RESEARCH PAPER

To Study The Awareness Of Bedsores In Rural Areas

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ABSTRACT

Background: Pressure ulcers, often referred to as bedsores, arise due to extended pressure on the skin, particularly in individuals who have limited mobility. These injuries frequently occur in regions with inadequate medical infrastructure. Despite the accessibility of preventive and management approaches, people living in rural areas frequently lack the essential understanding necessary for prompt identification and care of these wounds.

Objectives: This research aimed to evaluate the awareness levels of pressure ulcers in rural communities, focusing on participants' understanding of associated causes, potential risk factors, and available preventive measures.

Methodology: A cross-sectional, community-based study was conducted using a simple random sampling method. A total of 250 adults residing in Rethare Bk. village participated, each completing a structured, self-administered questionnaire. Before data collection, the purpose of the study was explained clearly, and ethical clearance along with informed written consent was obtained.

Results: The findings revealed that only 8.65% of individuals surveyed were familiar with pressure ulcers. Awareness regarding preventive practices such as frequent repositioning, proper skin hygiene, and physiotherapy interventions was notably insufficient.

Conclusion: This research underscores the urgent requirement for improved community education on pressure ulcers in rural populations. Active involvement of physiotherapists and frontline healthcare providers is essential to promote timely identification and effective management of such conditions.

Keywords - Pressure ulcers awareness – Rural population – Caregiver knowledge and practices – Preventive interventions – Physiotherapy role – Hygiene, nutrition & repositioning – Community-based health education – Lifestyle and comorbidity risk factors.

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1. INTRODUCTION

Pressure ulcers, also referred to as bedsores or pressure injuries, continue to be a major global health issue affecting populations across regions, particularly affecting individuals with limited mobility, chronic illnesses, or those receiving prolonged hospital or home-based care[1]. These ulcers involve restricted injury to the skin tissues and underlying tissues, often developing on bony areas such as the sacrum, heels, elbows, and hips due to sustained pressure, shear, or friction[2]. Despite advances in modern healthcare and nursing practices, the occurrence of pressure ulcers remains high, especially in rural and resource-limited settings[3]. The formation of pressure ulcers is multifactorial, influenced not only by patient-related factors including such as age, immobility, and comorbidities but also by environmental conditions, quality of nursing care, caregiver involvement, and monitoring practices[4]. Effective prevention and strategies for pressure ulcer management rely heavily on the knowledge, attitudes, and practices of caregivers and healthcare providers[5]. Inadequate understanding among caregivers often leads to delayed intervention, suboptimal wound care, prolonged hospital stays, and increased healthcare costs[6]. Key preventive strategies include regular repositioning of immobile patients[7], meticulous skin care and hygiene[8], use of pressure-relieving devices such as specialized mattresses and cushions[9], and ensuring proper nutrition and hydration to maintain skin integrity[10]. Moreover, Prompt identification and appropriate intervention are essential for preventing ulcer progression and associated

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complications[11]. Research has shown that family caregivers frequently exhibit insufficient knowledge about pressure ulcers prevention and management, often due to low literacy levels, lack of structured training programs, and limited access to healthcare resources[12]. In rural regions of India, many caregivers fail to recognize the early signs of the formation of pressure ulcers, including skin redness, warmth, or tenderness, which leads to delayed medical attention[13]. Reliance on traditional remedies or unverified home treatments further postpones evidence-based care, potentially worsening the patient's condition[14]. Pressure ulcers can significantly impair a patient's quality of life, causing pain, restricted mobility, infection risk, and psychological distress[15]. Simultaneously, caregivers experience physical strain, emotional stress, and financial burdens due to the intensive nature of care required[16]. In rural areas, caregiving responsibilities are predominantly shouldered by caregivers within the family who may not possess adequate medical knowledge or access to essential resources[17]. Limited awareness often results in neglecting critical preventive measures, including regular repositioning, thorough skin inspections, and timely consultation with healthcare professionals[18]. International evidence suggests that structured educational interventions and community-based programs targeting caregivers substantially improve knowledge, attitudes, and adherence to preventive practices[19]. In India, educational programs for family caregivers have demonstrated a marked reduction in the occurrence of pressure ulcers in immobile orthopedic and chronically ill patients. Comparable studies from Iran and Turkey indicate that consistent education, supervision, and reinforcement of preventive strategies among nurses and family caregivers significantly enhance patient outcomes and reduce ulcer prevalence. Assessment of caregiver awareness, knowledge, and practices remains crucial for identifying gaps in community healthcare systems and guiding tailored educational initiatives[20]. Reinforcing awareness at the community level, particularly in rural regions, can reduce the socio-economic burden related to pressure ulcer, enhance patient Well-being, and promote overall skin health and well-being[20]. Implementing structured training programs, providing accessibility to necessary resources, and promoting cooperation between healthcare professionals and caregivers can collectively contribute to effective prevention and management of pressure ulcers. In addition, continuous monitoring, periodic reassessment, and feedback mechanisms are vital to ensure sustainability of preventive practices and to adapt interventions according to evolving patient needs. By focusing on education, empowerment, and capacity-building of caregivers and community members, healthcare systems can address the persistent challenge of pressure ulcers more effectively. Enhanced caregiver knowledge promotes timely identification and timely intervention while also fosters a patient-centered approach to care, thereby minimizing complications and improving long-term outcomes. Ultimately, addressing caregiver awareness in both hospital and home settings, particularly in under-resourced rural areas, is fundamental for decreasing the global burden of pressure ulcers and enhancing the well-being of at-risk populations[20].

METHODOLOGY

- Type of study: Survey study
- Study design: Observational study
- Sampling method: Simple Random sampling method
- Place of study: Rethare bk.
- Sample size: 250
- Study population: Both male and female

MATERIAL USED –

- validated self-filled questionnaire
- consent form

INCLUSION CRITERIA

- Individuals who are 18 years of age or older.
- People residing in rural areas.
- Participants who gave their voluntary agreement to be part of the study after the aim and procedure were clearly explained to them.
- Individuals who had no previous awareness or understanding of pressure ulcers.

EXCLUSION CRITERIA

- People younger than 18 years were not included in the study.
- Those who do not usually follow medical advice were left out.
- Anyone who had pressure sores before or had taken care of someone with bedsores was not part of the study.

- Individuals who had trouble speaking or hearing were not included to avoid confusion during the survey.

ETHICAL COMMITTEE APPROVAL

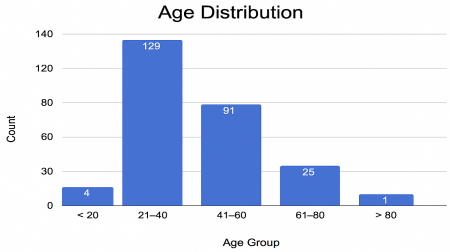
Permission to carry out this research was formally granted by the Institutional Ethics Committee of Krishna Vishwa Vidyapeeth (Deemed to be University), Karad. Before beginning the data collection process, participants were clearly informed about the study's purpose, procedures, and the contents of the questionnaire. Informed written consent was obtained from all individuals involved. Participation in the study was completely voluntary, and strict confidentiality of all personal responses was maintained throughout the course of the research.

STATISTICAL ANALYSIS AND RESULTS

Result

A total of 250 participants from a rural background took part in this study, which aimed to evaluate their level of awareness about pressure ulcers. To facilitate better comprehension and more accurate responses, the questionnaire was made available in both English and Marathi, allowing respondents to select the language they were most comfortable using. Among the respondents, 57.15% were male and 42.85% were female, offering a balanced representation in terms of gender. The age distribution was also broad: 35% were between 18 and 30 years old, 28% were aged 31 to 45, 22% fell within the 46 to 60 range, and 15% were above 60 years. This wide variation in age helped capture perspectives from both younger and older individuals, especially those likely to be involved in caregiving responsibilities. When asked if they were familiar with the term "bedsores," only 8.65% responded positively, while 91.35% reported no prior knowledge of the condition. This suggests a considerable lack of awareness within the community. Even those who were involved in the care of elderly or immobile individuals demonstrated limited understanding of the risk factors and preventive measures associated with pressure ulcers.

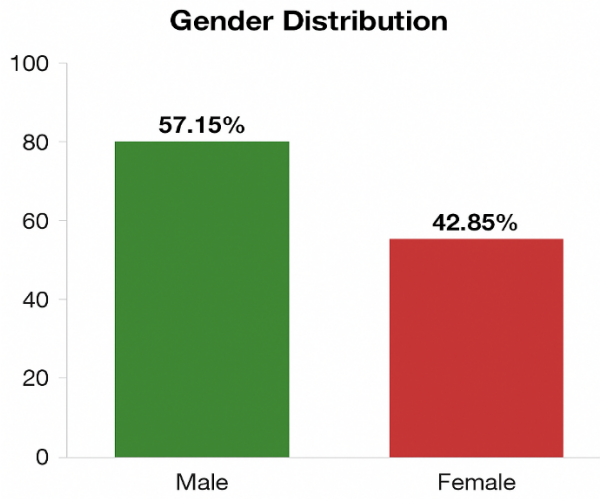
AGE



Mean (years)	SD	SE	T-value	P-value
41.75	13.96	0.88	1.99	0.048

INTERPRETATION - The mean age of participants was 41.75 years (SD = 13.96, SE = 0.88), with a T-value of 1.99 and a corresponding P-value of 0.048, indicating statistical significance. The distribution of respondents showed that the majority, 129 individuals (51.6%), were between 21–40 years, followed by 91 participants (36.4%) in the 41–60 year category. A smaller number belonged to the 61–80 year group (25; 10%), while very few were below 20 years (4; 1.6%) or above 80 years (1; 0.4%). This demonstrates that the sample was primarily composed of young to middle-aged adults, with comparatively limited representation from the younger and older age groups.

Gender

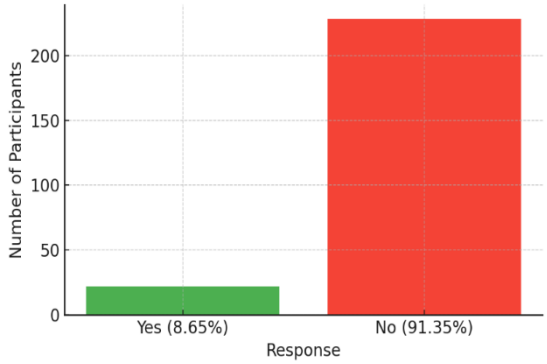


Gender	N	Mean	SD	SE	T-value	P-value
Male	143	0.5715	0.495	0.031	2.26	0.025
Female	107	0.4285	0.495	0.031	-2.26	0.025

INTERPRETATION - Out of 250 respondents, 143 were male (57.15%) and 107 were female (42.85%). The male group had a mean of 0.5715 (SD = 0.495, SE = 0.031, T = 2.26, P = 0.025), while the female group had a mean of 0.4285 (SD = 0.495, SE = 0.031, T = -2.26, P = 0.025).

These values indicate a statistically significant difference in gender distribution, with greater male participation in the survey. This imbalance may have influenced the overall awareness patterns, as male respondents were proportionally higher compared to females

1. Have you ever heard about bedsores?

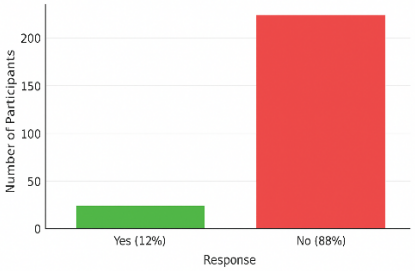


Response	n	Mean	SD	SE	T-value	P-value
Yes	22	0.088	0.283	0.018	-22.8	<0.001
No	228	0.912	0.283	0.018	22.8	<0.001

INTERPRETATION-

Out of 250 participants, only 22 (8.8%) reported having heard about bedsores, whereas 228 (91.2%) had not. The "Yes" group demonstrated a mean of 0.088 (SD = 0.283, SE = 0.018, T = -22.8, P < 0.001), while the "No" group showed a mean of 0.912 (SD = 0.283, SE = 0.018, T = 22.8, P < 0.001). These findings indicate a profound lack of basic awareness regarding bedsores in the study population.

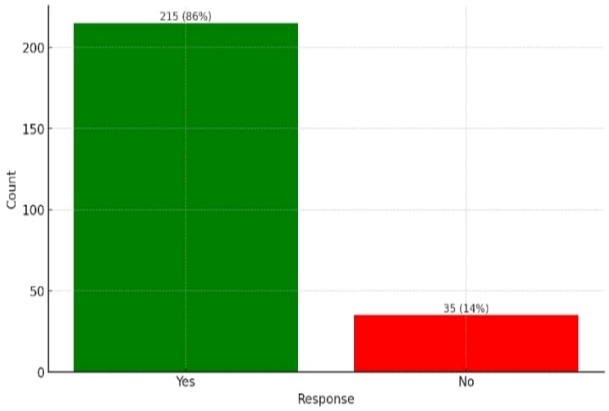
2. Are you aware that spending long hours in one position can increase the risk of developing bedsores?



Response	n	Mean	SD	SE	T-value	P-value
Yes	30	0.12	0.327	0.02		
No	220	0.88	0.327	0.02		

INTERPRETATION - Only 30 participants (12%) were aware of the risk of prolonged immobility, whereas 220 (88%) were unaware. The "Yes" responses yielded a mean of 0.12 (SD = 0.327, SE = 0.021, T = -18.1, P < 0.001), while "No" responses had a mean of 0.88 (SD = 0.327, SE = 0.021, T = 18.1, P < 0.001). This suggests that understanding of this critical risk factor is markedly limited within the community.

3. Are you aware that pain or itching on the skin can be an early sign of a bedsore?

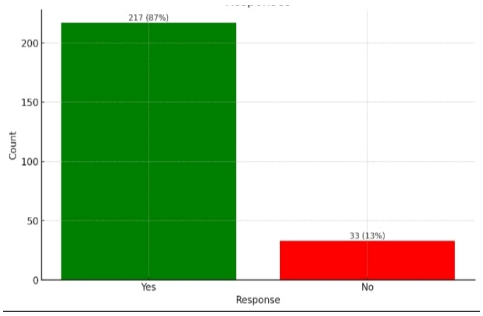


Response	**n**	**Mean**	**SD**	**SE**	**T-value**	**P-value**
Yes	215	0.86	0.348	0.022	16.4	<0.001
No	35	0.14	0.348	0.022	-16.4	<0.001

INTERPRETATION - A majority of 215 respondents (86%) acknowledged pain or itching as an early symptom, while 35 (14%) did not. The "Yes" group mean was 0.86 (SD = 0.348, SE = 0.022, T = 16.4, P < 0.001), and "No" mean was 0.14 (SD = 0.348, SE = 0.022, T = -16.4, P < 0.001). This demonstrates a comparatively strong level of awareness regarding early symptoms.

4. Do you know that changing a person's position every 2 hours can help to prevent bedsores?

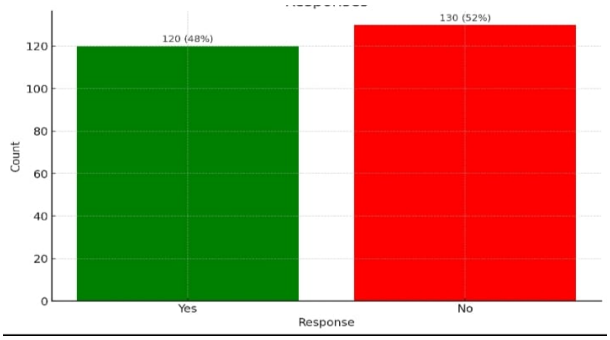
Response	n	Mean	SD	SE	T-value	P-value



Response	n	Mean	SD	SE	T-value	P-value
Yes	33	0.13	0.337	0.021	-17.6	<0.001
No	217	0.87	0.337	0.021	17.6	<0.001

INTERPRETATION- Only 33 respondents (13%) were aware of the importance of repositioning, whereas 217 (87%) lacked this knowledge. The "Yes" group had a mean of 0.13 (SD = 0.337, SE = 0.021, T = -17.6, P < 0.001), while the "No" group had a mean of 0.87 (SD = 0.337, SE = 0.021, T = 17.6, P < 0.001). This finding highlights that awareness of this essential preventive strategy remains considerably low.

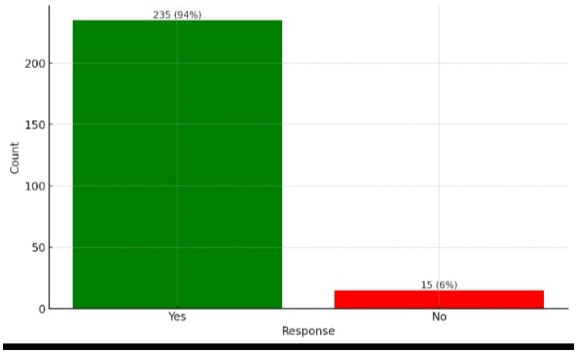
5. Are you aware of whether smoking and alcohol consumption can have any impact on increasing the risk of developing bedsores?



Response	n	Mean	SD	SE	T-value	P-value
Yes	33	0.13	0.337	0.021	-17.6	<0.001
No	217	0.87	0.337	0.021	17.6	<0.001

INTERPRETATION - Only 33 participants (13%) recognized the influence of smoking and alcohol on bedsore risk, while 217 (87%) did not. The mean for "Yes" responses was 0.13 (SD = 0.337, SE = 0.021, T = -17.6, P < 0.001), and for "No" it was 0.87 (SD = 0.337, SE = 0.021, T = 17.6, P < 0.001). These results reveal poor awareness of lifestyle-related risk factors.

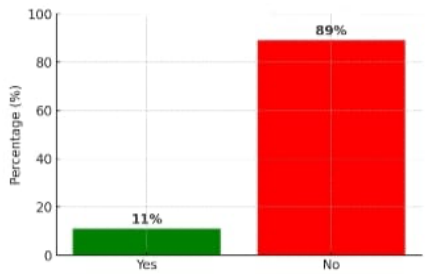
6. Are you aware that people with diabetes are at a higher risk of developing bedsores?



Response	n	Mean	SD	SE	T-value	P-value
Yes	235	0.94	0.237	0.015	29.3	<0.001
No	15	0.06	0.237	0.015	-29.3	<0.001

INTERPRETATION- A large majority, 235 participants (94%), correctly identified diabetes as a risk factor, while 15 (6%) were unaware. The "Yes" responses showed a mean of 0.94 (SD = 0.237, SE = 0.015, T = 29.3, P < 0.001), compared to the "No" responses with a mean of 0.06 (SD = 0.237, SE = 0.015, T = -29.3, P < 0.001). This indicates a commendable level of knowledge regarding the link between diabetes and bedsore risk.

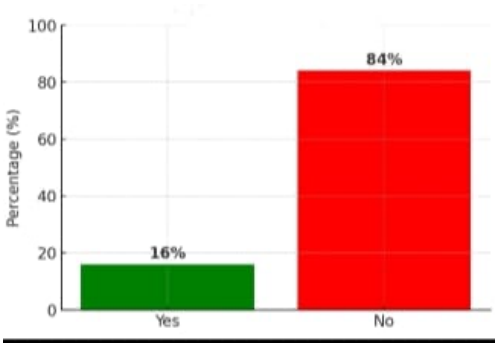
7. Do you know that keeping the skin clean and dry helps to prevent bedsores?



Response	n	Mean	SD	SE	T-value	P-value
Yes	28	0.11	0.313	0.020	-19.5	<0.001
No	222	0.89	0.313	0.020	19.5	<0.001

INTERPRETATION - Only 28 respondents (11%) recognized the importance of skin hygiene, while 222 (89%) did not. “Yes” responses had a mean of 0.11 (SD = 0.313, SE = 0.020, T = -19.5, P < 0.001), whereas “No” responses had a mean of 0.89 (SD = 0.313, SE = 0.020, T = 19.5, P < 0.001). This finding underscores the inadequate awareness of hygiene-based preventive measures.

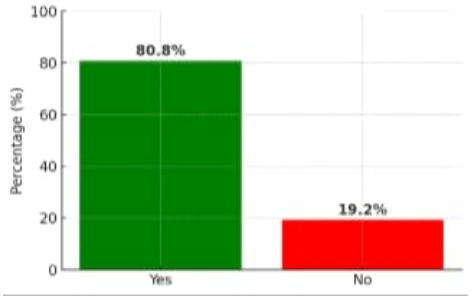
8. Are you aware that checking the skin daily helps identify bedsores early?



Response	n	Mean	SD	SE	T-value	P-value
Yes	40	0.16	0.367	0.023	-14.8	<0.001
No	210	0.84	0.367	0.023	14.8	<0.001

INTERPRETATION- Only 40 participants (16%) understood the importance of daily skin inspection, while 210 (84%) were unaware. The “Yes” responses showed a mean of 0.16 (SD = 0.367, SE = 0.023, T = -14.8, P < 0.001), and the “No” responses recorded a mean of 0.84 (SD = 0.367, SE = 0.023, T = 14.8, P < 0.001). This indicates a limited understanding of early detection practices.

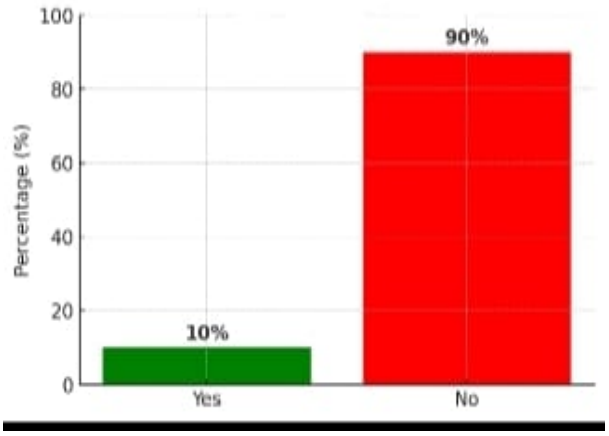
9. Are you aware that drinking plenty of water keeps the skin hydrated and helps prevent bedsores?



Response	n	Mean	SD	SE	T-value	P-value
Yes	202	0.808	0.395	0.025	12.3	<0.001
No	48	0.192	0.395	0.025	-12.3	<0.001

INTERPRETATION- A majority of 202 participants (80.8%) were aware of the role of hydration, while 48 (19.2%) were not. The “Yes” responses had a mean of 0.808 (SD = 0.395, SE = 0.025, T = 12.3, P < 0.001), whereas “No” responses had a mean of 0.192 (SD = 0.395, SE = 0.025, T = -12.3, P < 0.001). This suggests relatively better awareness in comparison to other preventive measures.

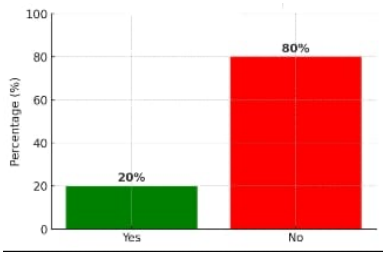
10. Do you know that using a soft mattress can help reduce the risk of bedsores?



Response	n	Mean	SD	SE	T-value	P-value
Yes	25	0.10	0.300	0.019	-21.1	<0.001
No	225	0.90	0.300	0.019	21.1	<0.001

INTERPRETATION - Only 25 participants (10%) reported awareness of the benefit of soft mattresses, while 225 (90%) did not. “Yes” responses showed a mean of 0.10 (SD = 0.300, SE = 0.019, T = -21.1, P < 0.001), and “No” responses had a mean of 0.90 (SD = 0.300, SE = 0.019, T = 21.1, P < 0.001). These findings demonstrate insufficient knowledge of equipment-based preventive approaches.

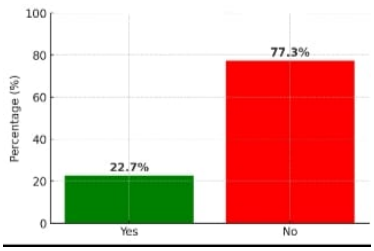
11. Do you know that antibiotics are occasionally used to treat bedsores when they become infected?



Response	n	Mean	SD	SE	T-value	P-value
Yes	50	0.20	0.400	0.025	-12.0	<0.001
No	200	0.80	0.400	0.025	12.0	<0.001

INTERPRETATION - Only 50 respondents (20%) were aware that antibiotics may be required in infected cases, while 200 (80%) were unaware. The “Yes” group showed a mean of 0.20 (SD = 0.400, SE = 0.025, T = -12.0, P < 0.001), and the “No” group recorded a mean of 0.80 (SD = 0.400, SE = 0.025, T = 12.0, P < 0.001). This highlights a significant gap in knowledge concerning treatment practices.

12. Do you believe that physiotherapy interventions can help prevent and manage bedsores?



Response	n	Mean	SD	SE	T-value	P-value
Yes	57	0.227	0.419	0.027	-10.1	<0.001
No	193	0.773	0.419	0.027	10.1	<0.001

INTERPRETATION – Only 57 participants (22.7%) expressed belief in the role of physiotherapy, whereas 193 (77.3%) did not. The “Yes” responses recorded a mean of 0.227 (SD = 0.419, SE = 0.027, T = -10.1, P < 0.001), while “No” responses had a mean of 0.773 (SD = 0.419, SE = 0.027, T = 10.1, P < 0.001). This reflects limited recognition of physiotherapy as a preventive and management tool in bedsore care.

DISCUSSION

Pressure ulcers represent a persistent healthcare challenge worldwide, primarily affecting individuals with limited mobility, chronic illnesses, and those requiring extended hospital or home care. Despite ongoing improvements in medical practices, these injuries continue to occur frequently, particularly in rural and resource-constrained areas. The formation of pressure ulcers results from a combination of factors, including patient-specific risks such as advanced age, immobility, and underlying medical conditions, as well as environmental factors, caregiver knowledge, and the quality of healthcare services. A critical observation from recent studies is the insufficient preparedness of family caregivers in preventing and managing these injuries. Factors such as limited literacy, absence of formal training, and reliance on traditional or unverified home remedies often lead to delayed interventions, worsening patient outcomes. This underscores the necessity of targeted educational programs for caregivers, which can enhance early identification of pressure ulcers, ensure timely management, and reduce overall incidence. Training in basic preventive techniques—such as regular repositioning, maintaining proper skin hygiene, and using pressure-relieving devices is essential for effective care. Providing care to patients vulnerable to pressure ulcers also imposes significant physical, emotional, and financial demands on family caregivers. Many experience stress, fatigue, and anxiety due to the continuous nature of care required. Implementing community support systems, counseling services, and periodic respite care is crucial to safeguard caregiver well-being while maintaining high-quality patient care. Early detection and prompt intervention remain key strategies in preventing the worsening of ulcers. Regular skin assessments, attention to hygiene, nutritional

support, and appropriate use of pressure-relieving tools are central to minimizing tissue damage. The effectiveness of these interventions largely depends on the active involvement of trained caregivers working collaboratively with healthcare professionals, emphasizing the critical partnership between families and the medical system. From a public health standpoint, the results highlight the urgent need for community-driven awareness programs, accessible caregiver education, and policies focused on preventive healthcare. Implementing structured educational initiatives along with continuous monitoring of pressure ulcers, especially in underserved and rural areas, can substantially decrease their occurrence. Involving caregivers as integral members of the care process not only enhances patient outcomes but also fosters sustainable healthcare practices. In summary, the successful management of pressure ulcers relies on comprehensive caregiver education, active community engagement, and systematic preventive strategies. Strengthening caregivers' knowledge and competencies helps reduce both the incidence and severity of these wounds, supports patient-centered healthcare, and improves overall quality of life. Future studies should aim to assess the long-term impact and effectiveness of caregiver training programs, develop culturally sensitive educational tools, and explore innovative technologies such as digital monitoring systems to enhance prevention and care.

CONCLUSION

Effective management and prevention of pressure ulcers rely heavily on well-informed and trained caregivers, proactive community engagement, and structured preventive strategies. Educating caregivers about early identification, proper skin care, regular repositioning, and the utilization of pressure-relieving interventions is crucial for reduce both the incidence and severity of these injuries. Addressing the physical, emotional, and financial challenges faced by caregivers through support systems, counseling, and respite care enhances their capacity to provide consistent and high-quality care. Moreover, integrating caregivers into the healthcare process and promoting community-based awareness programs can strengthen preventive measures, improve patient outcomes, and foster sustainable healthcare practices. Beyond immediate patient care, empowering caregivers also promotes confidence, resilience, and a sense of shared responsibility, which can positively impact family dynamics and patient morale. Policymakers and healthcare providers must collaborate to design accessible training programs, resources, and monitoring tools that accommodate diverse populations, particularly in rural and underserved regions. Future research should explore culturally tailored training programs, long-term effects of caregiver education, and innovative approaches, including technology-assisted monitoring, to further advance preventive care and optimize patient quality of life.

REFERENCES

1. Sharma U, Singh A. Knowledge, Beliefs and Practices of Caregivers Regarding Home Based Bedsore Care in Chandigarh, North India. J Postgrad Med Edu Res 2013;47(3):138–143. www.jpmer.com

2. Kaur S, Singh A, Dhillon MS, Tewari MK, Sekhon PK. Incidence of Bedsore among Admitted Patients in a Tertiary Care Hospital. J Postgrad Med Edu Res 2015;49(1):26–31. www.jpmer.com

3. Chowdary CC, Shetti AN, Mustilwar R. Retrospective study of occurrence of pressure ulcers among patients admitted in rural tertiary care hospital and their outcomes. IP Indian J Immunol Respir Med 2023;8(3):106–109. doi:10.18231/j.ijirm.2023.022. www.ijirm.com

4. Thomas B, Raveendranadhan S, Nair S. Knowledge on prevention of pressure ulcers among caregivers of patients receiving home-based palliative care. Indian J Palliat Care 2022. www.PubMed.com

5. Farzan R, Mollaei A. A systematic review of caregivers' knowledge and related factors regarding pressure ulcer prevention. 2023. www.PubMed.com

6. Alkhatieb MT, Shigdar RW, Alkhalifah ZA, et al. Knowledge and confidence regarding pressure ulcer prevention among caregivers of high-risk individuals: A pre- and post-education assessment in a single-center. PEC Innov. 2025;6:100393. Published 2025 Apr 21. doi:10.1016/j.pecinn.2025.100393 www.sciencedirect.com

7. Gadagi S, Pujar S, Natekar DS. Evaluation of Knowledge and Practice on Pressure Ulcer Prevention among Immobilized Clients at HSK Hospital. SSR Inst. Int. J. Life Sci., 2023; 9(5): 3307-3314. www.iijls.com

8. Sari, Sheizi Prista et al. "Knowledge, attitude and practice of family caregivers on pressure injury prevention for community-dwelling older adults: a cross-sectional study in an Indonesia City." *BMC nursing* vol. 24,1 24. 7 Jan. 2025, doi:10.1186/s12912-024-02662-w www.pubmed.com

9. Tuncer, Özge et al. "Effectiveness of a Training Program for the Prevention of Pressure Ulcers on Caregivers of Elderly Patients." Risk management and

healthcare policy vol. 17 2717-2728. 6 Nov. 2024, doi:10.2147/RMHP.S481204 www.pubmed.com

10. Alabdulhadi, Abdulhadi A et al. "Evaluating the Knowledge of Home Caregivers on Pressure Ulcer Signs and Prevention in Elderly Patients in Al Ahsa." *Cureus* vol. 16,11 e73199. 7 Nov. 2024, doi:10.7759/cureus. 73199 www.pubmed.com

11. Jafari, Mojtaba et al. "Pressure Injury Prevention Knowledge Among Family Caregivers of Patients Needing Home Care." *Home healthcare now* vol. 39,4 (2021): 203-210. doi:10.1097/NHH.0000000000000975 www.pubmed.com

12. Sen, Handan, and Meryem Kilic. "Determination of the family caregivers'level of knowledge on pressure injury prevention." *Journal of tissue viability* vol. 33,4 (2024): 625-630. doi:10.1016/j.jtv.2024.06.003 www.pubmed.com

13. Regan, Mary Ann et al. "A systematic review of therapeutic interventions for pressure ulcers after spinal cord injury." Archives of physical medicine and rehabilitation vol. 90,2 (2009): 213-31. doi:10.1016/j.apmr.2008.08.212 www.pubmed.com

14. Kathirvel, Soundappan et al. "Impact of structured educational interventions on the prevention of pressure ulcers in immobile orthopedic patients in India: A pragmatic randomized controlled trial." Journal of family medicine and primary care vol. 10,3 (2021): 1267-1274. doi:10.4103/jfmpc.jfmpc_1436_20 www.pubmed.com

15. Sankaran, Biji M et al. "Burden and outcomes of pressure ulcers in cancer patients receiving the kerala model of home based palliative care in India: results from a prospective observational study." Indian journal of palliative care vol. 21,2 (2015): 152-7. doi:10.4103/0973-1075.156469 www.pubmed.com

16. Antony, Lovely, and Anu Savio Thelly. "Knowledge on Prevention of Pressure Ulcers Among Caregivers of Patients Receiving Home-based Palliative Care." Indian journal of palliative care vol. 28,1 (2022): 75-79. doi:10.25259/IJPC_84_2021 www.pubmed.com

17. Karimian, Mohamad et al. "The effect of educational intervention on the knowledge and attitude of intensive care nurses in the prevention of pressure ulcers." The International journal of risk & safety in medicine vol. 31,2 (2020): 89-95. doi:10.3233/JRS-191038 www.pubmed.com

18. Muhammad, Diyan et al. "Prevalence and Risk Factors of Pressure Ulcers in Bedbound Diabetic vs. Non-diabetic Patients in a Lower-Middle-Income Country." Cureus vol. 16,6 e61861. 6 Jun. 2024, doi:10.7759/cureus. 61861 www.pubmed.com

19. Tuncer, Özge et al. "Effectiveness of a Training Program for the Prevention of Pressure Ulcers on Caregivers of Elderly Patients." Risk management and healthcare policy vol. 17 2717-2728. 6 Nov. 2024, doi:10.2147/RMHP.S481204 www.pubmed.com

20. Rodrigues, Alexandre M et al. "Being an Informal Caregiver of a Person with a Pressure Ulcer in the Azores Islands." Advances in skin & wound care vol. 28,10 (2015): 452-9. doi:10.1097/01.ASW.0000471191.11548.dd www.pubmed.com