

ORIGINAL ARTICLE

**Morbidity and Functional Impairment among Rural Population in Cuddalore District**

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ABSTRACT

*Morbidity and functional impairment are common in old age peoples. In the present demographic development of our country functional limitations and morbidities are major health issue in geriatric population. The objective of this study was to diagnose and report the morbidity and functional impairment among rural population old age peoples. The cross-sectional study was performed in CUDDALORE Tamil Nadu. 100 participants of old age people in rural area of above 60 years were assessed with the morbidity and functional limitations in rural area CUDDALORE, such as hypertension, diabetes, visual impairment, respiratory and cardiac problem, long term pain are examined and assessed by interview by pro forma. Functional limitations assessed by 10-item BARTHEL INDEX SCALE. Above the 100 samples mean ages 63.2, 77% joint pain, 69.2% hypertension, 70.4% hypertension and functional limitation of 15.8%. Those who have joint pain and hypertension they have high functional impairment. Conclusion: In this study, I am concluding that there is high prevalence in morbidity and functional impairment in geriatric*

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**INTRODUCTION**

The ageing process causes many biological and physiological changes in the body, and with the passage of time, people experience a number of problems in their daily lives at the physical, mental, and social levels, causing pain.[1] Functional limitations among the geriatric group are an important concern for the health authorities at the global level.[2] In India, the population above 60 years old was around 7% in 2001, which is expected to rise to 11.6% by 2026. Indian Government has adopted National Policy on Older Person in January 1999, which defines elderly persons or senior citizens are those who are of age 60 years and above. Cutoff age of older person is also considered as 60 and above.[3] Recently, elderly people's healthcare should not be ignored by health care programmes and education policies.[4] Geriatric health care proposed in India is still a distant dream due to lack of specialized and trained workforce and absence of an infrastructure beyond tertiary care hospitals.[5] Elderly adults have unique needs in terms of their health. To address the often occurring health issues in the population, there is a rising demand for high-quality primary geriatric health care services, which should be based on "felt needs.[6] Because managing elderly illnesses requires continual medicine and follow-up treatment, which raises out-of-pocket costs, it is always expensive.[7] As the elderly population increases, future trends in disease patterns—from communicable to noncommunicable—will surely change.[8] Therefore, it is crucial that the primary healthcare system be fair, effective, and comprehensive in its preparation for the growing medical needs of the aged. It is important to address and promote healthy ageing among the aged, which includes preventive, therapeutic, and rehabilitative aspects of health. Older people face common medical

problems such as high blood pressure, hypertension, visual problems, cardiovascular and respiratory problems, malignancy, and diabetes. This medical problem leads to some functional limitations in older people. However, there are limited studies in a rural community setting to find out the pain and functional needs of the elderly. This study was conducted to examine the epidemiology of morbidity and functional limitations among older people in the rural population of Cuddalore. This study was planned to improve existing infrastructure to meet the challenges of the coming days.

## MATERIAL AND METHODS

The cross-sectional study was performed in January in Cuddalore, a rural area of Tamil Nadu, India. The sample size was estimated based on the minimum average prevalence of any morbidities and functional limitations. Examine and record the study area from the health authority, which revealed that there were 50 elderly people above 60 years old, and assess the morbidity and functional limitations in rural areas of Cuddalore. Sociodemographic details include blood pressure, diabetes, cardiovascular and respiratory problems, pain conditions (joint pain, low backache), visual impairment, hypertension, malignancy, psychiatric problems (depression), and urinary problems. Functional limitations are diagnosed by a 10-item Barthel Interx Scale with a scoring system. The BARTHEL INDEX SCALE includes 10 personal activities such as feeding, personal toileting, bathing, dressing and undressing, controlling bladder and bowl, moving from wheelchair to bed, and returning to bed. This activity was observed in 2–3 minutes. The score was 0 total, (1-4) severe, (5-9) moderate, (10-19), and (20) no functional limitations.

Fig 1 and 2 showing data collection



### Data Collection.

First, visit the individual house and interview the participants and diagnosed morbidities registered by medical practitioner were included in the reported morbidity document. Participants do some daily activities and assess the functional limitations through BARTHEL INDEX SCALE.

### Inclusion criteria

Elderly who were 60 years and above. Elderly who gave consent to participate in the study.

### Exclusion criteria

Elderly who showed hostile behavior and did not give consent to participate in the study. Elderly who were not present at home at the time of the visit.

### Outcome measures.

Socio demographic details pain conditions (joint pain, low back ache), hypertension, visual problem, urinary problem, cardiovascular and respiratory problem, blood pressure, diabetes, malignancy, psychiatric disorder.

Functional limitations diagnosed by 10 item of BARTHEL INDEX SCALE with scoring system. The score was 0-(total) , 1-4 -(severe), 5-9 -(moderate), 10-19 -(mild), 20-(no functional limitations).

Statistical analysis done by SPSS software.

## RESULT

The study included individuals aged 60-70 years (N=60) and above 70 years (N=40), with a total sample size of 100. The table shows the number of individuals affected by various health conditions such as diabetes, hypertension, visual impairment, joint pain, urinary problems, kidney problems, respiratory problems, uterine problems, skin diseases, and malignancy.

The analysis focuses on the association between morbidity and functional impairment with gender. The sample consisted of 42 males and 58 females, totaling 100 participants. The table illustrates the prevalence of different health conditions in males and females, including diabetes, hypertension, visual

impairment, joint pain, urinary problems, kidney disease, respiratory problems, uterine problems, skin diseases, and malignancy.

the relationship between the number of morbidities and the severity of functional impairment. The data includes two categories: mild to moderate impairment (N=70) and severe impairment (N=30), with a total sample size of 100. The distribution of morbidities based on their severity, including diabetes, hypertension, visual problems, joint pain, urinary problems, kidney problems, respiratory problems, uterine problems, skin diseases, and malignancy.

Overall, the data analysis demonstrates the prevalence of different morbidities and their association with functional impairment among various age groups, genders, and severity levels. These findings contribute to a better understanding of the health status of the studied population and can help inform future healthcare interventions and policies.

## DISCUSSION

The recent research has shown the significant prevalence of morbidity. It seems to affect more women, those over 70, unemployed people, and people who depend on money. Senior persons should be made aware of the value of routine medical checkups in the community as well as at all OPDs, particularly at PHCs, in order to encourage prevention and early diagnosis of health concerns. This is so that special care can be given to the geriatric population in all sectors. Services should be prioritized based on their accessibility, price, and availability. NGOs and nonprofit organizations thought to take part. The scope of health insurance programmes must be increased. More education, more in-depth research, and community-based study are needed for geriatrics. The study was carried out with the intention of efficiently implementing secondary and tertiary prevention for the older population by the healthcare authorities of healthcare systems. Visit the person or conduct interviews with the participants before making a diagnosis of the morbidities included in the reported morbidities papers. Participants engage in certain daily tasks and use the Barthel Index Scale to evaluate their functional limitations. The documented morbidities include psychological disease, pain, hypertension, visual issues, diabetes, urine issues, and malignancy. By evaluating each of the 10 items on the Barthel Index Scale, functional limits are identified. The score was 0 for no functional limitations, 1-4 for severe limits, 5-8 for moderate, 10-19 for mild, and 0 for no functional limitations. The most prevalent morbidities are diabetes (60.4%), joint pain (77.1%), hypertension (72%), and respiratory issues. These patients are very functionally limited. When compared to men, women are most frequently afflicted.

**Table: 1 Morbidity and functional impairment with age**

Morbidity	60-70 years N=60	Above 70 years N=40	Total N=100
Diabetes	35 (58.5)	25(62.5)	60(60.4)
Hypertension	50(83.3)	22(55.1)	72(69.2)
Visual impairment	25(41.6)	30(75.2)	55(58.3)
Joint pain	55(91.6)	25(62.5)	80(77.1)
Urinary problem	16(27.6)	5(12.5)	21(21.2)
Kidney problem	2(3.4)	15(37.5)	17(20.5)
Respiratory problem (COPD, Asthma)	25(41.6)	35(87.5)	60(64.3)
Uterine problem	30(50.2)	10(25.1)	40(37.5)
Skin disease	10(16.7)	2(1.5)	12(9.1)
Malignancy	1(1.6)	2(1.5)	3(2.5)

**Table: 2 Morbidity and functional impairment with gender**

Morbidity	Male N=42(%)	Female N=58(%)	Total N=100(%)
Diabetes	15(35.7)	45(77.5)	60(55.1)
Hypertension	22(52.3)	50(86.2)	72(69.2)
Visual impairment	25(59.5)	30(51.7)	55(55.6)
Joint pain	40(95.2)	40(68.9)	80(82.1)
Urinary problem	10(23.8)	11(18.9)	21(21.3)
Kidney disease	11(26.1)	8(13.7)	17(19.9)
Respiratory problem	35(83.3)	25(43.1)	60(63.2)
Uterine problem	0	40(68.9)	40(34.4)
Skin disease	7(16.1)	5(8.1)	12(12.1)
Malignancy	1(2.1)	2(3.2)	3(2.5)

COPD= Chronic obstructive pulmonary disease

**Table: 3 Morbidities with functional impairment**

No of morbidity	Mild to moderate N=70	Severe N=30	Total N=100
1	20(28.5)	2(6.1)	22(17.2)
2	22(31.4)	4(13.3)	26(22.2)
Above 3	30(42.8)	10(33.1)	40(37.9)
Diabetes	40(57.1)	5(10.3)	45(36.5)
Hypertension	32(45.7)	2(6.1)	34(25.8)
Visual problem	0	0	0
Joint pain	20(20.5)	29(96.1)	49(62.20)
Urinary problem	10(14.3)	0	10(7.1)
Kidney problem	0	0	0
Respiratory problem	0	0	0
Uterine problem	5(7.1)	10(33.1)	15(20.3)
Skin disease	5(7.1)	0	5(3.5)
Malignancy	2(2.8)	1(3.1)	3(2.9)

**CONCLUSION**

In our study, we found that sex and age modified the association between multi morbidity and function. These findings have implications for practice and policy, suggesting that prevention and self-management program should be prioritized for older people to delay institutionalization and high-cost care. These findings are consistent with reports of high levels of morbidity among older people in Tamil Nadu.

**LIMITATIONS**

The cross-sectional design of the study has intrinsic limitations, and the sample size is too small to distinguish between the various types of morbidity. because diagnostic tests weren't performed to Detecting visual problem, joint pain and other illnesses may not provide accurate results. A total estimation of morbidity Despite these restrictions. It provides useful data for situational analysis and anticipating the morbidity and functional limitations trend in the future burden that will assist in implementing suitable interventional techniques used by the relevant authorities.

**RECOMMENDATIONS:**

Our study was performed only for the analysis of the data. Give the intervention to improve the functional activities of the geriatric population.

No conflict of interest

Ethical issues – Yes , addressed

No financial aid

**REFERENCES**

1. Barua K, Borah M, Deka C, Kakati R. Morbidity pattern and health-seeking behavior of elderly in urban slums: A cross-sectional study in Assam, India J Family Med Prim Care. 2017;6:345–50
2. Dyson T, Cassen R, Visaria L. Twenty-First Century India: Population, Economy, Human Development and the Environment. New York: Oxford University Press; 2009p. 438.
3. Shradha K, Prashantha B, Prakash B. Study on morbidity pattern among elderly in urban population of Mysore, Karnataka, India Int J Med Biomed Res. 2012;1:215–23
4. Ingle GK, Nath A. Geriatric health in India: Concerns and solutions. Indian J Community Med 2008;33:214-8.
5. Piramanayagam A, Bayapareddy N, Pallavi M, Madhavi E, Nagarjuna Reddy N, Radhakrishna LA. A cross sectional study of the morbidity pattern among the elderly people: South India Int J Med Res Health Sci. 2013;2:372–9
6. Srivastava K, Gupta SC, Kaushal SK, Chaturvedi M. Morbidity profile of elderly a cross sectional study of urban Agra. Indian J Community Health. 2010;22:51
7. Mahendra Singh, Department of Community and Family Medicine, AIIMS, Rishikesh, Uttarakhand, India
8. National Programme for the Health Care of the Elderly (NPHCE): An approach towards active and healthy ageing. Directorate General of Health Services, Ministry of Health and Family Welfare, Government of India. 2011. [Last accessed on 2021 Oct 05]. Available from:

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