

Effect of *Aloe vera* Gel, *Calendula officinalis* Ointment and Simple Prophylactic Sacral Dressings for Pressure Injury Development

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Background and Purpose: Prophylactic dressings play a significant role in the prevention of pressure injury. However, no herbal products have been used in this regard, so far. Therefore, the present study was designed with the aim of comparing the effect of *Aloe vera* gel, *Calendula officinalis* ointment and simple sacral prophylactic dressings on pressure injury development in patients admitted to intensive care unit.

Materials and Methods: The sample of this clinical trial study consisted of 90 critically ill patients. Randomization was performed by head nurse in intensive care unit. Patients in group "A" received *Aloe vera* gel prophylactic dressing twice a day; patients in group "B" received *Calendula officinalis* ointment prophylactic dressing twice a day; and patients in group "C" received simple prophylactic dressing twice a day. The development of pressure injury was compared between these three groups after the intervention.

Results: Demographic variables were similar in all three groups ($p > 0.05$). The results showed that 3 patients (10%) who received the simple dressing, 2 patients (6.6%) who received the *Calendula officinalis* ointment dressing were wounded, while the development of pressure injury in patients who received the *Aloe vera* gel dressing was zero. The results of chi-square test showed that the frequency distribution of the pressure injury development in the two groups receiving *Aloe vera* gel and simple dressing was different. This difference was statistically significant ($p < 0.05$). However, there was no significant difference between the *Aloe vera* gel and *Calendula officinalis* ointment groups as well as the *Calendula officinalis* ointment group and the simple dressing.

Conclusion: The results of the present study demonstrated that using *Aloe vera* gel and *Calendula officinalis* ointment prophylactic dressing twice a day can be effective in prevention of pressure injury in patients admitted to intensive care unit.

Keywords: *Aloe vera* gel, *Calendula officinalis* ointment, critically ill patient, medicinal plants, prophylactic dressings

Introduction

Patients admitted to the intensive care units (ICUs) are at high risk of pressure injury development. These patients are immobilized on the bed because of various reasons.^{1,2} Other factors such as nutritional deficiencies, loss of consciousness, severity of illness, taking certain medications, urinary incontinence and/or bowel incontinence, sweating and excessive moisture in the skin, edema, and inappropriate use of medical devices also increase the risk of pressure injury development.¹⁻⁴ Studies on these types of ulcers in Iran indicate the high prevalence and incidence.

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