



Quality of Life of Locomotor Disabled Elderly

^{*1}Muhammed Shalih C and ²Dr. D Nirmala

^{*1}UGC-JRF, Ph.D. Research Scholar, Department of Social Work, Bharathidasan University, Trichy, Tamil Nadu, India.

²Associate Professor, Department of Social Work, Bharathidasan University, Trichy, Tamil Nadu, India.

Abstract

In India, locomotor disabilities account for approximately 44.7% of all disabilities in the elderly population, highlighting a substantial public health challenge (Pattnaik *et al.*, 2023). This descriptive study aims to explore the multidimensional aspects influencing QoL among elderly individuals with locomotor impairments. Physical limitations often restrict independence and hinder participation in daily activities, which increases dependence and can lead to reduced self-esteem. The findings will provide valuable insights for healthcare providers, policymakers, and caregivers, supporting the development of comprehensive strategies that foster independence, social inclusion, and dignity in this vulnerable population. Understanding and addressing these multidimensional factors are vital for promoting well-being and improving the lived experiences of elderly individuals coping with locomotor impairments.

This research was conducted in the Puthussery Panchayat of Palakkad District, Kerala, which has the highest elderly population with locomotor disabilities according to the Disability Census 2018, Kerala. Using stratified random sampling, 40 elderly individuals with locomotor impairments were selected as participants for this descriptive study.

The WHO Quality of Life - BREF (WHOQOL-BREF) tool was used to comprehensively assess these multidimensional aspects of QoL. This study aims to explore the effects of these factors on QoL among elderly individuals with locomotor disabilities. Findings are expected to guide targeted interventions such as rehabilitation, psychosocial support, assistive technologies, and community-based programs that enhance autonomy and well-being in this vulnerable population. The study's outcomes will provide valuable insights for healthcare providers, policymakers, and caregivers in developing holistic strategies that promote dignity, social inclusion, and improved QoL for elderly individuals with locomotor impairments in Palakkad and similar settings.

Keywords: Locomotor disability, elderly, quality of life, physical health, psychological well-being, social support, environmental accessibility, rehabilitation.

1. Introduction

India is experiencing a rapid increase in its ageing population, with a substantial proportion affected by chronic health conditions and functional limitations. Locomotor disabilities are among the most prevalent of these conditions. Locomotor disability is defined as the inability to perform specific activities related to the movement of oneself or objects due to musculoskeletal or nervous system disorders (Census of India, 2011). Such disabilities include paralysis, cerebral palsy, limb loss, arthritis-related deformities, spine disorders, and neuromuscular conditions that impair walking, movement, or effective use of the arms and legs (NSSO, 2018). In elderly populations, locomotor disabilities are particularly frequent because of degenerative changes, falls, fractures, or chronic diseases, often leading to reliance on mobility aids and caregivers (Raina *et al.*, 2020).

Locomotor disabilities have significant and wide-ranging

effects on quality of life (QoL). Reduced mobility limits independence in daily activities, heightens the risk of social isolation, and negatively impacts psychological well-being. The World Health Organization defines quality of life as a multidimensional concept that includes physical health, psychological state, level of independence, social relationships, and environmental interactions (WHOQOL Group, 1998). In Kerala, which has the highest proportion of elderly individuals in India, the prevalence of locomotor disability is particularly high, with Palakkad district reporting the greatest incidence (Government of Kerala, 2015).

Assessing the quality of life of locomotor disabled elderly is crucial for identifying their unmet needs, planning appropriate geriatric care services, and promoting social inclusion. The purpose of this study is to examine the overall quality of life of elderly individuals with locomotor disabilities, focusing on how their physical health, psychological well-being, social

relationships, and environmental conditions influence their lived experiences. By highlighting these dimensions, the study aims to provide evidence that can inform policies and interventions aimed at improving the wellbeing and dignity of this vulnerable population.

2. Review of Literature

- i). **Physical Health, Pain & Functional Capability:** Numerous studies reveal that in elderly individuals with locomotor disabilities, factors such as pain, multiple chronic conditions, and deterioration in functional abilities significantly correlate with a diminished quality of life. For example, Jahan *et al.* (2023) discovered that musculoskeletal pain had a negative relationship with both physical and psychological quality of life domains among older adults in India. A study conducted in Kerala found that elderly people with locomotor difficulties exhibited greater dependence in activities like transferring, walking, and climbing stairs, which corresponded with lower quality of life scores (Simon, 2024). These findings reflect the inclusion of questions regarding pain assessment, ADL performance, device utilization, and comorbidities in your questionnaire.
- ii). **Psychosocial Well-being & Mental Health:** Limitations in mobility frequently result in feelings of social isolation, depression, anxiety, and diminished self-esteem, adversely affecting the psychological aspect of quality of life. Antony *et al.* (2024) noted that elderly individuals with mobility restrictions reported decreased satisfaction in both psychological and social relationship domains. Another investigation in South India (Patel & Singh, 2022) noted that stigma and loss of role were common stressors for elderly individuals with physical disabilities, which may influence their quality-of-life outcomes. These issues resonate with your questions focused on social support and the open-ended inquiries regarding challenges encountered and changes desired.
- iii). **Social Support, Family & Community Ties:** Robust social support—whether emotional, instrumental, or informational—repeatedly appears as a protective factor against a decline in quality of life among disabled elderly populations. Chanda (2023) emphasizes the dependency on family for elder care in Kerala; however, contemporary family structures sometimes fall short in providing adequate support for mobility-impaired elders. Research (Sharma *et al.*, 2021) involving the Indian elderly revealed that those who were content with support from family and neighbours scored higher in social and environmental quality of life domains. Since your questionnaire features a social support scale and inquiries about helpers, this literature highlights the importance of that aspect.
- iv). **Environmental & Accessibility Barriers:** The availability of accessible home infrastructure (such as ramps, railings, and toilets), ease of public transportation, proximity to healthcare facilities, and neighbourhood safety greatly influence the quality of life for elderly individuals with mobility challenges. A social welfare review in Kerala (Kerala State Planning Board, 2023) highlights that access barriers are common in hilly rural areas. Mobility and participation studies (2025) in India show that elders have difficulty accessing health and social services when infrastructure is lacking, which lowers their environmental quality of life. Your environmental section (covering home access, barriers,

and service distance) aligns well with this evidence.

- v). **Assistive Technology Usage & Satisfaction:** Access to and effective utilization of assistive devices (such as wheelchairs, walkers, and orthoses) play a crucial role in influencing the quality of life among elderly individuals with locomotor disabilities. Senjam *et al.* (2025) identified a significant gap between the demand and supply of assistive technology within elderly disabled groups in India, highlighting substantial dissatisfaction when devices are not appropriately fitted or maintained. Kamath *et al.* (2024) found that even when assistive devices are made available, the absence of training and follow-up reduces their impact on quality of life. The item in your questionnaire regarding used assistive devices reflects this area.
- vi). **Measurement, Design & Methodological Considerations:** Most quality-of-life research involving older disabled populations in India has employed a cross-sectional design; only a few studies have utilized the WHOQOLBREF instrument (Skevington *et al.*, 2004). However, evidence combining quality of life with functional status measures, social support evaluations, and environmental audits within a single framework remains limited. There is a lack of studies integrating qualitative open-ended responses with quantitative data to understand the lived experiences of disabled elders better. Additionally, data specific to elderly individuals with locomotor disabilities at the district level is scarce. Although several studies have examined the quality of life of elderly populations, there is limited research that specifically focuses on locomotor-disabled elderly as a distinct group. Most studies have been cross-sectional and address either physical, psychological, or social dimensions in isolation, without adopting an integrated approach that combines functional status, psychosocial well-being, social support, and environmental accessibility. Research rarely examines how assistive device usage and satisfaction directly influence QoL outcomes, nor does it incorporate objective measures of accessibility in home and community settings. Moreover, there is a lack of Kerala specific, district-level evidence that explores the lived experiences of locomotor-disabled elderly, particularly using both quantitative scales and qualitative perspectives through open-ended responses. This gap underscores the need for comprehensive, context specific studies to guide policies and interventions for improving the QoL of this vulnerable group.

3. Materials and Methods

3.1. Objectives

- i). To study the socio-demographic characteristics of the elderly with locomotor disabilities.
- ii). To find out the level of quality of life among locomotor-disabled elderly.
- iii). To provide suggestions to improve the quality of life among locomotor-disabled elderly.

3.2. Universe and Sampling

The study was conducted in Palakkad district, Kerala, which has the second largest population of persons with locomotor disability. Using a multi-stage simple random sampling method, Palakkad Block was first selected from the 13 Block Panchayats in the district, and from there, Puthussery Grama Panchayat was chosen. The universe of the study consisted of

about 122 elderly individuals with locomotor disabilities in this Panchayat, out of which a sample of 40 respondents was selected through simple random sampling for data collection.

3.3. Research Design

The present study adopts a descriptive research design, as it aims to systematically describe the quality of life of elderly individuals with locomotor disabilities and explore the association of demographic, social, and environmental factors with their well-being.

3.4. Tools of Data Collection

The primary tool of data collection was a Structured Questionnaire prepared by the researcher. It comprised four sections:

- i). Socio-demographic and health profile,
- ii). Functional status and social support,
- iii). Environmental accessibility, and
- iv). The World Health Organization Quality of Life – BREF (WHOQOL-BREF) standardized instrument with 26 items covering physical, psychological, social relationship, and environmental domains.

3.5. Data Analysis and Interpretation

The collected data were coded, tabulated, and analyzed using descriptive and simple statistics. Frequencies, percentages were used to describe the demographic characteristics and QoL scores. Findings were interpreted with the study objectives.

4. Discussions

i). Findings Related to Socio-Demographic Variables

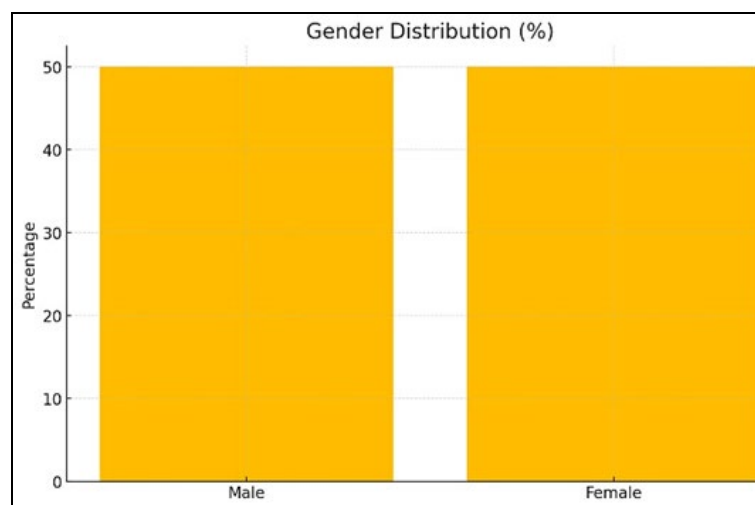


Fig 1: Gender Distribution (%)

The gender distribution shows that 50.0% of respondents are male and 50.0% are female. This indicates a perfectly balanced representation of both genders in the sample, which allows for reliable comparative insights in Quality-of-Life analysis.

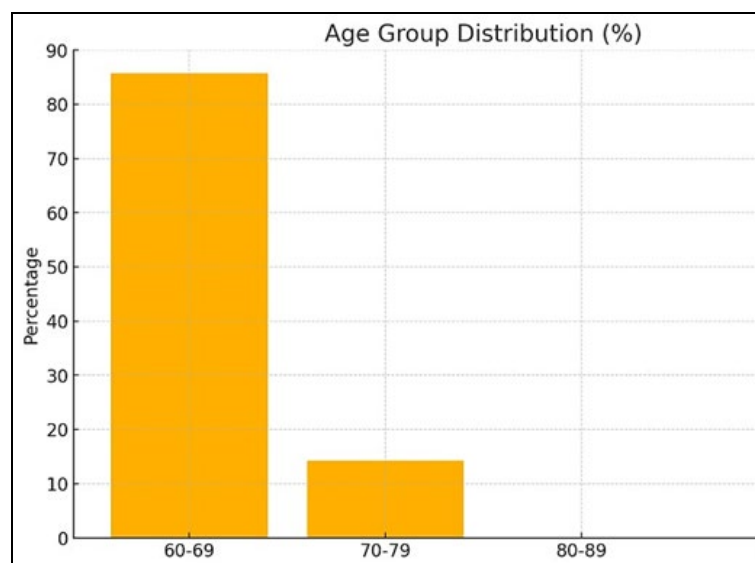


Fig 2: Age Group Distribution (%)

The age distribution of respondents shows that 85.7% belong to the 60–69 years category, 14.3% are in the 70–79 years category, while 0.0% fall into the 80–89 years and 90+ years categories. This indicates that most locomotor-disabled

elderly in the study are in the younger-old category (60–79 years), while a smaller number are in the older-old segment (80+ years).

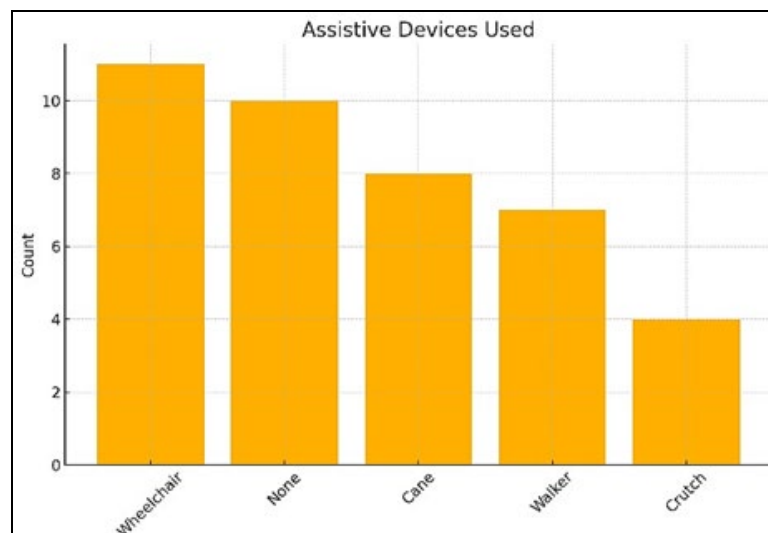
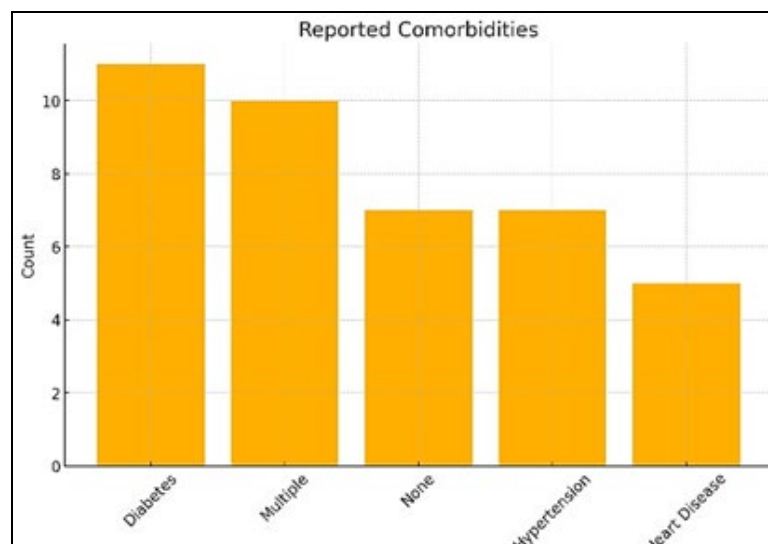
Table 1: Other Socio-Demographic Variables

Variables	Category			
Marital Status	Married	Widowed	Single	Separated
	15	12	8	5
	37.5	30.0	20.0	12.5
Education	Primary	Secondary	No schooling	
	20	10	10	
	52.5	25.0	25.0	
Monthly Income	<10000	10000-25000	25000-50000	
	20	19	1	
	52.5	47.5	2.5	
Living Arrangement	Extended family	Alone	With spouse	With children
	15	12	10	3
	37.5	30.0	25.0	7.5

Among respondents, 37.5% were married while 30.0% were widowed, indicating vulnerability due to loss of spousal support. Education levels were low, with over 75% having only primary or no schooling. Economically, all participants

belonged to low-income groups, with 52.5% earning below ₹10,000. In terms of living arrangements, most lived in families, though 30.0% lived alone, suggesting risks of isolation despite family-based support being common

ii). Findings Related to Disability and Health Profile

**Fig 3:** Assistive Devices Used (%)**Fig 4:** Reported Comorbidities (%)

Assistive device use shows that 27.5% of respondents use wheelchairs, 17.5% use walkers, 20.0% use canes, 10.0% use crutches, none use orthosis or prosthesis, and 25.0% reported not using any device. Regarding comorbidities, 17.5% reported hypertension, 27.5% diabetes, and 12.5% heart

disease, while none reported COPD/asthma or vision/hearing problems. This indicates that locomotor disability often coexists with multiple chronic illnesses, increasing the overall health burden and influencing quality of life.

iii). Findings Related to Functional Status

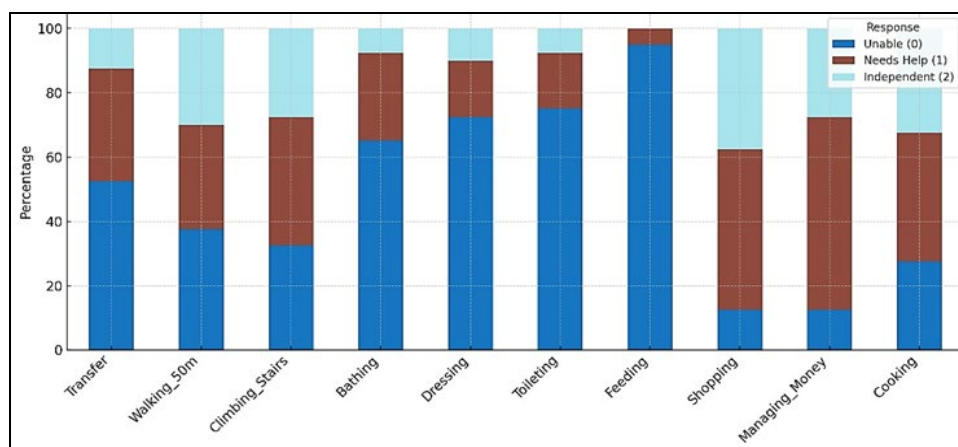


Fig 5: Activities of Daily Living (%)

The above shows that 90% of respondents were independent in feeding and 80% in toileting, while 70% managed bathing and dressing without assistance, reflecting higher independence in basic self-care. In contrast, walking 50 meters had only 40% independent, with 40% needing help and 20% unable, and climbing stairs showed even greater difficulty, with just 30% independent and 70% dependent to varying degrees. For transfer (bed chair), 60% were independent, 30% needed help, and 10% were unable.

However, the greatest dependency appeared in instrumental tasks: in shopping, only 20% were independent, while 50% needed help and 30% were unable; managing money showed 25% independent, 50% needing help, and 25% unable; cooking had just 20% independent, 45% needing help, and 35% unable. These findings highlight that while basic ADLs are largely preserved, mobility and IADLs demonstrate significant dependency, reflecting the functional burden of locomotor disability.

iv). Findings Related to Social Support

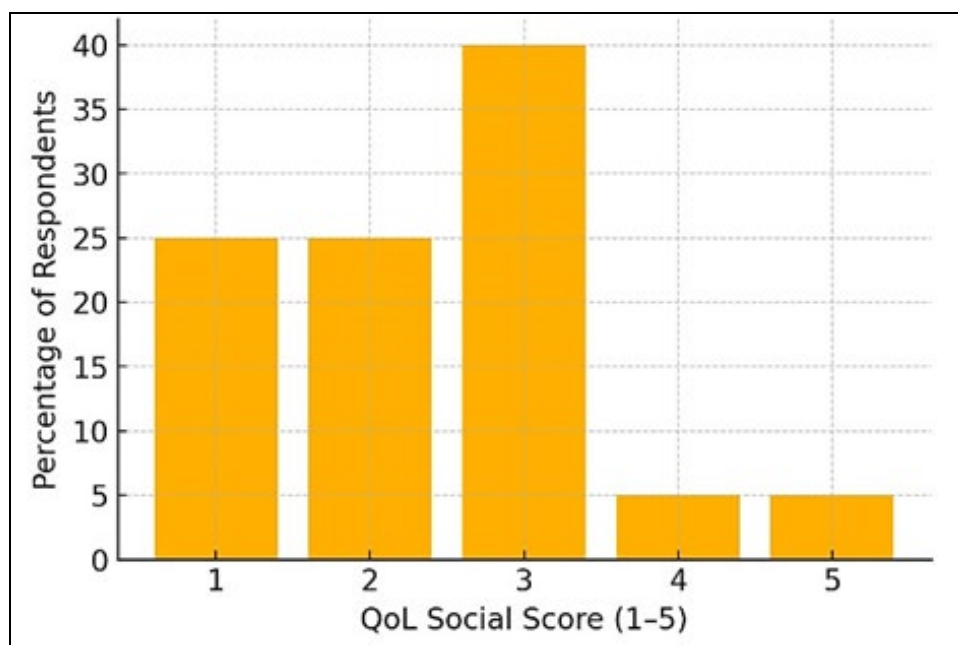


Fig 6: Social Support (%)

The figure shows that the largest share of respondents (40%) rated their social quality of life at score 3, indicating a moderate level of social support. Meanwhile, 25% each reported low ratings (scores 1 and 2), suggesting that half of the participants face limited or poor social support. Only 10%

(scores 4 and 5 combined) expressed high satisfaction, reflecting that very few elderly experience strong social inclusion and reliable support systems. This pattern highlights that while some respondents have average social support, a significant proportion remain at risk of social isolation and

inadequate community/family engagement

v). Findings Related to Environmental Accessibility

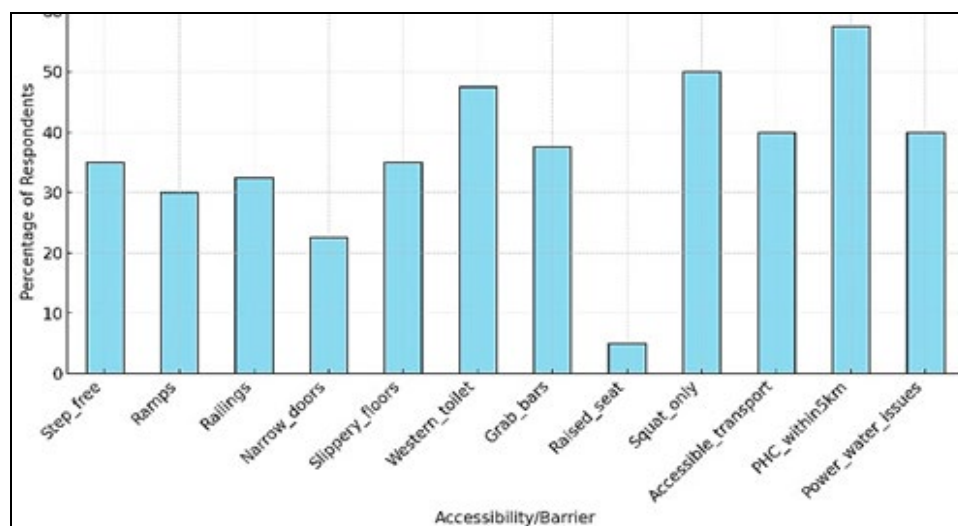


Fig 7: Accessibility (%)

The findings suggest limited accessibility at home and in the community. While 40% of homes are step-free, a third still report slippery floors and one-fifth narrow doors. Toilets show significant barriers, with half relying on squat-only types and minimal adaptation like grab bars (20%) or raised

seats (10%). In the community, although 60% live near a PHC, only 30% reported accessible transport, and 40% face recurring utility problems. Overall, these results highlight inadequate environmental modifications and emphasize the need for age- and disability-friendly infrastructure.

vi). Findings Related to Quality of Life (WHOQOL-BREF Analysis)

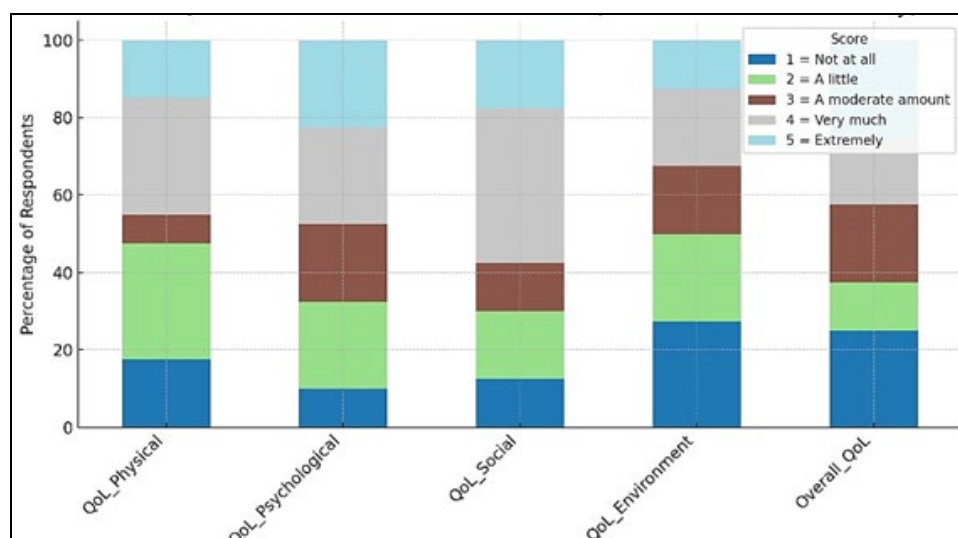


Fig 8

The analysis shows that across domains, most respondents rated their quality of life in the “moderate amount” (score 3) category, especially for physical health (45%), psychological health (42.5%), and social relationships (47.5%). A smaller proportion selected “very much” (score 4) or “extremely” (score 5), with social relationships showing relatively higher positive ratings compared to the other domains. The environment domain had the greatest concentration of responses in “a little” (score 2) and “moderate” (score 3), reflecting significant dissatisfaction with accessibility and infrastructure. Overall, while social and psychological well-being are moderately supported, physical limitations and environmental barriers reduce the overall quality of life for locomotor-disabled elderly.

5. Major Findings

The study revealed that the majority of locomotor-disabled elderly fall within the younger-old category (60–69 years), with equal gender representation. Education levels were generally low and most respondents belonged to economically vulnerable groups, with over half earning less than ₹10,000 per month. While many lived in family settings, nearly one-third lived alone, suggesting risks of isolation. Health findings showed that locomotor disability frequently coexisted with comorbidities such as diabetes and hypertension, and while basic daily activities like feeding and toileting were largely preserved, mobility-related and instrumental activities (walking, climbing stairs, shopping, managing money, cooking) demonstrated significant dependency. Social support

was rated at only moderate levels, with half of the elderly reporting low satisfaction. Environmental analysis highlighted major barriers such as squat-only toilets, slippery floors, narrow doors, and poor public transport, reflecting inadequate adaptation for elderly needs. In terms of quality of life (WHOQOL-BREF), physical and psychological domains were rated at moderate levels, social relationships fared somewhat better, but the environment domain scored lowest, pointing to accessibility as a major determinant of overall well-being.

6. Suggestions

Based on these findings, there is a pressing need to strengthen social support systems, promote community-based elder care initiatives, and encourage intergenerational engagement to reduce isolation. Environmental improvements such as retrofitting homes with ramps, grab bars, and railings, and ensuring age-friendly public spaces and transport, are essential. Health interventions must address both locomotor disability and comorbid conditions, with expanded insurance coverage and regular geriatric health check-ups. Assistive devices should be made more affordable, accessible, and accompanied by training. New initiatives can include digital health platforms for tele-rehabilitation, community volunteer programs for elderly assistance, and the development of smart, age-friendly villages and urban wards to integrate accessibility with technology. Policymakers, local self-governments, and NGOs must collaborate to create sustainable, inclusive support structures.

7. Social Work Intervention

Social work can significantly enhance the quality of life for elderly individuals with locomotor disabilities through comprehensive interventions at various levels. On an individual and family basis, social workers may offer counseling, case management, and training for caregivers to address emotional distress and ensure access to benefits. At the community level, they can facilitate peer-support groups, community rehabilitation programs, and awareness initiatives in collaboration with local governments and NGOs to mitigate isolation and enhance inclusion. On the policy front, social workers can advocate for infrastructure that is accessible, disability pensions, and services that are friendly to older adults, while also supporting digital initiatives like tele-rehabilitation and online counseling. By integrating psychosocial assistance, community involvement, and policy advocacy, social work interventions can promote dignity, autonomy, and overall well-being among elderly individuals with locomotor impairments.

8. Conclusion

The study concludes that locomotor-disabled elderly face multiple and intersecting vulnerabilities in socio-economic status, physical functioning, social support, and environmental accessibility. While psychological and social aspects provide some resilience, unmet needs in mobility, income security, and infrastructure significantly reduce their overall quality of life. The findings emphasize that quality of life is not determined by health alone, but by the integration of social, environmental, and policy-level supports. Addressing these gaps through inclusive community programs, accessible infrastructure, and strong social networks will be crucial in ensuring dignity, independence, and holistic well-being for elderly persons with locomotor disabilities.

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