

“A Study to Assess the Effectiveness of Skin Care Bundle on Reducing Pressure Sores Among ICU Patients Admitted at SMVMCH, Puducherry”

K.Abinaya¹, Dr. G. Muthamilselvi², V.Shivasankari³, Shruti Ramesh Koyilot⁴

¹ Nursing Tutor, Department of Medical Surgical Nursing, SMVNC, Puducherry, India.

² Principal, Department of Obstetrics and Gynaecological Nursing, SMVNC, Puducherry, India.

^{3,4,5} / B.Sc., Nursing-IV year student, SMVNC, Puducherry, India,

Corresponding Author: DR.G.Muthamilselvi

ABSTRACT:

Pressure sores, also known as pressure ulcers, are a major concern in Intensive Care Units (ICUs) due to prolonged immobility, hemodynamic instability, poor nutrition, and dependence on mechanical devices. Although largely preventable, they increase morbidity, hospital stay, and healthcare costs. This study aimed to assess the effectiveness of a skin care bundle in reducing pressure sores among ICU patients in a selected hospital in Puducherry. A quantitative research approach with a pre-experimental one-group pre-test post-test design was adopted. A total of 30 clients were selected using convenience sampling, with 15 in the experimental group and 15 in the control group. The risk of pressure sores was assessed using the Braden Scale. The experimental group received a skin care bundle including regular repositioning, hygiene, pressure-relieving devices, moisturizing agents, hydration, nutritional support, regular skin inspection, and patient and family education, while the control group received no intervention. Pre-test findings showed that 100% of patients in both groups had severe risk. Following the intervention, 73.3% of the experimental group moved to moderate risk, while 26.7% remained at severe risk. The study concluded that the skin care bundle was effective in reducing pressure sore risk and severity among ICU patients.

KEY WORDS: Skin care bundle, ICU, Pressure sores, Braden scale.

I. INTRODUCTION:

Bedsore, medically termed pressure ulcers or decubitus ulcers, are localized injuries to the skin and/or underlying tissue that usually occur over bony prominences due to prolonged pressure, friction, or shear. These injuries are particularly common among individuals who are immobile, critically ill, or confined to a bed or chair for extended periods. The most frequently affected areas include the sacrum, heels, hips, elbows, and shoulder blades. Bedsore progress through various stages, ranging from superficial redness to deep tissue damage and open wounds involving muscle and bone.

A Skin Care Bundle is a structured set of evidence-based nursing interventions implemented collectively and consistently to prevent skin breakdown and the development of pressure sores, particularly in high-risk patients such as those admitted to Intensive Care Units (ICUs). These bundles typically include components such as routine skin inspection, proper repositioning, use of pressure relieving devices, moisture management, nutritional support, and education of caregivers and staff. Research shows that the consistent application of such bundles can significantly reduce the incidence of pressure sores, thereby improving patient outcomes and reducing the burden on healthcare systems. This study aims to assess the effectiveness of a skin care bundle in reducing pressure sores among patients admitted to the ICU in a selected hospital in Puducherry.

II. MATERIALS AND METHODS:

Statement of the problem:

“A study to assess the effectiveness of skin care bundle on reducing pressure sores among the patients admitted in ICU at selected hospital, Puducherry.”

The Objectives of the study were:

- To assess the level of pressure sores among ICU patients before and after implementing the skin care bundle.
- To evaluate the effectiveness of skin care bundle on reducing pressure sores in patients admitted in Intensive Care Unit.
- To associate the effectiveness of the skin care bundle with selected demographic and clinical variables

hypothesis

H₁: There is a significant difference between pre-test and post-test levels of pressure sores among ICU patients before and after implementing the skin care bundle.

H₂: There is a significant association between the effectiveness of the skin care bundle among ICU patients with their selected demographic variables.

III. METHODOLOGY:

Research Approach: A quantitative research approach was adopted for this present study.

Research Design: A Quasi experimental one group pre -test post-test design with control was adopted for this present study.

Study Variables:

Independent variables: skin care bundle

Dependent variables: pressure sores

Setting Of The Study: The study was conducted in SMVMCH at Puducherry. In SMVMCH the investigator selected the ICU.

Population: The targeted population comprises the patients who have pressure sores in ICU.

Sample: All the patients who have pressure sores in ICU in SMVMCH at Puducherry.

Sampling Technique: Convenience Sampling Technique was selected for the present study.

Sample Size: Sample size was 30 clients who are presented in ICU in SMVMCH at Puducherry.

CRITERIA FOR SAMPLE SELECTION:

Inclusion Criteria:

- Adult patients (less than or equal to 18 years) admitted in ICU.
- Both male and female.
- Patients who are at risk of developing pressure sores (assessing using Braden Scale).
- Patients expected to stay in ICU for more than 7 days.
- Patients who are available at the time of data collection.
- Patients who are willing to participate in the study.

Exclusion criteria:

- Patients with existing pressure sore at time of ICU admission.
- Patients with terminal illness and expected survivors <48 hours.
- Patients with dermatological condition that interfere skin assessment.
- Patients who are transferred out of ICU within 24 hours of admission.

Description of the tool

The data collection tool consists of 3 sections namely:

Section A: Socio-Demographic Data

Section B: Braden Scale Tool

Section C: Structured skin assessment.

Scoring interpretation:

S.No	Level Of Risk	Scoring
1	Mild risk	15-16
2	Moderate risk	12-14
3	Severe risk	<11

Table 4.1: Description of demographic variables among the patients admitted in ICU in experimental and control group.
N=30(15+15)

	Demographic Variables	Control Group		Experimental Group	
		Frequency	Percentage	Frequency	Percentage
1.	Age of the patient (in years)				
	a) 18- 30 years	0	0	0	0
	b) 31- 45 years	1	6.7	0	0
	c) 46- 60 years	6	40	5	33.3
	d) Above 60 years	8	53.3	10	66.7
2.	Gender				
	a) Male	7	46.7	8	53.3
	b) Female	8	53.3	7	46.7
	c) Transgender	0	0	0	0

3.	Educational status				
	a) Illiterate	2	13.3	7	46.7
	b) Primary education	5	33.3	5	33.3
	c) Secondary education	3	20	3	20
	d) Higher secondary	0	0	0	0
	e) Graduate and above	0	0	0	0
4.	Occupation				
	a) Unemployed	10	46.7	10	66.7
	b) Sedentary	2	13.3	2	13.3
	c) Manual labour	0	26.7	0	0
	d) Retired	3	13.3	3	20

Table 4.1 shows the demographic distribution of ICU patients in the experimental and control groups. In both groups, the majority were **above 60 years**. Gender distribution was nearly equal. Educational status varied, with **primary education predominant in the control group and illiteracy in the experimental group**. Regarding occupation, most participants were **unemployed**, followed by manual labour/retired and sedentary workers.

Figure 1: Distribution of marital status among clients admitted in ICU.

N=30(15+15)

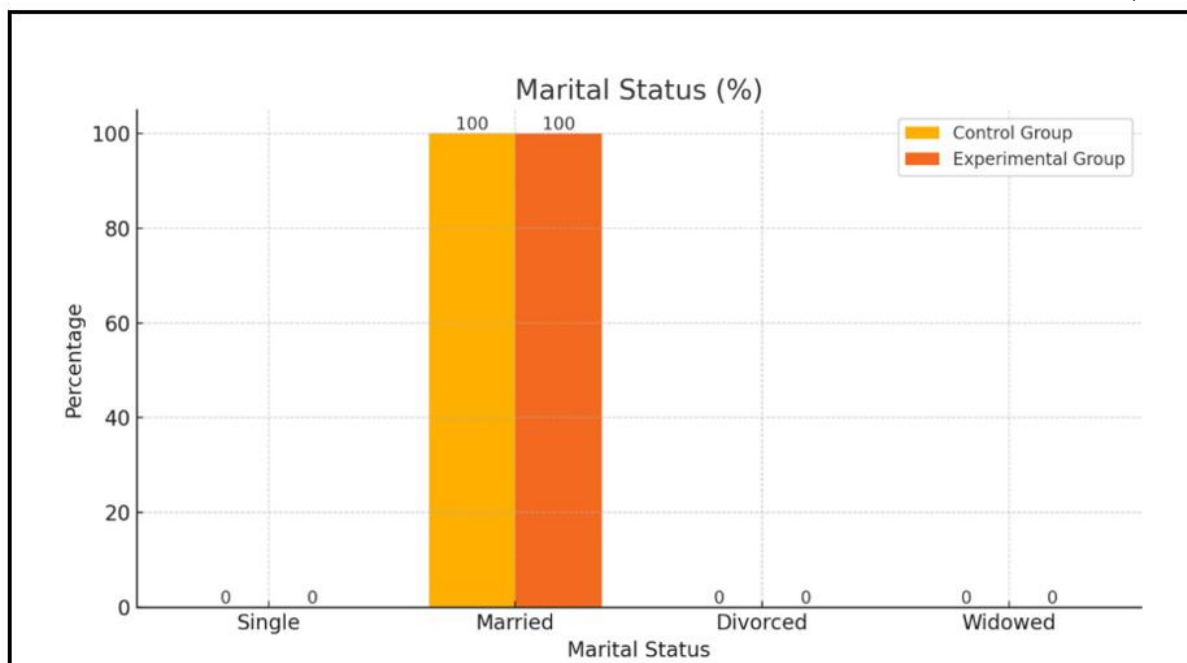


Figure 2: Distribution of family monthly income among the clients admitted in ICU

N=30(15+15)

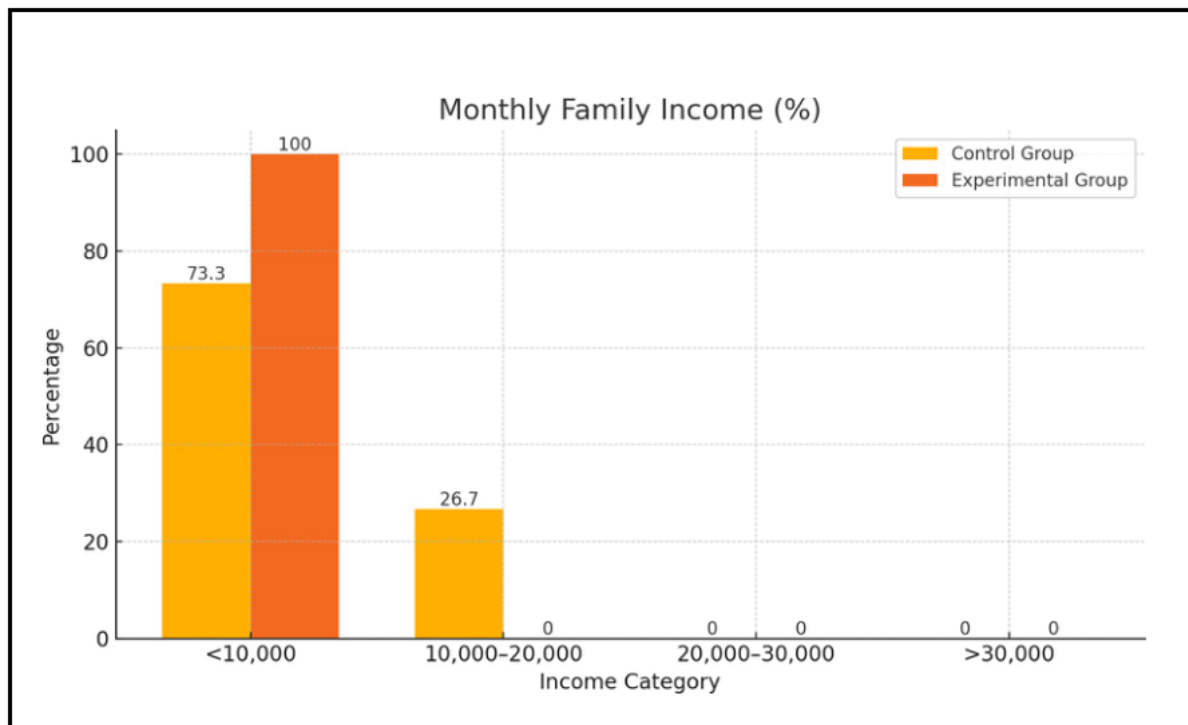


Figure 2: The above figure revealed the family monthly income among the clients admitted in ICU.

According to the family monthly income, 11(73.3%) belong to the income of less than Rs.10,000 and 4(26.7%) belong to the income of Rs.10,000- 20,000 in control group. In experimental group, all the clients 15(100%) belong to the income of less than Rs.10,000.

Figure 3: Distribution of Residential area of patients admitted at ICU

N=30(15+15)

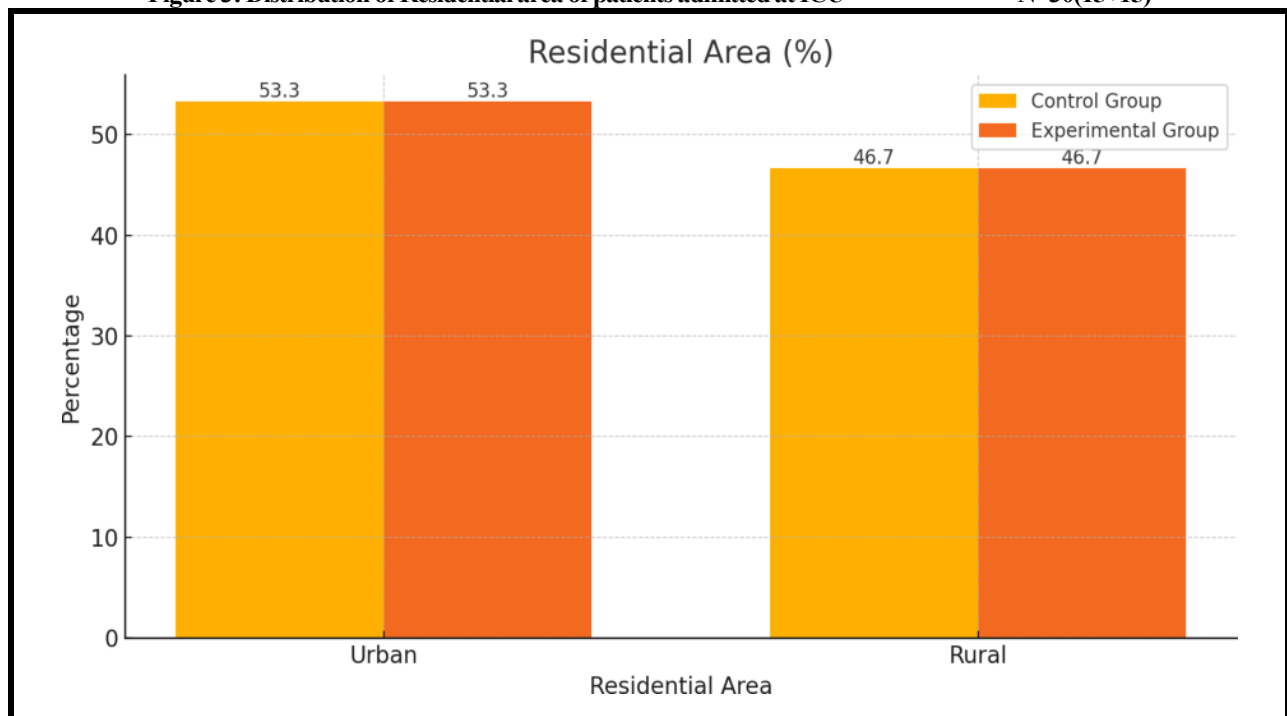


Figure 3: The above figure revealed residential area of patients admitted at ICU in this regard 8(53.3%) were urban residential and 7(46.7%) were rural residential in control group and experimental group 8(53.3%) were urban and 7(46.7%) were rural.

Figure 5: Distribution of consciousness level for patient admitted at ICU

N=30(15+15)

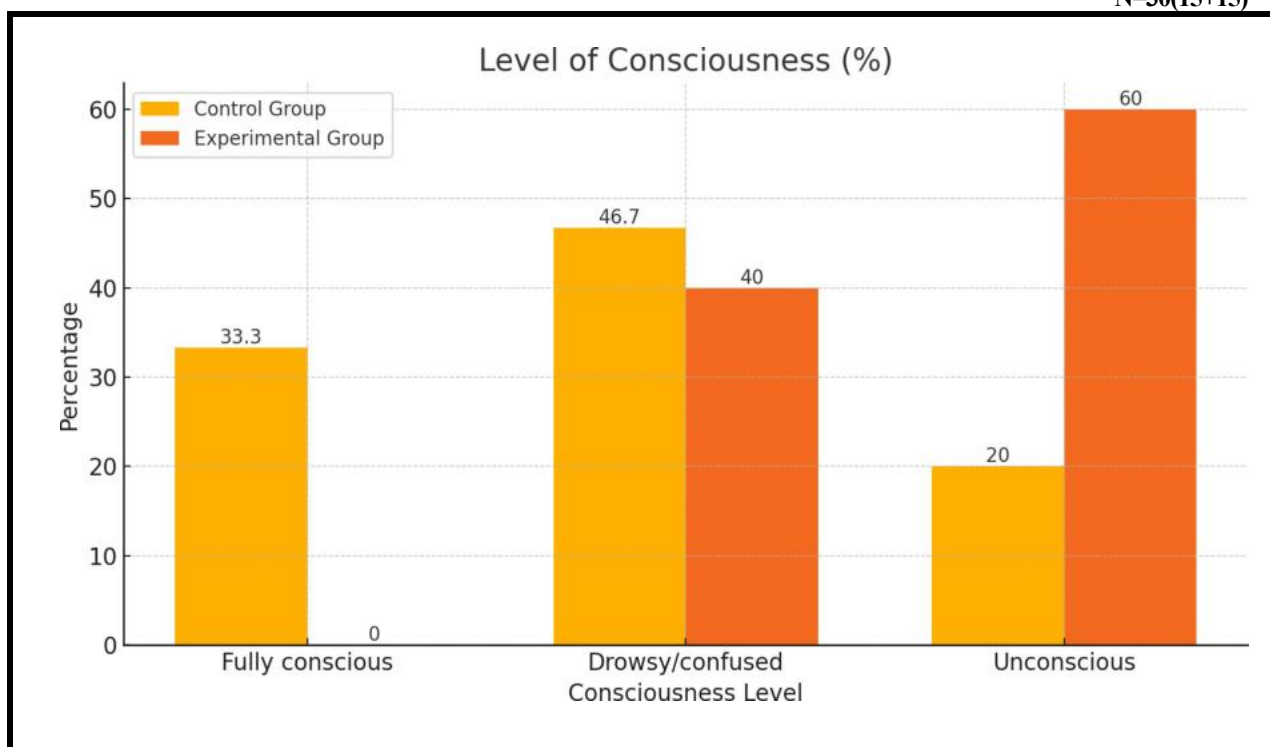


Figure 4: Above figure revealed distribution of level of consciousness admitted at ICU. In this regard 7(46.7%) were drowsy and confused and 5(33.3%) were fully conscious and oriented and 3(20%) in control group and in experimental group 9(60%) are unconscious 6(40%).

Table 4.2: Distribution of the demographic variables among the patients admitted in ICU

N=30 (15+15)

S.No	Demographic Variables	Control Group		Experimental Group	
		Pre Test	Post Test	Pre Test	Post Test
1.	Presence of pressure sores				
	a) Yes	15	100	15	100
	b) No	0	0	0	0
2.	Duration of presence of Pressure sores				
	a) 1- 3 days	8	53.3	13	86.7
	b) 5- 7 days	5	33.3	1	6.7
	c) Above 7 days	2	13.3	1	6.7
3.	Mobility status				
	a) Fully mobile	0	0	0	0
	b) Partially mobile	6	40	6	40
	c) Bedridden	9	60	9	60
4.	Duration of hospital stay				
	a) Less than 3 days	0	0	1	6.7
	b) 5- 7 days	3	20	8	53.3
	c) More than 7 days	12	80	6	40

Table 4.2 presents the clinical characteristics of patients with pressure sores in the experimental and control groups. Pressure sores were present in all participants (100%) in both groups, with most cases having a duration of **1–3 days**. In both groups, **60% of patients were bedridden**, while 40% were partially mobile. Regarding hospital stay, **80% of patients in the control group** had been hospitalized for more than 7 days, whereas **53.3%**

of patients in the experimental group had a stay of 5–7 days. Overall, the groups showed comparable clinical characteristics related to pressure sores, mobility, and duration of hospitalization.

Figure 5: Distribution of reason for ICU admission.

N=30(15+15)

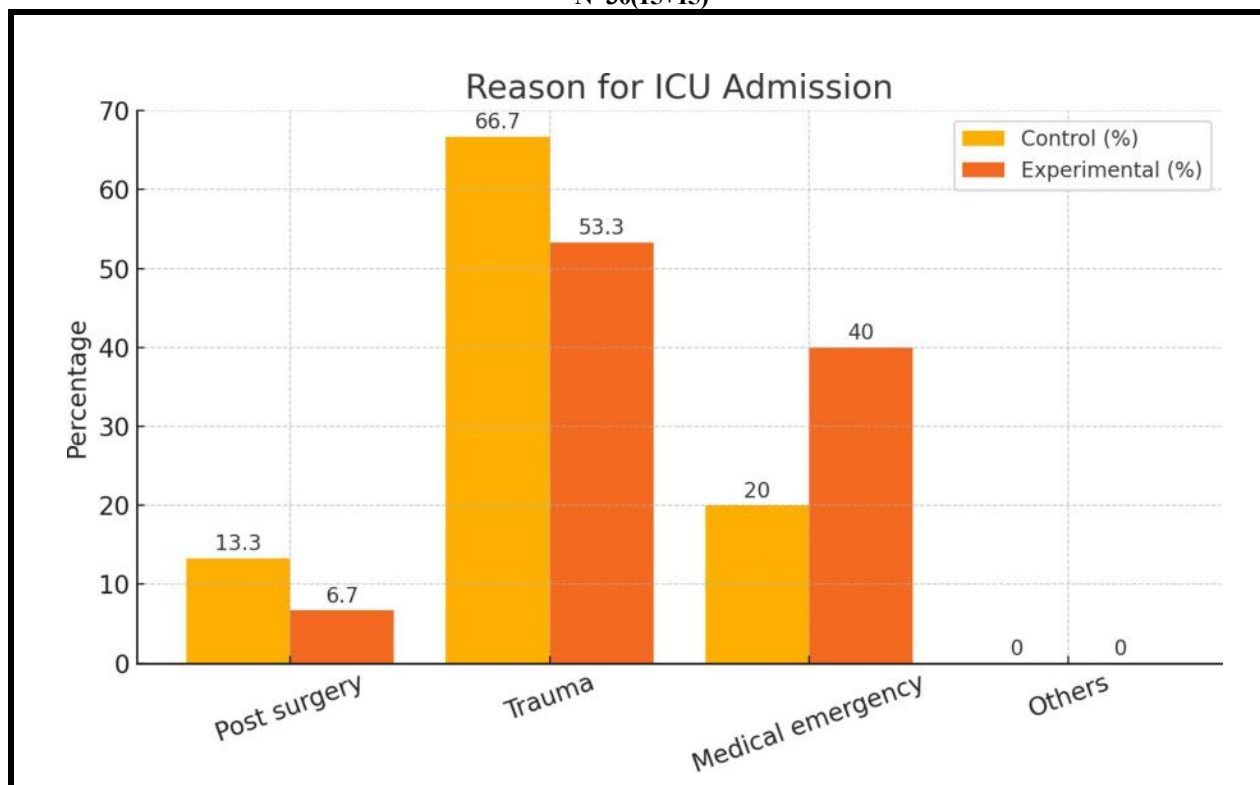


Figure 5: The above figure revealed the distribution of reason for ICU admission for the patients admitted at ICU. In this regard, in control group 10(66.6%) were having the reason for trauma, 3(20%) were having reason for medical emergency and 2(13.3%) were having reason for post- surgery. In experimental group 8(53.3%) had the reason for trauma, 6(40%) had the reason for medical emergency, 1(6.7%) had the reason post surgery.

Figure 6: Distribution of clients according to previous history of Pressure sores.

N=30(15+15)

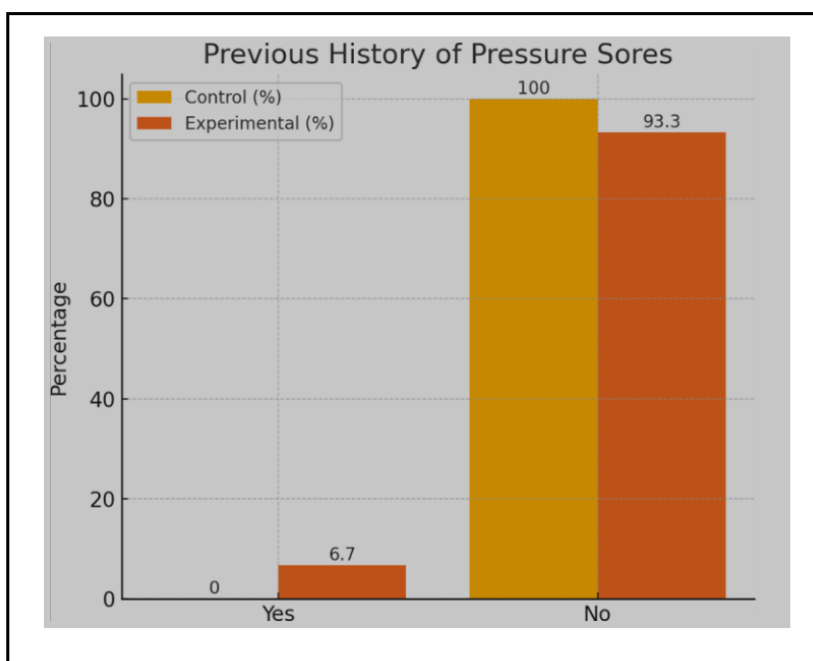


Figure 6: The above figure revealed the distribution of clients according to previous history of Pressure sores. In control group, 15(100%) of the patients had no previous history of pressure sores. In experimental group, 14(93.3%) of the patients had no previous history of pressure sores, whereas 1(6.7%) had previous history of pressure sores.

Figure 7: Distribution of clients according to the types of bed used by patients admitted in ICU.

N=30(15+15)

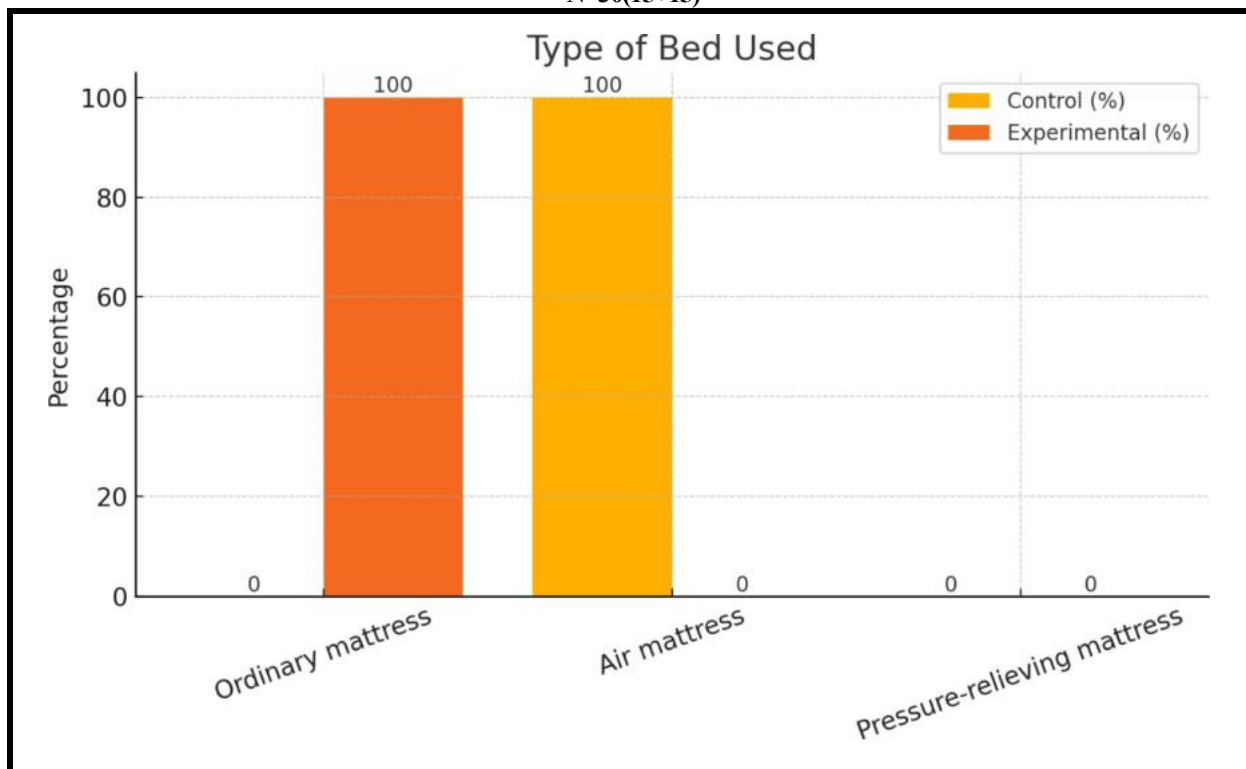


Figure 7: The above figure revealed the distribution of clients according to the types of bed used by patients admitted in ICU. In this regard, In control group, 15(100%) of the patients had used air mattress, whereas in experimental group, 15(100%) of the patients used ordinary mattress.

Figure 8: Distribution of clients as per the Comorbidities.

N=30(15+15)

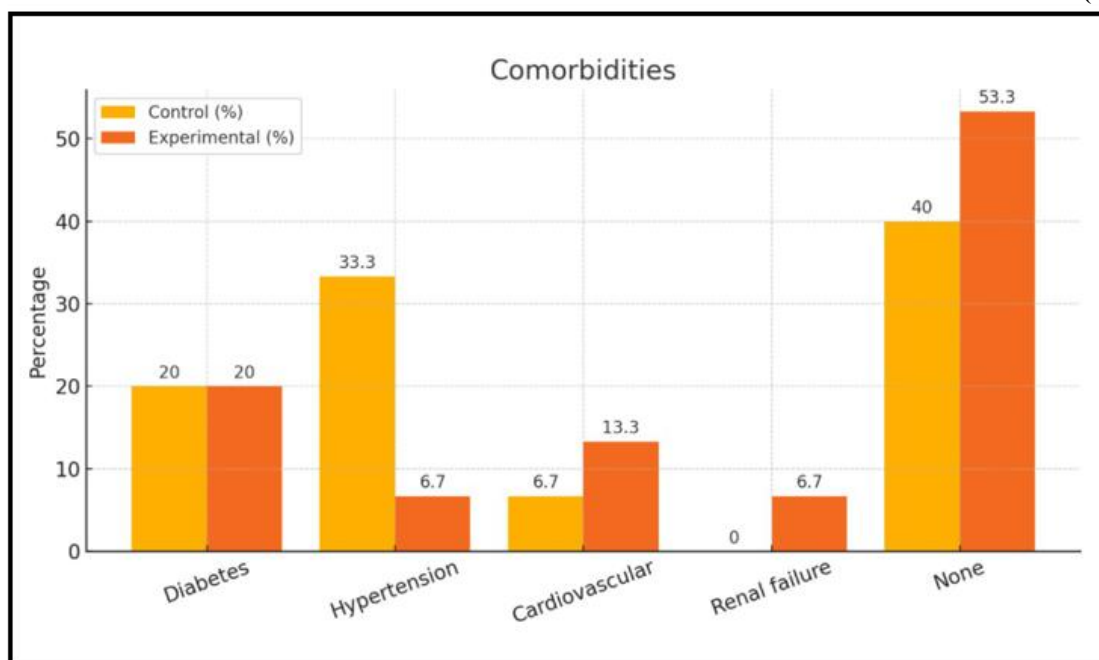


Figure 8: The above figure revealed the distribution of comorbidities. In this regard, In control group 6(40%) of the patients had no comorbidities, 5(33.3%) had hypertension, 3(20%) had diabetes mellitus, 1(6.7%) had cardiovascular disease. In experimental group, 8(53.3%) of the patients had no comorbidities, 3(20%) had diabetes mellitus, 2(13.3%) had cardiovascular disease and 1(6.7%) had both hypertension and renal failure.

Section B: Assessment of pre- test and post- test of the level of risk of pressure sores among ICU patients before and after implementing skincare bundle in experimental and control group.

Table 4.3: Distribution on level of risk of developing pressure sores among patients admitted at ICU on both control and experimental group.

(N=30(15+15))

Level Of Risk	Control Group				Experimental Group			
	Pre Test		Post Test		Pre Test		Post Test	
	N	%	N	%	N	%	N	%
Mild Risk	0	0	0	0	0	0	0	0
Moderate Risk	0	0	0	0	0	0	11	73.3
Severe Risk	15	100	15	100	12	100	4	26.7

CONTROL GROUP: In both pre- test and post- test 15(100%) of the patients had high risk of developing pressure sores.
EXPERIMENTAL GROUP :In pre- test, 15(100%) of the patients had high risk of developing pressure sores.

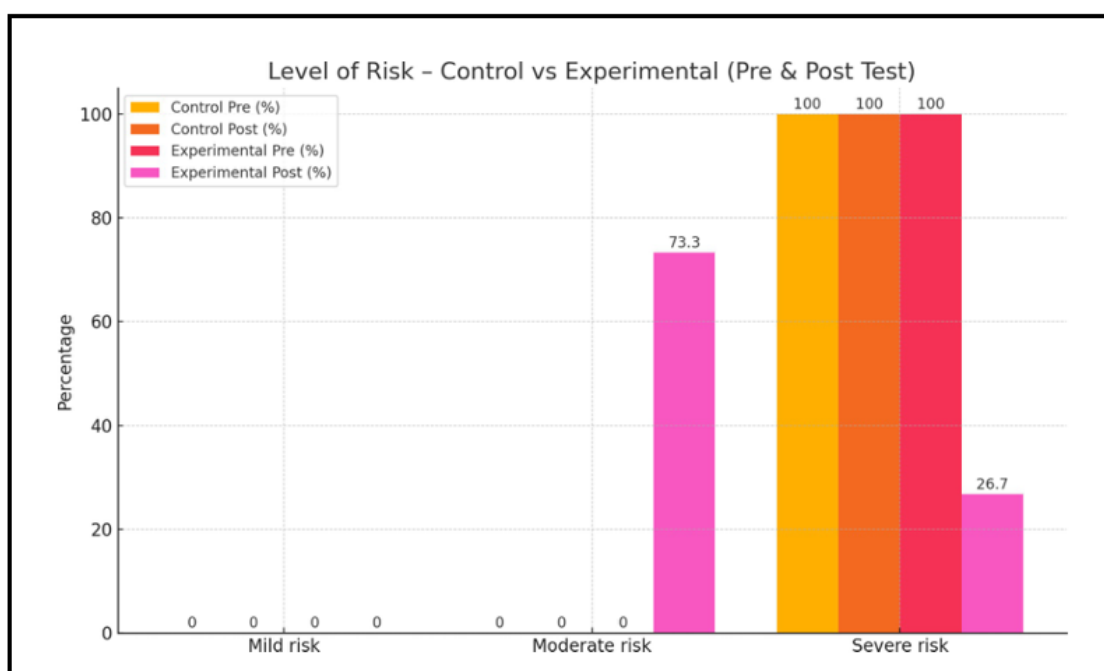


Figure 9: In post- test, 11(73.3%) of the patients had moderate risk of developing pressure sores and 4(26.7%) of the patients had severe risk of developing pressure sores.

N=30(15+15)

Figure 9: Percentage wise distribution of pre- test and post- test level of pressure sores among ICU patients before and after skin care bundle

Section C: Effectiveness of skincare bundle on reducing pressure sores in patients admitted in intensive care unit in experimental and control group.

Table 4.4: Effectiveness of skincare bundle on reducing pressure sores in patients admitted in intensive care unit in experimental and control group.

N=30(15+15)

EFFECTIVENESS OF RISK	CONTROL GROUP		EXPERIMENTAL GROUP	
	PRE TEST	POST TEST	PRE TEST	POST TEST
MEAN	3.13	4.07	4.67	11.20
STANDARD DEVIATION	1.598	1.486	1.759	2.624

P VALUE	0.05	0.05
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Table 4.4: Effectiveness of skincare bundle on reducing pressure sores in patients admitted in intensive care unit in experimental and control group

The mean score of effectiveness of skin care bundle on preventing the pressure sores among the ICU patients with pressure sores in **pre - test** was 4.67 ± 1.759 and the mean score in the **post- test** was 11.20 ± 2.624 . The calculated **paired ‘t’ test** value shows **statistically significant** difference in effectiveness of skin bundle on reducing the pressure sores among the ICU patients with pressure sores in experimental group.

The mean score of effectiveness of skin care bundle on preventing the pressure sores among the ICU patients with pressure sores in **pre- test** was 3.30 ± 1.598 and the mean score in the **post- test** was 4.07 ± 1.486 . The calculated **paired ‘t’ test** valve shows **statistically non- significant** difference in effectiveness of skin bundle on reducing the pressure sores among the ICU patients with pressure sores in control group.

N=30(15+15)

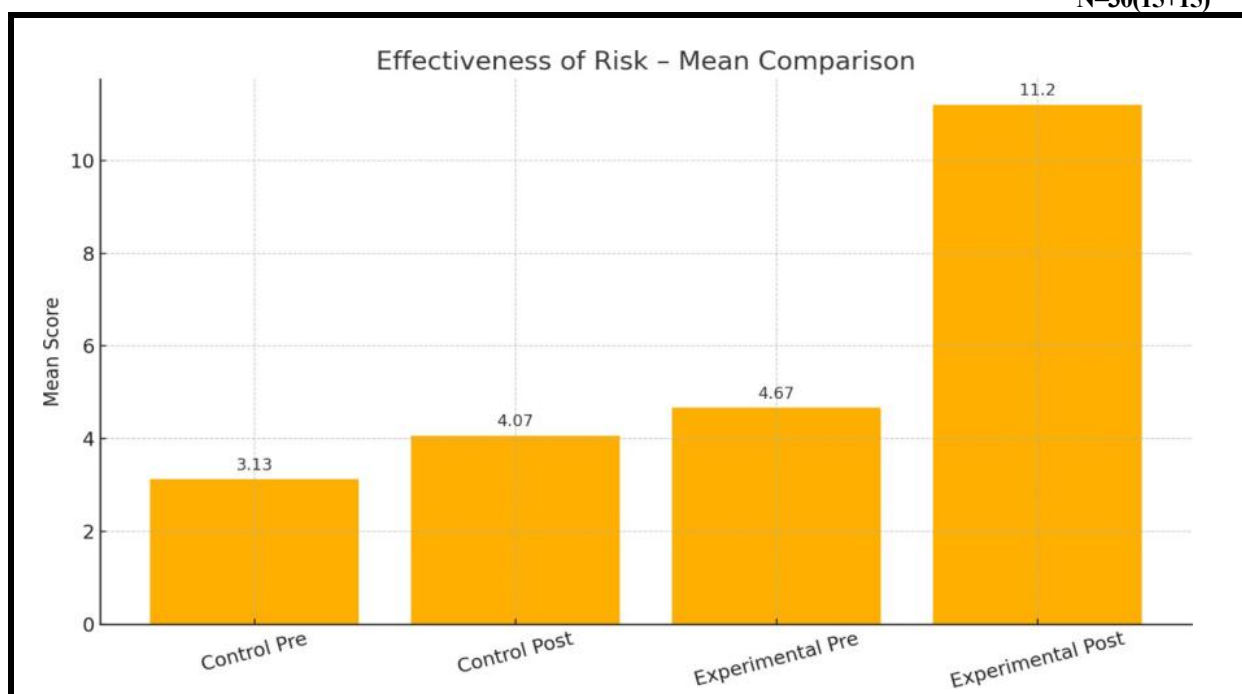


Figure 10: Effectiveness of skin care bundle on reducing the pressure sores in experimental and control group.

Section D: Association between the effectiveness of the skin care bundle with selected demographic and clinical variables.

Table 4.5.1: Association between the risk of developing pressure sore among the patients admitted in ICU with their demographic variables in control group

S.NO	DEMOGRAPHIC VARIABLES	SEVERE (PRE TEST)		SEVERE (POST TEST)		X2 DF P VALUE
		N	%	N	%	
1.	Age of the patient (in years)					
	a) 18- 30 years	0	0	0	0	K
	b) 31- 45 years	1	6.7	1	6.7	
	c) 46- 60 years	6	40	6	40	
	d) Above 60 years	8	53.3	8	53.3	
2.	Gender					
	a) Male	7	46.7	7	46.7	K
	b) Female	8	53.3	8	53.3	
	c) Transgender	0	0	0	0	
3.	Educational status					
	a) Illiterate	2	13.3	2	13.3	K

4.	Occupation					
	a) Unemployed	7	46.7	7	46.7	K
	b) Sedentary	2	13.3	2	13.3	
	c) Manual labour	4	26.7	4	26.7	
	d) Retired	2	13.3	2	13.3	
	b) Primary education	9	60	9	60	
	c) Secondary education	3	20	3	20	
	d) Higher secondary	1	6.7	1	6.7	
	e) Graduate and above	0	0	0	0	

*- $p < 0.05$ significant, *- $p > 0.05$ non- significant, NS- non significant, K- constant

Table 4.5.1: Shows the association of skin care bundle with Age, Gender, Educational status, and Occupation. The analysis of demographic variables revealed that the distribution of severe pressure sore score remained constant in both pre-test and post-test in control group.

Table 4.5.2: Association between the risk of developing pressure sore among the patients admitted in ICU with their demographic variables in control group

S.No	Demographic Variables	Severe (Pre Test)		Severe (Post Test)		X2 Df P Value
		N	%	N	%	
1.	Marital status					
	a) Single	0	0	0	0	K
	b) married	15	100	15	100	
	c) divorced	0	0	0	0	
	d) widowed	0	0	0	0	
2.	Monthly family income					
	a) less than 10,000/-	11	73.3	11	73.3	K
	b) 10,000 - 20,000/-	4	26.7	4	26.7	
	c) 20,000 - 30,000/-	0	0	0	0	
	d) Above 30,000/-	0	0	0	0	
3.	Residential area					
	a) Urban	8	53.3	8	53.3	K
	b) Rural	7	46.7	7	46.7	
4.	Level of consciousness					
	a) Fully conscious and oriented	5	33.3	5	33.3	K
	b) Drowsy and confused	7	46.7	7	46.7	
	c) unconscious	3	20	3	20	

*- $p < 0.05$ significant, *- $p > 0.05$ non- significant, NS- non significant, K- constant

TABLE 4.5.2: Shows the association of skin care bundle with Marital status, Monthly family income, Residential area, Level of consciousness. The analysis of demographic variables revealed that the distribution of severe pressure sore score remained constant in both pre-test and post-test in control group.

Table 4.5.3: Association between the risk of developing pressure sore among the patients admitted in ICU with their demographic variables in control group

S.No	Demographic Variables	Severe (Pre Test)		Severe (Post Test)		X2 Df P Value
		N	%	N	%	
1.	Presence of pressure sores					

	a) Yes	15	100	15	100	K
	b) No	0	0	0	0	
2.	Duration of presence of pressure sores					
	a) 1- 3 days	8	53.3	8	53.3	K
	b) 5- 7 days	5	33.3	5	33.3	
	c) Above 7 days	2	13.3	2	13.3	
3.	Mobility status					
	a) Fully mobile	0	0	0	0	K
	b) Partially mobile	6	40	6	40	
	c) Bedridden	9	60	9	60	
4.	Duration of hospital stay					
	a) Less than 3 days	0	0	0	0	K
	b) 5- 7 days	3	20	3	20	
	c) More than 7 days	12	80	12	80	

*- $p < 0.05$ significant, *- $p > 0.05$ non- significant, NS- non significant, K- constant

Table 4.5.3: Shows the association of skin care bundle with Presence of pressure sores, Duration of pressure sores, Mobility status, Duration of hospital stay. The analysis of demographic variables revealed that the distribution of severe pressure sore score remained constant in both pre-test and post-test in control group.

Table 4.5.4: Association between the risk of developing pressure sore among the patients admitted in ICU with their demographic variables in control group

S.NO	DEMOGRAPHIC VARIABLES	SEVERE (PRE TEST)		SEVERE (POST TEST)		X2 DF P VALUE
		N	%	N	%	
1.	Reason for ICU admission					
	a) Post surgery	2	13.3	2	13.3	K
	b) Trauma	10	66.7	10	66.7	
	c) Medical emergency	3	20	3	20	
	d) Others	0	0	0	0	
2.	Previous history of pressure sores					
	a) Yes	0	0	0	0	K
	b) No	15	100	15	100	
3.	Type of bed used					
	a) Ordinary mattress	15	100	15	100	K
	b) Air mattress	0	0	0	0	
	c) Pressure - relieving mattress	0	0	0	0	
4.	Comorbidities					
	a) Diabetes mellitus	3	20	3	20	K
	b) Hypertension	5	33.3	5	33.3	
	c) Cardiovascular disease	1	6.7	1	6.7	
	d) Renal failure	0	0	0	0	
	e) None	6	40	6	40	

*- $p < 0.05$ significant, *- $p > 0.05$ non- significant, NS- non significant, K- constant

Table 4.5.4: Shows the association of skin care bundle with Reason for ICU admission, Previous history of pressure sores, Types of bed used and Comorbidities. The analysis of demographic variables revealed the distribution of severe pressure sore score remained constant in both pre-test and post-test in control group.

Table 4.6.1: Association between the pre- test and post- test risk of developing pressure sores among the patients admitted at ICU with pressure sore and their demographic variables in experimental group.

S.NO	DEMOGRAPHIC VARIABLES	PRE TEST		POST TEST				X2 DF P VALUE
		SEVERE		MODERATE		SEVERE		
		N	%	N	%	N	%	
1.	Age of the patient (in years)							
	a) 18- 30 years	0	0	0	0	0	0	0.170 1 0.680 NS
	b) 31- 45 years	0	0	0	0	0	0	
	c) 46- 60 years	5	33.3	4	26.7	1	6.7	
	d) Above 60 years	10	66.7	7	46.7	3	20	
2.	Gender							
	a) Male	8	53.3	5	33.3	3	20	1.029* 1 0.310 S
	b) Female	7	46.7	6	40	1	6.7	
	c) Transgender	0	0	0	0	0	0	
3.	Educational status							
	a) Illiterate	7	46.7	4	26.7	3	20	2.143* 2 0.310 S
	b) Primary education	5	33.3	4	26.7	1	6.7	
	c) Secondary education	3	20	3	20	0	0	
	d) Higher secondary	0	0	0	0	0	0	
	e) Graduate and above	0	0	0	0	0	0	
4.	Occupation							
	a) Unemployed	10	66.7	8	53.3	2	13.3	3.409* 2 0.168 S
	b) Sedentary	2	13.3	2	13.3	0	0	
	c) Manual labour	0	0	0	0	0	0	
	d) Retired	3	20	1	6.7	2	13.3	

*- p < 0.05 significant, *- p > 0.05 non- significant, NS- non significant, K- constant

Table 4.6.1: shows the association between skin care bundle with Age, Gender, Educational status, and Occupation. A significant association was observed between gender, educational status and occupation. No significant association was found with age (p> 0.05). This suggests that age, gender and occupation may contribute to risk for developing pressure sores.

Table 4.6.2: Association between the pre- test and post- test risk of developing pressure sores among the patients admitted at ICU with pressure sore and their demographic variables in experimental group.

S.NO	DEMOGRAPHIC VARIABLES	PRE TEST		POST TEST				X2 DF P VALUE
		SEVERE		MODERATE		SEVERE		
		N	%	N	%	N	%	
1.	Marital status							
	a) Single	0	0	0	0	0	0	K
	b) married	15	100	11	73.3	4	26.7	
	c) divorced	0	0	0	0	0	0	
	d) widowed	0	0	0	0	0	0	
2.	Monthly family income							
	a) less than 10,000/-	15	100	11	73.3	4	26.7	K
	b) 10,000 - 20,000/-	0	0	0	0	0	0	
	c) 20,000 - 30,000/-	0	0	0	0	0	0	
	d) Above 30,000/-	0	0	0	0	0	0	
3.	Residential area							

	a) Urban	8	53.3	5	33.3	3	20	1.029 1 0.668 (NS)
	b) Rural	7	46.7	6	40	1	6.7	
4.	Level of consciousness							
	a) Fully conscious and oriented	0	0	0	0	0	0	0.227 1
	b) Drowsy and confused	6	40	4	26.7	2	13.3	0.634
	c) unconscious	9	60	7	46.7	2	13.3	NS

*- p < 0.05 significant, *- p > 0.05 non- significant, NS- non significant, K- constant

Table 4.6.2: shows the association between the skin care bundle with marital status, monthly family income, residential area and level of consciousness. No significant association was observed between residential area and level of consciousness ($p > 0.05$). The distribution of demographic variable such as marital status and family monthly income remained constant.

Table 4.6.3: Association between the pre- test and post- test risk of developing pressure sores among the patients admitted at ICU with pressure sore and their demographic variables in experimental group.

S.NO	DEMOGRAPHIC VARIABLES	PRE TEST		POST TEST				X2 DF P VALUE
		SEVERE		MODERATE		SEVERE		
		N	%	N	%	N	%	
1.	Presence of pressure sores							
	a) Yes	15	100	11	73.3	4	26.7	K
	b) No	0	0	0	0	0	0	
2.	Duration of presence of pressure sores							
	a) 1- 3 days	13	86.7	10	66.7	3	20	3.199*
	b) 5- 7 days	1	6.7	0	0	1	6.7	2
	c) Above 7 days	1	6.7	1	6.7	0	0	0.187 S
3.	Mobility status							
	a) Fully mobile	0	0	0	0	0	0	0.227
	b) Partially mobile	6	40	4	26.7	2	13.3	1
	c) Bedridden	9	60	7	46.7	2	13.3	0.634 NS
4.	Duration of hospital stay							
	a) Less than 3 days	1	6.7	1	6.7	0	0	0.511
	b) 5- 7 days	8	53.3	6	40	2	13.3	2
	c) More than 7 days	6	40	4	26.7	2	13.3	0.774 NS

*- p < 0.05 significant, *- p > 0.05 non- significant, NS- non significant, K- constant

Table 4.6.3: shows the association between skin care bundle with presence of pressure sores, duration of presence of pressure sores, mobility status and duration of hospital stay. A significant association was observed in duration of pressure sores. No significant association was observed between mobility status and duration of hospital stay. The distribution of presence of pressure sores remained constant.

NURSING IMPLICATIONS :

The findings of this study have implication in nursing practice, education, administration and research.

NURSING PRACTICE:

- The nurse working in the hospital, clinical setting and in community should practice standard infection control measures as integral part of nursing profession.
- The study can also be used by the nurse to educate and instruct about the consequences of failure in practicing standard infection control measures
- This method will improve the health- seeking behaviour of people in the future.
- Nurses can administer and demonstrate skin care bundle components into the routine ICU protocol to minimize pressure sore development.

- Regardless of the patient's suspected diagnosis, healthcare staff should always take normal measures when caring for them. Basic hand hygiene, respiratory hygiene, the use of personal protective equipment (to prevent splashes or other contact with infectious materials), safe injection practises, and safe and respectful burial practises are examples of these.

NURSING EDUCATION:

The Nursing curriculum should include detailed teaching on pressure sore prevention and the use of skin care bundles. Students should receive hands-on training in ICU settings to learn proper skin assessment and preventive techniques. Workshops and skill-based modules should be conducted on repositioning methods, skin hydration, and use of support surfaces. Regular in-service education programs can help nurses update their knowledge and follow evidence-based practices.

NURSING ADMINISTRATION:

- The Nursing administrators should develop and implement standardized Skin Care Bundle Protocols across all ICU units.
- Nursing administration can make necessary policies to implement awareness regarding standard infection control measures.
- Nurses administrator should arrange seminars, conference, workshops, related to standard infection control measures

NURSING RESEARCH:

The findings highlight that there is a considerable need for further research on different components of skin care bundles to identify the most effective elements. Future research can focus on long-term follow-up to check recurrence or healing of pressure sores. Comparative studies can be conducted between different types of preventive bundles or technologies. Findings from research can contribute to evidence-based practice and help develop standardised educational modules for clinical use.

RECOMMENDATIONS:

Based on the findings, the following recommendations are proposed:

1. The Skin Care Bundle should be implemented as a standard practice in all ICU units to prevent pressure sores.
2. Regular training programs should be provided for nurses to enhance skills in early detection and prevention of pressure injuries.
3. Hospitals should ensure availability of adequate pressure-relieving materials such as air mattresses and cushions.
4. Patient repositioning schedules should be strictly followed and monitored by supervisory staff.
5. Periodic evaluation and updating of the skin care protocol are recommended to maintain evidence-based practice.
6. Further studies with larger samples and different hospital settings are suggested to validate and generalize the results.
7. Awareness programs can be conducted for families to help them understand the importance of pressure sore prevention for bedridden patients.

IV. DISCUSSION:

The findings demonstrate that the **skin care bundle was effective in reducing the risk and severity of pressure sores among ICU patients**. While all participants were at high risk during the pre-test due to immobility, comorbidities, and prolonged hospitalization, the experimental group showed marked improvement after the intervention, with most patients shifting to moderate risk. In contrast, the control group showed minimal change, indicating that routine care alone may be insufficient for effective pressure-ulcer prevention.

The improvement may be attributed to **regular repositioning, moisture management, early skin assessment, and pressure-relieving surfaces**. These findings support the importance of structured, evidence-based nursing interventions in preventing pressure sores and improving patient outcomes. The first objective was achieved, and **H1 was accepted**, indicating a significant difference between pre-test and post-test scores. **H2 was rejected**, indicating no significant association between demographic variables and the outcome.

V. CONCLUSION:

The findings of the present study indicate that the **skin care bundle was effective in reducing the risk of pressure sores among ICU patients**. A significant improvement was observed between the pre-test and post-test scores in the experimental group compared with the control group, suggesting improved skin integrity following the intervention. The structured skin care bundle, including regular repositioning, skin assessment, moisture management, and pressure-relieving measures, provides a **practical approach to pressure-ulcer prevention**. Its integration into routine ICU nursing care may support early prevention, reduce complications, and improve patient outcomes.

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