

Survey on Assessing Pressure Ulcer Prevalence and Impact Among Elderly Patients Transitioning from Home Care to Hospitalization Within Thiruvananthapuram City

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ABSTRACT

Pressure ulcers are a significant concern among elderly patients, especially those receiving home care. This face-to-face survey aimed to characterize the socio-demographic status, health profile, and level of risk for pressure ulcers in elderly patients within the context of home care, as well as to assess the prevalence of pressure ulcers. Data were collected through interviews using a pre-prepared questionnaire. A total of 230 participants were included in the study. The findings reveal valuable insights into the vulnerability of elderly patients in home care settings. Among the participants, 73 individuals were identified having pressure ulcers, representing approximately 31.7% of the surveyed population. This prevalence underscores the significance of pressure ulcers in this demographic and highlights the need for increased attention to prevention and care. The socio-demographic profile of the elderly patients revealed a diverse population. Age group of the participant in the survey ranged from 65 to 90 years. Mean age of the patients with pressure ulcers found to be above 75 years. The majority of participants were females (62.2%), reflecting the higher life expectancy of women in India. The health profile of the participants indicated a range of comorbidities. Diabetes, hypertension, and musculoskeletal disorders were prevalent among the elderly patients. These underlying health conditions contribute to the vulnerability of this population to pressure ulcers, as immobility and compromised circulation are common consequences. Despite the recognition of pressure ulcer risk, not all patients at risk were found to be following preventive measures properly. This underscores the importance of improved patient education and support, both during hospitalization and in the home care setting. Effective communication mechanisms between healthcare services are crucial to ensure adequate coordination and facilitate the continuity of care and patient safety. The study highlights the need for enhanced orientation and training for both patients and caregivers to mitigate the risk of pressure ulcers. In conclusion, this face-to-face survey sheds light on the socio-demographic status, health profile, and pressure ulcer risk among elderly patients receiving home care. The prevalence of pressure ulcers in this population is a cause for concern, and efforts should be directed toward better education, prevention, and coordination of care to ensure the well-being of elderly patients in the home care setting. By addressing these issues, healthcare providers can enhance patient safety and overall quality of life for this vulnerable demographic.

Key Words: Pressure Ulcers, Elderly Patients, Home Care, Comorbidities, Prevention

INTRODUCTION

The world is witnessing a profound demographic shift, characterized by a significant increase in the aging population, a surge in chronic diseases, and mounting financial crises within social security systems. This global phenomenon is not only reshaping the dynamics of healthcare but is also posing formidable challenges to the provision of long-term care, especially in countries like India^[1]. The confluence of these factors has led to a burgeoning number of individuals in India requiring long-term care at home, driven in large part by the escalating medical costs associated with prolonged hospital stays. Alarming as this trend may be, it brings to the forefront a particularly concerning issue: the rising incidence of pressure ulcers among these vulnerable home care patients.

Pressure ulcers, also known as bedsores or decubitus ulcers, represent a significant healthcare concern worldwide^[2]. These debilitating wounds manifest as localized damage to the skin and/or underlying soft tissue, predominantly occurring over bony prominences or in association with medical devices. Pressure ulcers develop as a consequence of intense and/or prolonged pressure applied to the skin, often accompanied by shear forces.

Despite being largely preventable, these wounds inflict substantial pain, elevate the risk of infection at the wound site, contribute to soaring medical costs related to their treatment, and erode the overall quality of life for affected individuals and their families. As such, addressing the issue of pressure ulcers in the context of home-based care is a pressing concern that demands immediate attention. In this comprehensive exploration, we embark on a journey to unravel the multifaceted challenges posed by pressure ulcers in the rapidly aging population of India^[3]. We delve into the various aspects that make this issue a compelling subject of study, from the demographic shifts shaping the landscape of healthcare to the intricate dynamics of pressure ulcer development and

its impact on home care patients. This introduction serves as a gateway to a detailed examination of the problem, its underlying causes, consequences, and potential solutions.

The world is witnessing a profound demographic shift characterized by an increasing aging population and a rising prevalence of chronic diseases. This demographic transition, combined with the financial constraints faced by social security systems, has led to a surge in the demand for long-term care, particularly in the context of home care^[4]. India, like many other countries, grapples with this transformation in healthcare needs, and it is becoming evident that a significant portion of its populace requires extended care within the comfort of their homes.

The escalating costs associated with prolonged hospital stays, coupled with the desire for personalized care, have driven this trend.

The Prevalence of Pressure Ulcers in Home Care a pressing issue has emerged: the increasing incidence of pressure ulcers among individuals receiving home care in India. Pressure ulcers, previously known as pressure sores or bedsores, are defined as localized damage to the skin and/or underlying soft tissue, typically occurring over bony prominences or in association with medical devices, due to prolonged and/or intense pressure, often exacerbated by shear forces. The prevalence of pressure ulcers presents a multifaceted challenge within the realm of home care, with profound implications for the affected individuals, their families, and the healthcare system as a whole.

Pressure ulcers bring about a range of negative effects, particularly for patients receiving care at home^[5]. These effects encompass heightened pain and discomfort, an elevated risk of infections at the wound site, escalating medical costs for pressure injury treatment, and a subsequent decline in the overall quality of life for both the individuals affected and their families. As such, early intervention and professional

support for individuals at risk of developing pressure ulcers in the home care setting have become pivotal in ensuring successful prevention and early detection.

Pressure injuries, often synonymous with pressure ulcers or bedsores, are not unique to India; they are a global concern that affects bedridden, infirm, debilitated, and malnourished patients across various healthcare settings, including hospitals and community-based care. Despite significant advancements in healthcare, the prevalence of pressure injuries continues to rise, particularly among individuals grappling with chronic morbidities [6]. Incidence rates in hospital settings range from 3% to 10%, with mortality rates increasing two to six-fold when pressure injuries are present. In fact, in hospitals, the death rate for patients with pressure injuries can be as high as 23%. The development of pressure injuries can be attributed to a myriad of factors, both intrinsic and extrinsic. Intrinsic factors include limited mobility, comorbidities such as diabetes, chronic obstructive pulmonary disease, congestive heart failure, malignancy, and renal dysfunction, as well as poor nutrition and aging skin. Extrinsic factors encompass pressure, friction, shear, and moisture, with shear forces causing stretching and angulation of blood vessels, especially when a patient slides toward the foot end of the bed. Pressure ulcers predominantly manifest over bony prominences, with approximately 80% occurring over the heels, lateral malleoli, sacrum, ischia, and greater trochanters.

Prevention is a cornerstone in the management of pressure ulcers and holds the potential to mitigate suffering, reduce morbidity, free up bed occupancy, alleviate the healthcare systems workload, and curtail healthcare costs. Preventing pressure ulcers, however, is not a straightforward task; it poses a significant challenge to nursing care [7]. A comprehensive understanding of the etiological factors contributing to pressure ulcer development is essential.

The extent and duration of immobility are pivotal factors influencing the incidence of

pressure ulcers. Regular repositioning of bedridden patients has been demonstrated to significantly decrease the development of pressure ulcers [8]. A written schedule for repositioning is crucial, with changes in position recommended every two hours. The 30-degree oblique position is deemed ideal for bedridden patients. Specialized support surfaces, including mattresses and beds, have also emerged as effective tools in reducing the incidence of pressure ulcers.

METHODOLOGY.

STUDY SUBJECTS:

230 elderly patients who were transition from home care settings to hospital within Thiruvananthapuram City were selected for this study. The patients were evaluated with routine blood investigations such as complete blood count and biochemical investigations as per consultants' instruction in the hospital.

1.1 STUDY TYPE

Face-to-face survey method using pre-prepared questionnaire

1.2 STUDY SITE

Various Leading Hospitals in Trivandrum City.

1.3 STUDY PERIOD

For a period of 5 months (April 2023-August2023)

1.4 SELECTION CRITERIA

INCLUSION CRITERIA:

- 1) Patients above the age of 65 years.
- 2) Patients with non-healing wounds

EXCLUSION CRITERIA:

- 1) Patients less than age of 65 years.
- 2) Psychiatric disorder patients.
- 3) Patients on radiotherapy and chemotherapy.

SOURCES OF DATA

- 1) Leading hospitals in Trivandrum city limits.

DATA ANALYSIS

- 1) Descriptive Statistics
- 2) Charts and Graphs

3) Data Interpretation

Table 1: AGE & GENDER WISE DISTRIBUTION AMONG THE STUDY POPULATION.

Gender	Between 65-75 years		Between 75-90 years	
	Nos	%	Nos	%
Male	25	25%	62	75%
Female	36	25%	107	75%

Table 2: LIVIVNG ARRANGEMENT WISE DISTRIBUTIONS AMONG THE STUDYPOPULATION

Living Arrangement	Alone	With family	In Care facility
Percentage	11%	72%	17%

Table 3: DISTRIBUTION OF STUDY POUPULATION BASED ON INCOME -FINANCIAL IMPACT AND ECONOMIC BURDEN

Lower income	Higher income
90%	10%

Table 4: SOCIAL HISTORY AMONG THE STUDY POPULATION

Variables	Frequency	Percentage
Family Type	Joint Family	19
	Nuclear Family	54
Residence Type	Residence Urban	34
	Residence Rural	39
Marital Status	Married	57
	Unmarried	11
	Divorced	1
	Widowed	4
Educational Status	Illiterate	14
	Read and write	86

Table 5: DISTRIBUTION OF PRESSURE ULCER BY ANATOMICAL LOCATION AMONG THE STUDY POPULATION.

Anatomical Location	Frequency	Percentage
Shoulder	19	26%
Sacrum	39	53%
Sacrum and shoulder	8	11%
Sacrum and heel	7	10%

Table 6: DISTRIBUTION OF VARIOUS RISK FACTORS FOR HEALTH ISSUES AMONG THE STUDY POPULATION.

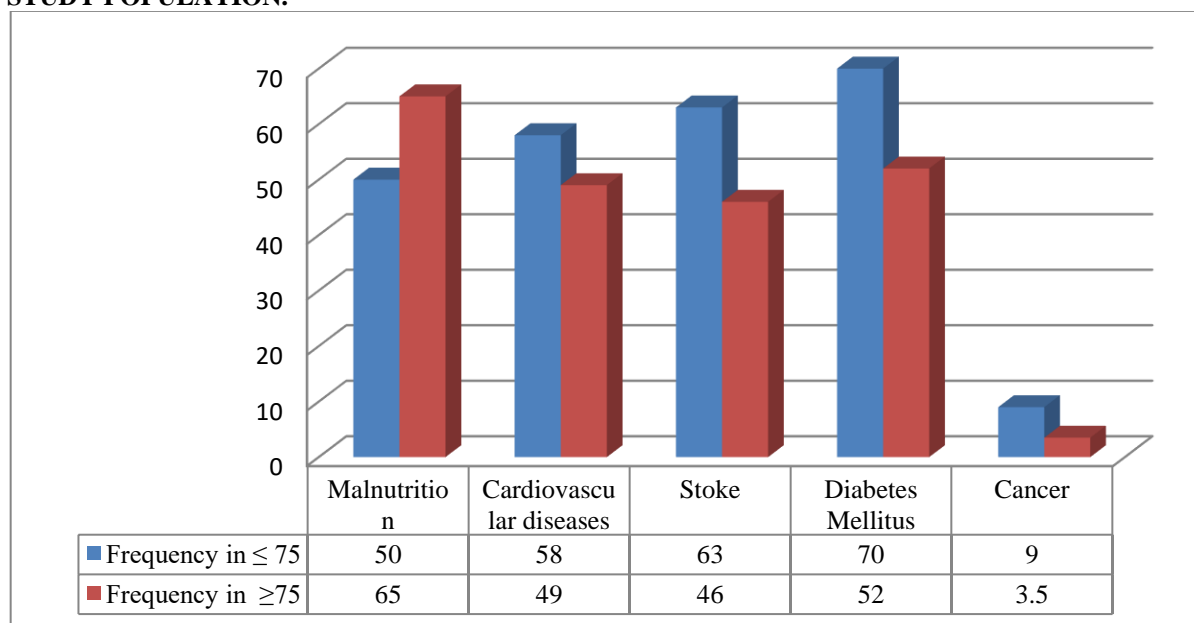


Table 7: PATTERN OF PRESSURE ULCER BY FREQUENCY OF POSITION CHANGE AMONG STUDY POPULATION

Characteristics		Pressure Sore	
		N	%
Frequency of Position Change	Every 2hours	1	1
	Every 4hours	2	3
	2-4 times per day	5	8
	Less than4 times per day	65	89
Means of changing position	Self	0	0
	Relative	22	30
	Caregiver	15	20

DISCUSSION

The study was conducted to investigate the prevalence and impact of pressure ulcers among elderly patients receiving home care in Thiruvananthapuram City, India. A total of 230 participants were included in the study. Among the participants, 73 individuals were identified as having pressure ulcers, which accounted for approximately 31.7% of the surveyed population. The study revealed several important findings. First, it highlighted the vulnerability of elderly patients in home care settings, shedding light on the prevalence and consequences of pressure ulcers within this demographic. Pressure ulcers can lead to significant pain and suffering, both physically and psychologically, for affected individuals. Moreover, caregivers bear a substantial burden in managing these ulcers, which can have a profound impact on their well-being. Pressure ulcers also pose infection risks and complications. They can serve as portals of infection, potentially leading to secondary health issues that further complicate the medical condition of patients [9]. This can escalate medical costs, placing an economic burden on both patients and the healthcare system. The study emphasized the need for effective prevention strategies to mitigate these consequences. The socio-demographic profile of the elderly patients revealed a diverse population, with most falling within the age group of 75-90 years. The majority of participants were females, which reflects the higher life expectancy of women in India. The health profile of the participants indicated a range of comorbidities, including diabetes, hypertension, and musculoskeletal disorders. These underlying

health conditions contribute to the vulnerability of this population to pressure ulcers, given the common consequences of immobility and compromised circulation. Despite the recognition of pressure ulcer risk, the study found that not all patients at risk were following preventive measures properly. This underscores the importance of improved patient education and support, both during hospitalization and in the home care setting. Effective communication mechanisms between healthcare services are crucial to ensure adequate coordination and facilitate the continuity of care and patient safety. In conclusion, the study shed light on the socio-demographic status, health profile, and pressure ulcer risk among elderly patients receiving home care in Thiruvananthapuram City, India. The prevalence of pressure ulcers in this population is a cause for concern, and efforts should be directed toward better education, prevention, and coordination of care to ensure the well-being of elderly patients in the home care setting. By addressing these issues, healthcare providers can enhance patient safety and overall quality of life for this vulnerable demographic. Pressure ulcers, also known as pressure sores or bedsores, are localized damage to the skin and/or underlying soft tissue due to prolonged and intense pressure, often occurring over bony prominences or in association with medical devices. The prevalence of pressure ulcers in the home care context presents significant challenges and implications for individuals, their caregivers, and the healthcare system [10]. The primary aim of this survey was to assess the prevalence and understand the impact of pressure ulcer incidences among

elderly patients transitioning from home care to hospitalization in Thiruvananthapuram City, India. The specific objectives included estimating the prevalence rate of pressure ulcers, identifying contributing factors, evaluating the physical and psychological impact on patients, understanding caregiver perspectives, and raising awareness about prevention and early detection. The study was conducted through face-to-face surveys using a preprepared questionnaire in various leading hospitals in Trivandrum City over a period of three months. The selection criteria included patients above the age of 65 years with non-healing wounds, while those with psychiatric disorders or undergoing radiotherapy and chemotherapy were excluded. The observed data provided valuable insights into the study population. The majority of respondents were in the 75-90 years age group, with a gender distribution skewed towards females. Most of the participants lived with their families, while a smaller percentage resided in care facilities or lived alone. The income distribution revealed a significant majority falling into the low-income category, highlighting potential economic burdens related to pressure ulcers. Furthermore, the data indicated a diverse socio-demographic profile, reflecting the unique characteristics of the elderly population receiving home care. The presence of comorbidities such as diabetes, hypertension, and musculoskeletal disorders underscored the vulnerability of this group to pressure ulcers due to immobility and compromised circulation. Despite the recognition of pressure ulcer risk, the study found that not all at-risk patients followed preventive measures properly. This emphasized the need for improved patient education and support, as well as effective communication between healthcare services to ensure proper coordination and continuity of care. In addition to the socio-demographic insights, the data revealed the distribution of pressure ulcers by anatomical location, with the sacrum being the most prevalent site,

followed by the shoulder. This information can guide healthcare professionals in targeting preventive measures more effectively. Moreover, the study explored the prevalence of various risk factors for health issues among individuals with pressure ulcers, with notable findings. Diabetes mellitus emerged as a prevalent risk factor in both age groups, emphasizing its significance. Malnutrition demonstrated a notable difference in prevalence between age brackets, indicating potential shifts in health issues with age. The data also delved into the pattern of pressure ulcers based on the frequency of position changes, suggesting a correlation between infrequent position changes and the development of pressure ulcers. It highlighted the reliance on caregivers and relatives for position changes, raising questions about the quality of care provided. In summary, this comprehensive survey illuminated various facets of pressure ulcers among elderly patients in home care settings. It provided a detailed understanding of their socio-demographic characteristics, health profiles, risk factors, and the challenges they face. By addressing these issues through education, prevention, and improved coordination of care, healthcare providers can enhance the well-being of this vulnerable demographic and reduce the prevalence and impact of pressure ulcers.

RESULTS

The majority of respondents fell within the age group of 75-90 years (75%), while a smaller portion was in the 65-75 years age group (25%). The gender distribution was skewed towards females (62.2%) compared to males (37.8%). The majority of the study population (72%) is living with their families. The other group represents 17% of individuals who are residing in some form of care facility, while 11% of individuals are living by themselves.

Ninety percent of the study population falls into the low-income category, with the remaining 10% belonging to the high-income group. Lower-income individuals

are likely to experience a higher economic burden due to pressure ulcers. The majority of the study population belongs to nuclear families, with slightly more individuals living in rural areas. Most of the study population is married, while a smaller percentage is unmarried. There are also a few individuals who are either divorced or widowed. The vast majority of the study population can read and write.

The majority of pressure ulcers are located on the sacrum, representing 53% of the cases. Pressure ulcers located on the shoulder account for 26% of the cases. Pressure ulcers occurring simultaneously on the sacrum and shoulder make up 11% of the cases. Pressure ulcers found on both the sacrum and heel constitute 10% of the cases. Among the 73 individuals identified with pressure ulcers, the prevalence of various risk factors for health issues was examined. Among those aged 65-75 years, malnutrition was found in 50% of the cases, cardiovascular diseases in 58%, stroke in 63%, diabetes mellitus in 70%, and cancer in 9%. For individuals aged 75 years and above, malnutrition was prevalent in 65% of cases, cardiovascular diseases in 49%, stroke in 46%, diabetes mellitus in 52%, and cancer in 3.5%. These findings suggest a substantial occurrence of these risk factors, particularly diabetes mellitus, in both age groups, with a notable difference in malnutrition prevalence between the two age brackets, indicating a potential shift in health issues with age.

CONCLUSIONS

In conclusion, this survey has illuminated the pressing issue of pressure ulcers among elderly patients receiving home care in Thiruvananthapuram City, India, in a profound and comprehensive manner. The multifaceted insights derived from this research encompass a wide spectrum of aspects, ranging from socio-demographic characteristics to health profiles, risk factors, and the myriad challenges faced by this vulnerable demographic. The prevalence of pressure ulcers within this

population emerges as a significant cause for concern, with approximately 31.7% of the surveyed individuals identified as having these debilitating wounds. The consequences of pressure ulcers, both physically and psychologically, are substantial, inflicting immense suffering upon affected individuals and imparting a heavy emotional and financial toll. Notably, these consequences extend beyond the individual level, impacting the overall quality of life for patients and placing an extraordinary burden on their caregivers. The implications of this study are far-reaching and touch the realms of healthcare provision, policy-making, and caregiving. Paramount among these implications is the urgent need for the development and implementation of highly effective prevention strategies, meticulously tailored to the unique needs and circumstances of elderly patients in home care settings. These strategies must encompass comprehensive patient education, vigilant and systematic monitoring, and improved coordination of care among healthcare professionals, patients, and their caregivers. Furthermore, efforts must be resolutely directed towards addressing the underlying health conditions, such as diabetes mellitus and malnutrition, that significantly contribute to the risk of developing pressure ulcers. The economic burden associated with pressure ulcers cannot be understated, and thus, it is of paramount importance to prioritize cost-effective preventive measures. Healthcare systems must ardently work towards reducing the prevalence of pressure ulcers to alleviate the financial strain on both individual patients and the broader healthcare infrastructure. In the grand scheme of healthcare, addressing the multifaceted issues identified in this study holds pivotal importance. It is the collective responsibility of healthcare providers, policymakers, and caregivers to rise to the occasion and enhance patient safety, elevate the overall quality of life for elderly patients in home care settings, and ultimately reduce the prevalence and impact of pressure

ulcers. By doing so, we can create a brighter and healthier future for this vulnerable demographic, not only in India but also as a model for compassionate and effective home-based healthcare globally. The findings of this study serve as an invaluable roadmap for future research and policy initiatives, providing a compass to guide our journey towards effecting positive change in the care and well-being of elderly patients in the realm of home-based healthcare.

Declaration by Authors

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