patients with deep skin damage. However, more than 50% patients were still not satisfied with pain relief. This is the first study to combine the use of analgesics and virtual reality therapy to alleviate pain in patients with deep skin damage in Taiwan.

Aims: The study purposes were to examine the effects of combined use of analgesics and virtual reality therapy on alleviating pain and anxiety during changing dressings in patients with deep skin damages.

Design: A randomized, single-blind, controlled trial

Methods: Convenience sampling was used to recruit patients with deep skin damages diagnosed by plastic surgeons from a medical center in northern Taiwan. The study was conducted from Aug 31 in 2017 to Apr 23 in 2018. We screened 188 patients, and only 26 met the study criteria who were randomly assigned into the control group and experimental group by using a computer based program available on the website, named sealed enveloped. The study used a randomized single-blind controlled trail design with no probability sampling. The patients in the experimental group received analgesic drugs and virtual reality therapy, while those patients in the control group only received analgesic drugs. The virtual reality therapy was provided to the patients in a special room when the patients needed to change wound dressings. Pain was measured by visual analogue scale (VAS) and numeric rating scales. Anxiety was measured by the Chinese version of Beck Anxiety Inventory (BAI). Data were analyzed using descriptive statistics (frequency, percentage, average, standard deviation) and inferential statistics (Chi-square test, Independent-Sample T-test, Paired-Samples T-test and generalized estimating equation).

Results: The result showed that the combined use of analgesics and virtual reality therapy can significantly reducing pain in deep skin damage patients during the first time dressing change ($p=0.01$). However, the pain-relief effects decreased as the frequency of the combined use of analgesics and virtual reality therapy increased.

The patients receiving the combined use of analgesics and virtual reality therapy report less anxiety, but there were no significant group differences ($p>0.05$). In addition, the result showed that the etiologies of deep skin damage can affect the intensity level of pain in patients with deep skin damage.

Conclusion: The combined use of analgesics and virtual reality therapy is more effective than the use analgesics only on relieving pain in patients with deep skin damage during the process of changing wound dressing. In addition, the patients with deep skin damage showed high level of anxiety because they felt uncertain about the wound healing condition and the treatments needed in the future.

Title:  
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References:


Abstract Summary:
There was used composite approach to pain control in deep skin damage patients, but still more than 50% patients complain that pain control is unsatisfactory. The result showed that combine use of analgesics and VR therapy is more effective than use analgesics only on pain relieving during wound dressings change.

Content Outline:
1. The use of analgesics and virtual reality therapy is more effective than use analgesics only on pain relieving in deep skin damage patients during wound dressings change.

We compared the patients in the experimental group receiving analgesic drugs and virtual reality therapy with those in the control group receiving analgesic drugs only on pain that was measured by visual analogue scale (VAS) and numeric rating scales.

2. The etiologies of deep skin damage can affect the intensity level of pain in patients with deep skin damage.

In this study, we categorized the patients with deep skin damage based on the etiologies of deep skin damage. We used generalized estimating equation to analyze data by adjusting the patient’s pain severity.

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