

# A Study to Evaluate Effectiveness of Nursing Care Package On Prevention of Pressure Ulcer Among Patient Admitted in Intensive Care Unit in Selected Hospital at Madurai.

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## Abstract

A study to evaluate the effectiveness of a nursing care package on the prevention of pressure ulcers among patients admitted to the Intensive Care Unit (ICU) in a selected hospital at Madurai was conducted by Mrs. Vasanthi N. during the year 2023–2025 in partial fulfilment of the requirements for the Master of Science in Nursing at RASS Academy College of Nursing, Poovanthi, which is affiliated with The Tamil Nadu Dr. M.G.R. Medical University, Chennai.

The objectives of the study were to assess the pre-test and post-test level of pressure ulcer risk among patients admitted to the intensive care unit, to evaluate the effectiveness of a nursing care package in preventing pressure ulcers among ICU patients, and to determine the association between the pre-test level of pressure ulcer risk and selected demographic variables.

The conceptual framework of the study was based on Ernestine Wiedenbach's Helping Art of Clinical Nursing Theory (1964). The review of related literature helped the investigator to gain relevant information, select the research problem, design the methodology, and develop appropriate tools for the study.

A quantitative research approach was adopted, and a one-group pre-test and post-test experimental design was used. The study was conducted at Deva Doss Hospital, Madurai. A total of 50 patients admitted to the Intensive Care Unit were selected using a purposive sampling technique.

Data were collected using demographic variables, clinical variables, and the Braden Scale for predicting pressure ulcer risk. The nursing care package was implemented as the intervention to prevent pressure ulcer development among ICU patients.

The results revealed that the mean post-test score (16.88) was higher than the pre-test mean score (13.56) with a standard deviation of 1.618. The obtained t-value (9.635) indicated a statistically significant difference between pre-test and post-test scores.

Furthermore, the Chi-square test showed significant associations between the pre-test level of pressure ulcer risk and selected demographic variables such as age (14.489), gender (46.101), religion (50.000),

education (61.310), occupation (60.606), prior information on pressure ulcer (44.901), comorbid illness (9.882), and length of ICU stay (6.174), which were greater than the table value at the 0.05 level of significance.

The study concluded that the nursing care package was effective in preventing pressure ulcers among patients admitted to the intensive care unit.

## 1. Introduction

Pressure ulcers, also known as bedsores or pressure injuries, are a significant health problem among patients admitted to intensive care units (ICUs). They occur due to prolonged pressure on the skin and underlying tissues, particularly in patients who are immobile, critically ill, or dependent on mechanical ventilation. Pressure ulcers not only increase patient discomfort and risk of infection but also prolong hospital stay and increase healthcare costs.

Patients in the ICU are at a higher risk of developing pressure ulcers because of limited mobility, impaired circulation, poor nutritional status, and the severity of their illness. Preventive measures such as regular repositioning, skin assessment, use of pressure-relieving devices, and proper nursing care are essential to reduce the risk of pressure ulcer development.

Nurses play a vital role in the prevention of pressure ulcers through continuous patient monitoring, early identification of risk factors, and implementation of appropriate preventive interventions. A structured nursing care package can help standardize preventive practices and improve the quality of patient care in intensive care settings.

Therefore, the present study was undertaken to evaluate the effectiveness of a nursing care package in the prevention of pressure ulcers among patients admitted to the intensive care unit in a selected hospital at Madurai.

## Methodology

A **quantitative research approach** was adopted to evaluate the effectiveness of a nursing care package for the prevention of pressure ulcers among patients admitted to the Intensive Care Unit (ICU). The study used a **pre-experimental one-group pre-test and post-test design**.

The study was conducted at **Devadoss Hospital, Madurai**, a 500-bed multispecialty hospital. The ICU was selected as the study setting because patients admitted to this unit are at a higher risk of developing pressure ulcers due to immobility, critical illness, and prolonged hospital stay.

The study population consisted of patients admitted to the ICU who were at risk of developing pressure ulcers. A total of **50 patients** who met the inclusion criteria were selected using a **non-probability purposive sampling technique**.

Data were collected using a structured tool consisting of three sections. The first section included **demographic and clinical variables** such as age, gender, marital status, education, occupation,

diagnosis, comorbid illness, and length of ICU stay. The second section included the **Braden Risk Assessment Scale**, a standardized tool used to assess the risk of pressure ulcer development based on six domains: sensory perception, moisture, activity, mobility, nutrition, and friction/shear. Lower scores indicate a higher risk of pressure ulcer development.

The third section included a **nursing care package** developed by the investigator, which consisted of skin care, nutritional support, regular repositioning, use of pressure-relieving devices, and patient or caregiver education regarding pressure ulcer prevention.

After obtaining permission from hospital authorities and informed consent from participants, a **pre-test assessment** was conducted using the Braden Scale. The nursing care package was implemented for **seven days**, and a **post-test assessment** was conducted using the same scale to evaluate the effectiveness of the intervention.

Data were analyzed using **descriptive and inferential statistics**, including frequency, percentage, mean, standard deviation, paired *t*-test, and Chi-square test.

Ethical approval was obtained from the **Dissertation Committee of RASS Academy College of Nursing, Poovanthi**, and confidentiality of participants was maintained throughout the study.

## Discussion

This chapter discusses the major findings of the study in relation to the objectives. The main aim of the study was to evaluate the effectiveness of a nursing care package on the prevention of pressure ulcers among patients admitted to the Intensive Care Unit (ICU) in a selected hospital at Madurai.

The first objective was to assess the pre-test and post-test levels of pressure ulcer risk among ICU patients. In the pre-test, the majority of patients (32; 64%) were at moderate risk, followed by 10 (20%) at mild risk and 8 (16%) at high risk. None were in the very high-risk category. After the intervention, a significant improvement was observed: 36 patients (72%) had no risk and 14 (28%) had mild risk. No patients remained in the moderate or high-risk categories. These findings are supported by Sayad Z.A. and Sliman A.M.A.F. (2021), who reported that implementing a nursing cluster bundle significantly improved skin integrity and reduced pressure ulcer risk among critically ill patients.

The second objective was to evaluate the effectiveness of the nursing care package. The mean pre-test score was 13.56 (SD = 1.618), which increased to 16.88 (SD = 1.814) in the post-test. The mean difference of 3.32 with a *t*-value of 9.635 ( $p < 0.05$ ) indicates a statistically significant improvement. These findings confirm that the nursing care package was effective in preventing pressure ulcers among ICU patients. Similar findings were reported by Onen S. and Dogu O. (2025), who demonstrated that evidence-based care packages significantly reduced the incidence of pressure injuries in ICU settings.

The third objective was to determine the association between pre-test pressure ulcer risk and selected demographic variables. The results showed a significant association with age, gender, religion, education, occupation, prior information on pressure ulcer prevention, comorbid illness, and length of ICU stay. However, marital status, family members working in the health department, and previous history of pressure ulcer showed no significant association.

Thus, the research hypotheses ( $H_1$  and  $H_2$ ) were accepted.

### Recommendations

1. Future researchers can replicate this study in other hospitals, including non-ICU settings, to validate the effectiveness of the nursing care package.
2. Conduct studies with larger and more diverse patient populations to increase the generalizability of the findings.
3. Investigate the long-term impact of the nursing care package on preventing pressure ulcers and improving patient quality of life.
4. Compare the effectiveness of different nursing interventions or care packages to identify the most efficient strategies.
5. Examine the economic benefits of implementing nursing care packages versus routine care to support hospital policy decisions.
6. Explore integrating technology such as electronic monitoring or pressure sensors to enhance preventive care.

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