



Effectiveness Of Risk Preventive Measures On Knowledge And Practice Regarding Prevention Of Pressure Ulcer Among Primary Caregivers Of Bedridden Patients In Selected Hospitals At Bhopal, Madhya Pradesh

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ABSTRACT

Background

Pressure ulcers are a major health concern among bedridden patients and often result in prolonged hospitalization, infection, pain, and increased healthcare costs. Primary caregivers play a crucial role in preventing pressure ulcers through proper positioning, skin care, nutritional management, and maintenance of hygiene. Adequate knowledge and appropriate caregiving practices are essential for effective prevention.

Objectives

1. To assess the pre-test knowledge and practice regarding prevention of pressure ulcer among primary caregivers of bedridden patients.
2. To evaluate the effectiveness of risk preventive measures on knowledge and practice regarding prevention of pressure ulcer.
3. To determine the association between post-test knowledge and practice scores with selected demographic variables.

Methodology

A pre-experimental one-group pre-test post-test design was adopted for the study. The study was conducted among 100 primary caregivers of bedridden patients in selected hospitals at Bhopal, Madhya Pradesh. Non-probability convenient sampling technique was used. Structured knowledge questionnaire and observational checklist were utilized for data collection. Risk preventive measures including educational sessions, demonstrations, and informational pamphlets were administered to caregivers. Data were analyzed using descriptive and inferential statistics.

Results

The findings revealed that the mean post-test knowledge score (24.86 ± 3.12) was significantly higher than the pre-test score (11.42 ± 2.96). Similarly, practice scores improved from 10.18 ± 2.41 in pre-test to 21.54 ± 2.88 in post-test. The calculated paired 't' values were statistically significant at $p < 0.05$ level.

Conclusion

The study concluded that risk preventive measures were highly effective in improving the knowledge and practices of primary caregivers regarding prevention of pressure ulcer among bedridden patients.

Keywords: Pressure ulcer, bedridden patients, caregivers, prevention, knowledge, practice, nursing intervention.

INTRODUCTION

Pressure ulcers, commonly referred to as bed sores or decubitus ulcers, are localized injuries to the skin and underlying tissues that usually occur over bony prominences as a result of prolonged pressure, friction, shear, or moisture. These ulcers are among the most common complications observed in bedridden and immobilized patients. Pressure ulcers not only increase physical suffering and discomfort for patients but also contribute significantly to morbidity, prolonged hospitalization, increased treatment costs, and reduced quality of life. They are considered an important indicator of the quality of nursing care provided in healthcare institutions.

Patients who remain bedridden for prolonged periods due to chronic illness, paralysis, trauma, postoperative conditions, or advanced age are at greater risk of developing pressure ulcers. Continuous pressure over specific body areas such as the sacrum, heels, elbows, hips, and shoulders obstructs blood circulation to tissues, leading to ischemia, tissue necrosis, and ulcer formation. Several contributing factors such as immobility, malnutrition, poor hygiene, moisture, incontinence, reduced sensory perception, and impaired circulation further increase susceptibility to pressure ulcers.

Prevention of pressure ulcers is considered one of the most essential aspects of nursing and caregiver management. Evidence suggests that most pressure ulcers are preventable when appropriate preventive interventions are implemented timely and consistently. Common preventive measures include regular repositioning of patients, maintenance of skin integrity, use of pressure-relieving devices, ensuring adequate nutrition and hydration, maintaining personal hygiene, and early identification of risk factors. Effective implementation of these measures can significantly reduce the incidence and severity of pressure ulcers.

Primary caregivers play a crucial role in caring for bedridden patients both in hospitals and at home settings. They are directly involved in assisting patients with daily activities such as feeding, positioning, bathing, toileting, and mobility support. The knowledge and practices of caregivers greatly influence patient outcomes and recovery. Inadequate knowledge regarding pressure ulcer prevention may lead to improper care practices, thereby increasing the risk of ulcer development and associated complications.

Nurses have a significant responsibility in educating and guiding caregivers regarding pressure ulcer prevention strategies. Structured educational interventions and risk preventive measures can improve caregivers' understanding and practical skills related to patient care. Health education programmes,

demonstrations, and training sessions can empower caregivers to provide effective preventive care and minimize complications among bedridden patients.

Considering the increasing burden of pressure ulcers and the importance of caregiver participation in preventive care, the present study was undertaken to evaluate the effectiveness of risk preventive measures in promoting knowledge and practice regarding prevention of pressure ulcers among primary caregivers of bedridden patients in selected hospitals at Bhopal, Madhya Pradesh.

NEED FOR THE STUDY

Pressure ulcers remain a major healthcare concern globally and continue to affect millions of bedridden and immobilized patients every year. They are associated with increased pain, infection, delayed healing, psychological distress, prolonged hospitalization, and higher healthcare expenditures. Despite advancements in healthcare technology and nursing care, pressure ulcers continue to occur frequently in hospitals and home care settings, especially among patients who require long-term bed rest.

According to international reports, approximately 7–15% of hospitalized patients develop pressure ulcers during their hospital stay, while critically ill and elderly patients are at particularly high risk. Studies conducted in India indicate that the prevalence of pressure ulcers among bedridden patients ranges from 4.9% to 38%, reflecting the seriousness of the problem in healthcare institutions. The occurrence of pressure ulcers not only affects the patient's physical health but also imposes emotional, social, and financial burdens on families and healthcare systems.

One of the major contributing factors to the development of pressure ulcers is inadequate caregiver knowledge and improper caregiving practices. Many caregivers lack awareness regarding essential preventive measures such as frequent repositioning, skin assessment, pressure area care, nutritional support, infection prevention, and use of supportive devices. Inadequate caregiving skills may increase the risk of ulcer formation and delay recovery among bedridden patients.

Primary caregivers often spend the maximum amount of time with patients and are directly responsible for providing routine care. Therefore, their knowledge and practice are critical in preventing complications associated with prolonged immobility. Educating caregivers regarding evidence-based preventive measures can significantly reduce the occurrence of pressure ulcers and improve patient outcomes.

Nurses play an important role in training and motivating caregivers to adopt appropriate preventive practices. Structured educational programmes and risk preventive interventions have been found effective in improving caregiver competency and enhancing the quality of care provided to bedridden patients. Health education, demonstrations, and practical guidance can empower caregivers with the necessary skills to prevent pressure ulcers effectively.

Therefore, there is a strong need to implement and evaluate educational interventions focused on pressure ulcer prevention among primary caregivers. The findings of the present study may help healthcare professionals develop effective caregiver education programmes, improve nursing practices, and reduce the incidence of pressure ulcers among bedridden patients in hospital settings.

OBJECTIVES OF THE STUDY

1. To assess the existing knowledge regarding prevention of pressure ulcer among primary caregivers.
2. To assess the existing practice regarding prevention of pressure ulcer among primary caregivers.
3. To evaluate the effectiveness of risk preventive measures on knowledge and practice.
4. To find the association between post-test scores and selected demographic variables.

HYPOTHESES

H1: There will be a significant difference between pre-test and post-test knowledge scores regarding prevention of pressure ulcer.

H2: There will be a significant difference between pre-test and post-test practice scores regarding prevention of pressure ulcer.

H3: There will be a significant association between post-test scores and selected demographic variables.

MATERIALS AND METHODS

Research Approach

A quantitative research approach was adopted for the present study. This approach was considered appropriate because it enabled the investigator to measure the effectiveness of risk preventive measures on knowledge and practice regarding prevention of pressure ulcer among primary caregivers using numerical data and statistical analysis.

Research Design

The study utilized a pre-experimental one-group pre-test post-test research design. In this design, the knowledge and practice levels of primary caregivers were assessed before and after administration of the risk preventive measures programme.

The design can be represented as:

$$O_1 \rightarrow X \rightarrow O_2$$

Where:

- **O₁** = Pre-test assessment of knowledge and practice
- **X** = Administration of risk preventive measures programme
- **O₂** = Post-test assessment of knowledge and practice

This design helped in evaluating the effectiveness of the intervention by comparing pre-test and post-test scores.

Setting of the Study

The study was conducted in selected hospitals at Bhopal. The hospitals were selected based on the availability of bedridden patients and willingness of the hospital authorities to permit the study.

Population

The target population of the study consisted of primary caregivers of bedridden patients admitted in selected hospitals. Primary caregivers included family members or attendants who were directly involved in providing daily care to bedridden patients.

Sample and Sample Size

The sample for the study comprised 100 primary caregivers of bedridden patients who fulfilled the inclusion criteria and were available during the period of data collection.

Sampling Technique

Non-probability convenient sampling technique was used to select the participants for the study. Caregivers who were willing to participate and available during data collection were included in the study.

Inclusion Criteria

Primary caregivers who:

1. Were caring for bedridden patients admitted in selected hospitals.
2. Were available during the period of data collection.
3. Were willing to participate in the study.
4. Could understand Hindi or English.

Exclusion Criteria

Primary caregivers who:

1. Had previously attended formal training regarding pressure ulcer prevention.
2. Were healthcare professionals.
3. Were not available during post-test evaluation.

Development of the Tool

The tool used for data collection consisted of three sections:

Section A: Demographic Variables

This section included information related to age, gender, education, occupation, relationship with patient, duration of caregiving, and previous knowledge regarding pressure ulcer prevention.

Section B: Structured Knowledge Questionnaire

A structured questionnaire was prepared to assess the knowledge regarding prevention of pressure ulcer among caregivers. The questionnaire included multiple-choice questions related to causes, risk factors, signs and symptoms, positioning, skin care, nutrition, hygiene, and preventive measures.

Section C: Observational Checklist

An observational checklist was used to assess the practices of caregivers regarding pressure ulcer prevention. It included items related to repositioning techniques, skin assessment, hygiene maintenance, use of supportive devices, and nutritional care.

Validity and Reliability of the Tool

The content validity of the tool was established through consultation with experts in the field of medical-surgical nursing, community health nursing, and research methodology. Necessary modifications were made based on expert suggestions.

Reliability of the structured questionnaire was established using the split-half method, and the reliability coefficient was found to be satisfactory. Reliability of the observational checklist was assessed using inter-rater reliability method.

Pilot Study

A pilot study was conducted among 10 caregivers in a similar setting to assess the feasibility and practicability of the study. The pilot study findings indicated that the study was feasible and the tools were reliable.

Data Collection Procedure

Formal permission was obtained from the concerned hospital authorities prior to data collection. Informed consent was obtained from the participants after explaining the purpose of the study.

The data collection procedure was carried out in the following phases:

1. Pre-test was conducted using the structured questionnaire and observational checklist.
2. Risk preventive measures programme was administered to caregivers through lectures, demonstrations, and distribution of informational pamphlets.
3. Post-test was conducted after seven days using the same tools to assess improvement in knowledge and practice.

Description of Intervention

The risk preventive measures programme included:

- Meaning and causes of pressure ulcers
- Risk factors associated with pressure ulcers
- Importance of frequent repositioning
- Skin care and hygiene measures
- Nutritional support and hydration
- Use of pressure-relieving devices
- Demonstration of proper positioning techniques
- Prevention of infection and complications

Teaching methods included lecture discussion, demonstration, return demonstration, and audiovisual aids.

Ethical Considerations

- Permission was obtained from the institutional authorities.
- Informed consent was taken from all participants.
- Confidentiality and anonymity of participants were maintained.
- Participants were assured that participation was voluntary.

Plan for Data Analysis

The collected data were organized, tabulated, and analyzed using descriptive and inferential statistics.

Descriptive Statistics

- Frequency and percentage
- Mean and standard deviation

Inferential Statistics

- Paired 't' test to assess effectiveness of intervention
- Chi-square test to determine association between variables

The level of significance was set at $p < 0.05$.

DEMOGRAPHIC CHARACTERISTICS OF PARTICIPANTS

Table 1: Distribution of Samples According to Demographic Variables (N=100)

Demographic Variable	Frequency (f)	Percentage (%)
Age		
20–30 Years	28	28%
31–40 Years	42	42%
41–50 Years	20	20%
Above 50 Years	10	10%
Gender		
Male	38	38%
Female	62	62%
Education		
Primary	18	18%
Secondary	46	46%
Graduate	30	30%
Postgraduate	06	06%

Demographic Profile (N = 100)

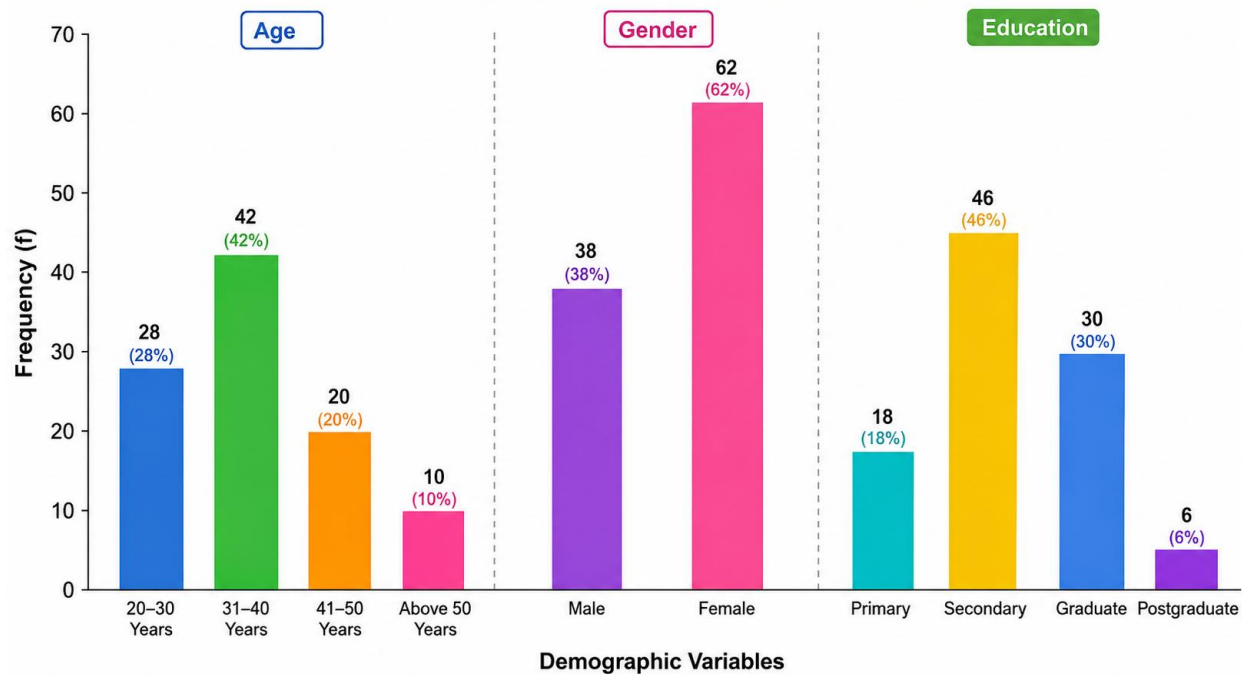


Table 2: Distribution of Knowledge Level in Pre-test and Post-test

Knowledge Level	Pre-test Frequency	Post-test Frequency
Inadequate Knowledge	70	06
Moderate Knowledge	22	24
Adequate Knowledge	08	70

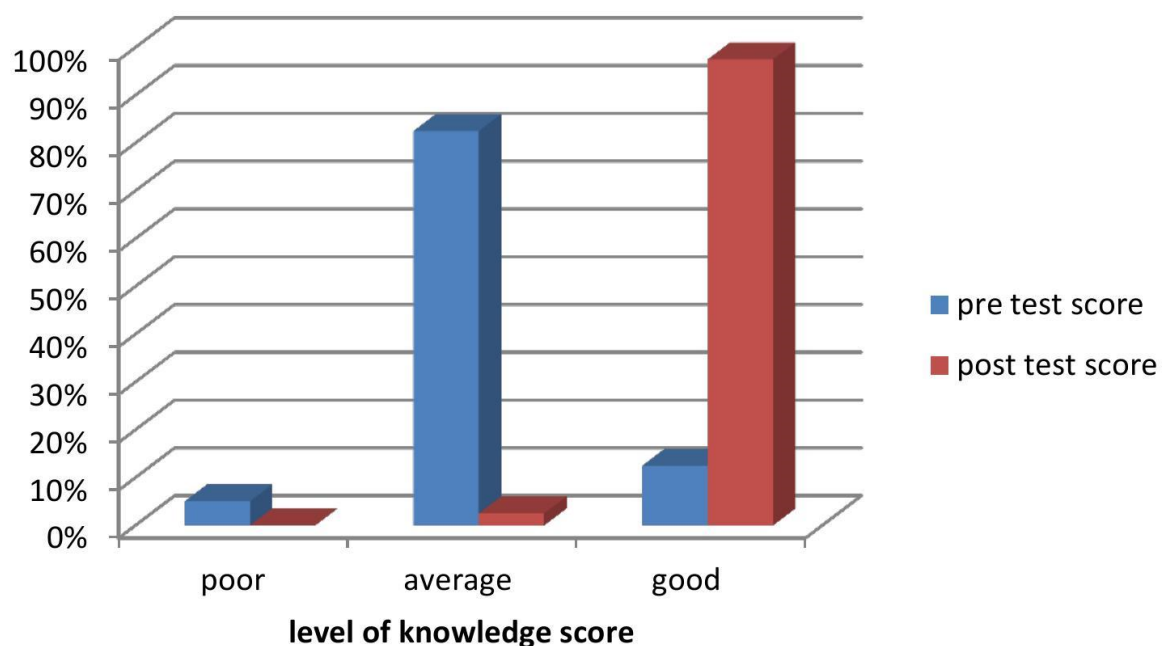
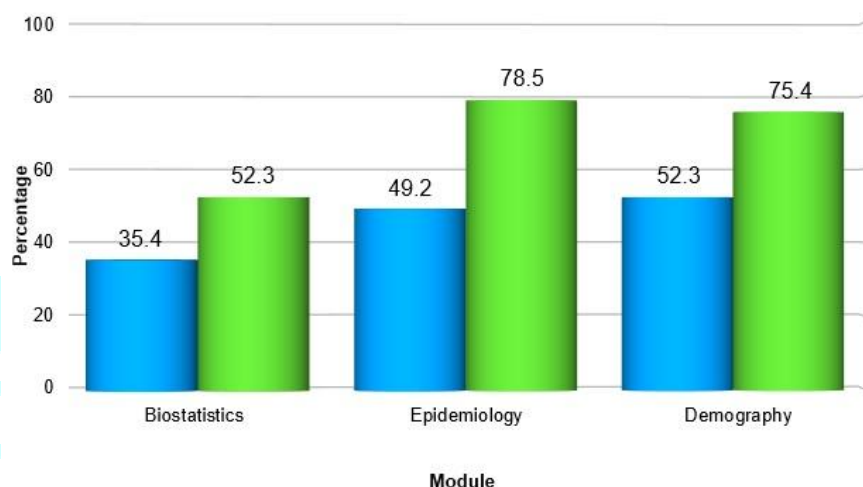
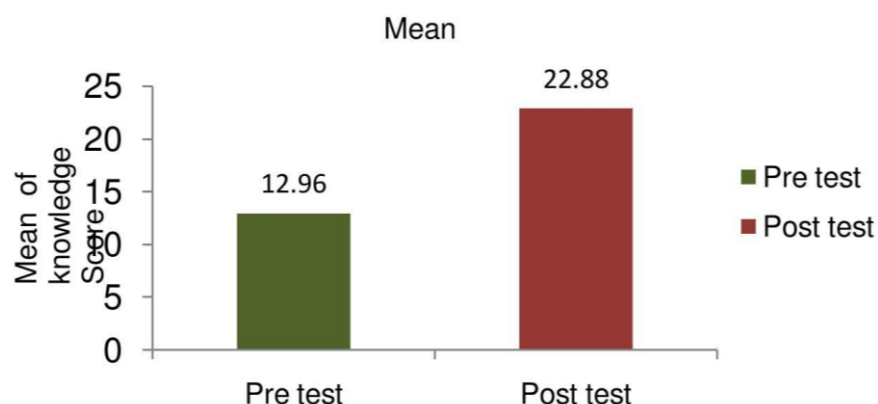


Table 3: Distribution of Practice Level in Pre-test and Post-test

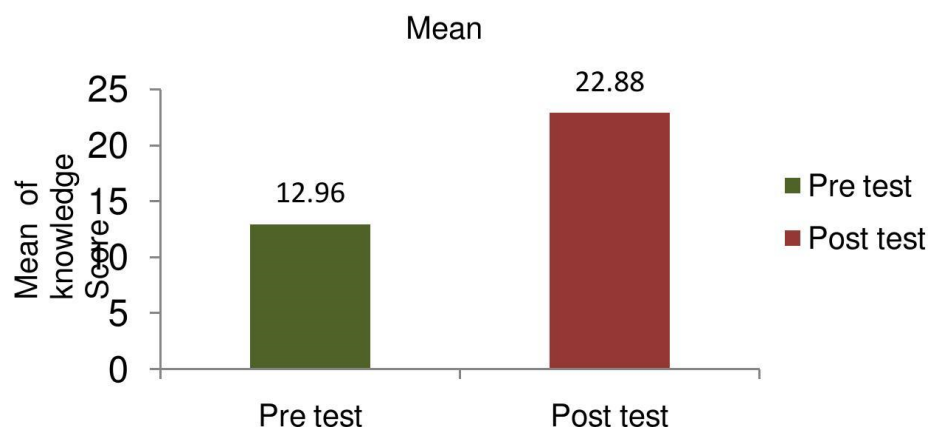
Practice Level	Pre-test Frequency	Post-test Frequency
Poor Practice	64	08
Average Practice	28	22
Good Practice	08	70

Percentage of Correctly Solving Problems in Three Module**Table 4: Comparison of Pre-test and Post-test Knowledge Scores**

Test	Mean	SD	Mean Difference	Paired 't' Value	Significance
Pre-test	11.42	2.96	13.44	26.82	Significant
Post-test	24.86	3.12			$p < 0.05$

**Table 5: Comparison of Pre-test and Post-test Practice Scores**

Test	Mean	SD	Mean Difference	Paired 't' Value	Significance
Pre-test	10.18	2.41	11.36	24.14	Significant
Post-test	21.54	2.88			$p < 0.05$



DISCUSSION

The present study findings revealed that majority of primary caregivers had inadequate knowledge and poor practices regarding prevention of pressure ulcer before intervention. After administration of risk preventive measures, significant improvement was observed in both knowledge and practice scores.

The findings are supported by several nursing studies which reported that educational interventions and caregiver training significantly improve pressure ulcer prevention practices. The improvement may be attributed to demonstrations, teaching sessions, and practical guidance provided during the intervention.

The study emphasizes the importance of caregiver education in reducing pressure ulcer incidence among bedridden patients.

NURSING IMPLICATIONS

Nursing Practice

Nurses should provide regular education and demonstrations regarding pressure ulcer prevention to caregivers.

Nursing Education

Nursing curriculum should include caregiver education strategies related to prevention of pressure ulcers.

Nursing Administration

Hospital administrators should organize regular training programs for caregivers.

Nursing Research

Further studies can be conducted with larger samples and long-term follow-up.

LIMITATIONS

1. The study was limited to selected hospitals of Bhopal.
2. Sample size was restricted to 100 caregivers.

3. Follow-up period was short.

RECOMMENDATIONS

1. Similar studies can be conducted on a larger sample.
2. Comparative studies can be carried out between rural and urban caregivers.
3. Longitudinal studies can evaluate long-term effectiveness.

CONCLUSION

The study concluded that risk preventive measures were highly effective in improving the knowledge and practice regarding prevention of pressure ulcer among primary caregivers of bedridden patients. Educational interventions can significantly reduce complications and improve quality patient care.

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