



ASSESSMENT OF HEALTH STATUS OF GERIATRIC POPULATION IN AN URBAN AREA OF KALABURAGI CITY, KARNATAKA

Community Medicine

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ABSTRACT

BACKGROUND: India's population is ageing, resulting in a growing number of elderly people residing in urban areas. With increasing age, older adults commonly face challenges such as poor nutrition, multiple chronic illnesses, and emotional difficulties including loneliness. The shift towards smaller family structures in cities often means less support for the elderly, making it harder to maintain good health and independence. Understanding the factors that influence their health is essential in developing effective strategies to improve their quality of life and ensure dignified ageing.**MATERIALS AND METHODS:** It is a cross-sectional study conducted from October 2024 to October 2025, where elderly participants above 60 years were examined and data was collected through a pre-structured, pre-validated questionnaire covering socio-demographic profile, nutritional status, personal habits. Statistical analysis was performed at a 95% confidence level.**RESULTS:** The study included 400 participants among which 40% were female and 60% were male. Nutritional assessment revealed that 52.5% were underweight, 37.5% had normal BMI, and 10% were overweight or obese. More than 90% reported energy intake below recommended levels. Functional dependence was observed in nearly two-thirds of participants, indicating significant challenges in daily living activities.**CONCLUSION:** The study concluded that the high prevalence of malnutrition and functional dependence among the elderly population. These findings underscore the urgent need for targeted nutritional interventions, strengthened geriatric health services and community based strategies to promote independence and improve quality of life.

KEYWORDS

Ageing, Geriatric Health, Nutritional Status, Urban Elderly, Functional Dependence.

INTRODUCTION

Ageing is a normal, biological and universal phenomenon. Ageing of the population is occurring throughout the world, more rapidly in developing countries⁽¹⁾. United Nations considered 60 years to be dividing line between "old age" and middle and younger age group threshold of old age⁽²⁾. In most of the gerontological literature, people above 60 years of age are considered as "old" and constituting the "elderly" segment of the population⁽³⁾. In India proportion of older persons has risen 5.5 percent in 1951 to 6.5 percent in 1991, 7.7 in 2001 and constitute 8.6% of the total population as per 2011 census, which is projected to be 12 percent in 2025⁽⁴⁾. Changes in population structure will have several implications on health, economy, security, family life, well-being and Quality of Life of people⁽⁵⁾.

Looking at the current health status of the geriatric population, it becomes quite necessary to focus on this issue⁽⁶⁾. The magnitude of malnutrition among the elderly is underreported. Studies have shown that more than 50% of the older population are underweight⁽⁷⁾. And more than 90% has an energy intake below the recommended allowance⁽⁸⁾. Current statistics for the elderly in India gives a prelude to a new set of medical, social and economic problems that could rise if a timely initiative in this direction is not taken by the program managers and policy makers⁽⁹⁾.

There is a need the medical and socio-economic problems that are being faced by the elderly people in India, and strategies for bringing about an improvement in their quality of life also needs to be explored. Hence, this study needs to be conducted.

AIMS AND OBJECTIVES

1. Assess the overall health status of the urban geriatric population, focusing on nutritional and physical health.
2. Identify social and functional factors that influence independence and wellbeing among elderly residents.

MATERIALS AND METHODS

1. **Study design:** Descriptive Cross-sectional Epidemiological study.
2. **Study area:** Field practice area of UHTC, Khaja Bazar, Kalaburagi
3. **Study Duration:** One year.
4. **Ethical approval:** Taken.
5. **Sampling Method:** Simple Random Sample

6. Sample size: The literature review indicated a total prevalence of 50% of current medical problems in the study participants. Based on the above observation with α level of 0.05 and β of 0.05 (power = 95%). Based on the formula $4pq/\bar{L}^2$. $SS = 4 \times 0.5 \times 0.5/0.05 \times 0.05 = 400$ (Where, Where P = prevalence, q = 1- p, 1 = allowable error, α = alpha-5%, β = 1-power- 95%) The sample size covered came out to be 400 participants

7. Types of data collection: A structured questionnaire was used for data collection where investigator interviews each eligible geriatric participant in the local language to assess the geriatric health.

8. Study tools: Data were collected using a self-designed, pre-structured, and pre-validated questionnaire. The information was gathered in the form of a sociodemographic profile, which included names, age, gender, occupation, socioeconomic status according to the Modified Kuppuswamy's SES Classification, BMI, personal habits, and clinical examination.

A clinical examination was performed after the individuals were interviewed using a predesigned and organized proforma.

Further clinical studies were recommended for patients based on their need. Visual examination (by simple torch and counting fingers, Snellen's & Jaeger's chart), hearing (tuning-fork method), anemic conditions (based on clinical examination), musculoskeletal pain (based on patient's complaint & walking), diabetes mellitus (based on who was receiving treatment), dermatological, and hypertension based on JNC VIII classification or treatment were all included in the clinical examination. The gynecological concerns of female patients were identified.

Inclusion criteria:

- a. All the individuals aged 60 and above.
- b. Only the participants who are willing to give consent.

Exclusion criteria:

Individuals suffering from any kind of chronic debilitating illness i.e. totally bedridden people.

RESULTS

Fig 1: Age & Gender distribution of study population:

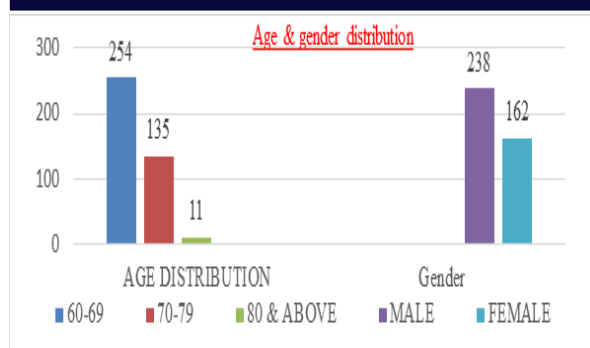


Figure 1: Shows the distribution of study subjects by age & gender. The maximum of 254 (63.5%) were in the 60–69-year age group, followed by 135 (33.75%) in the 70–79 years age group. The people above 80 years of age had the fewest research subjects, with only 11 (2.75%). The mean age of the study participants was 67.84 years, with a standard deviation of 7.5 years. The age range was 28 years, with a minimum of 60 and a maximum of 98 years. Males made up 59.5% of the study's 400 participants, while females made up of 40.5%.

Table 1: Distribution of Subjects according to their, 1.1 Occupation

Occupation	Number	Percentage
Unemployed (Homemaker)	148	37%
Labourer	135	33.75%
Retired	80	20%
Farmer	22	5.5%
Business	15	3.75%

In the present study, a maximum of 135 (33.75%) study subjects worked as labourers while 22 (5.5%) were farmers by occupation, while 80 (20%) of them were retired at the time of study and not working. Currently only 15 (3.75%) had their own business.

1.2 Socio-economic status (As per Modified Kuppuswamy's classification)

SES	Number	Percentage
Upper class (I)	24	6%
Upper Middle (II)	48	12%
Lower Middle (III)	128	32%
Upper Lower (IV)	160	40%
Lower (V)	40	10%

The socioeconomic distribution of the study participants, assessed using the Modified Kuppuswamy's classification, revealed that the majority belonged to the upper-lower class (40%), followed by the lower-middle class (32%). A smaller proportion of participants were from the upper-middle class (12%), while 10% were categorized as lower class. Only 6% of the study population fell into the upper class category. This pattern indicates that most of the elderly participants came from lower socioeconomic strata, which may have important implications for their health and nutritional status.

1.3 Body Mass Index

BMI (kg/m ²)	Number	Percentage
<18.5	32	8%
18.5–24.99	143	35.75%
25–29.99	192	48%
30 & above	33	8.25%

The distribution of BMI among the study participants revealed that nearly half (48%) were in the overweight category (BMI 25–29.99), indicating a predominance of excess weight in the population. A substantial proportion (35.75%) had normal BMI values, while 8% were underweight (<18.5). Additionally, 8.25% of participants were classified as obese (BMI ≥30). This pattern suggests that overweight and obesity together accounted for more than half of the study population, highlighting a significant burden of nutrition-related health risks among the elderly.

Table 2: Distribution of study subjects according to chronic diseases and hospitalization.

Variable	Group	n=400	Percentage
History of chronic diseases (n=400)	Yes	167	41.75%
	No	233	58.25%

Types of chronic diseases (n=167)	Hypertension	35	20.95%
	Diabetes	23	13.77%
	Hypertension & Diabetes	31	18.56%
	Stroke	08	4.79%
	Chronic heart disease	15	8.98%
	Chronic lung disease	11	6.58%
	Tuberculosis	14	8.38%
	Cancer	12	7.18%
	Psychiatric problems	09	5.38%
	Other	09	5.38%
Place of medical consultation.	Govt/ charitable hospital	143	35.75%
	Private clinic	56	14%
	Both	201	50.25%
History of hospitalization in the past year	No	295	73.75%
	Yes	105	26.25%

Table 4: Morbidity profile of study subjects (Physical symptoms)

Variable and types	Groups	n	Percentage
Musculoskeletal (n=210)	Low backache	98	46.66%
	Knee joint pain	197	93.80%
	Muscular pain	112	53.33%
	Other	05	2.38%
Gastrointestinal (n=93)	Acidity	78	83.87%
	Irregular bowel	56	60.21%
	Bleeding PR	12	12.90%
Cardiovascular (n=75)	Exertional chest pain	23	30.66%
	Orthopnoea	11	14.66%
	Palpitations	42	56%
	Giddiness	58	77.33%
Respiratory (n= 41)	Cough + expectoration	28	68.29%
	Breathlessness	37	90.24%
Ophthalmic (n=117)	Diminution of vision	105	89.74%
	Eye watering/discharge	12	10.26%
ENT (n=85)	Hearing loss	67	78.82%
	Discharge	09	10.58%
	Ear pain	02	2.35%
Genitourinary(n=111)	Nocturia	86	77.47%
	Dribbling	25	22.53%
Headache (n=400)	Yes	85	21.25%
Dermatological (n=400)	Yes	15	3.75%
Generalized weakness (n=400)	Yes	49	12.25%
Dental complaints (n=400)	Yes	145	36.25%

Table 5: Number of new cases diagnosed during the study

Diagnosis	n	Percentage
Hypertension	22	5.5%
Diabetes	06	1.5%
Asthma / COPD / Tuberculosis	13	3.25%
Cataract	65	16.25%
Hernia	12	3%
Hydrocele	14	3.5%
Prolapse	16	4%
Fibroids	04	1%
Ovarian mass	02	0.5%
Coronary heart disease	02	0.5%
BPH	28	7%
Dental carries	42	10.5%

DISCUSSION:

In the present study, the majority of study participants were concentrated in the 60–69 years age group (63.5%), followed by the 70–79 years group (33.75%). Only a small fraction (2.75%) were aged 80 years and above, indicating that the study population was predominantly composed of younger elderly individuals. The calculated mean age of 67.84 years (SD = 7.5) further supports this clustering around the younger end of the elderly spectrum. The age range (60–98 years) shows inclusion of very old participants, but their representation was minimal.

The gender bar chart reveals a male predominance, with 238 males (59.5%) compared to 162 females (40.5%) among the 400 participants. This skew suggests that men were more represented in the study sample, which may influence the interpretation of health and nutritional outcomes, as gender differences often affect morbidity and lifestyle patterns in old age. The study population was largely composed of younger elderly men, with relatively fewer women and very old participants. This demographic profile suggests that findings may primarily reflect the health and nutritional characteristics of men in their sixties and seventies, while the experiences of women and the oldest-old are less represented. Such distribution patterns are important to acknowledge when generalizing results to the broader elderly population.

The occupational profile of the study participants reflects the socioeconomic realities of the urban elderly. A substantial proportion were homemakers (37%) and labourers (33.75%), indicating that the majority had either informal or low-income occupational backgrounds. Only a small fraction were engaged in business (3.75%) or farming (5.5%), while one-fifth were retired, suggesting limited representation of individuals with sustained formal employment or financial independence. This occupational distribution aligns with the socioeconomic classification, where nearly half of the participants belonged to the upper-lower (40%) and lower-middle (32%) classes, underscoring the predominance of economically disadvantaged groups in the study population.

The nutritional status, as assessed by BMI, reveals a dual burden of malnutrition. While 8% were underweight, a much larger proportion were affected by excess weight: 48% overweight and 8.25% obese, together accounting for more than half of the study population. Only about one-third (35.75%) had normal BMI values. This pattern highlights the ongoing nutritional transition among the elderly, where undernutrition persists but is overshadowed by the rising prevalence of overweight and obesity. The coexistence of both extremes within the same population points to inequities in dietary access, lifestyle changes, and health awareness across socioeconomic strata. These findings suggest that occupational disadvantage and lower socioeconomic status are closely linked to nutritional imbalances in old age. Labourers and homemakers, predominantly from lower strata, may face cumulative risks of undernutrition due to lifelong economic hardship, while those in relatively higher strata exhibit greater tendencies toward overweight and obesity, reflecting dietary excess and sedentary lifestyles. Gender differences, noted earlier, further compound these vulnerabilities, with women in disadvantaged groups particularly at risk of undernutrition and functional decline.

The burden of chronic diseases among the elderly in this study was substantial, with 41.75% reporting at least one chronic condition. Hypertension and diabetes emerged as the most prevalent morbidities, either occurring singly (20.95% and 13.77%, respectively) or in combination (18.56%). This clustering of non-communicable diseases reflects the well-documented epidemiological transition in aging populations, where cardiovascular and metabolic disorders dominate morbidity profiles. Other conditions such as chronic heart disease (8.98%), chronic lung disease (6.58%), tuberculosis (8.38%), and cancer (7.18%) were also reported, underscoring the multimorbidity that characterizes geriatric health. Psychiatric problems, though less frequent (5.38%), highlight the often under-recognized mental health needs of older adults.

Patterns of healthcare utilization reveal that half of the participants (50.25%) sought care from both government/charitable and private facilities, suggesting a pragmatic approach to health-seeking behavior, driven by accessibility, affordability, and perceived quality of care. A significant proportion (35.75%) relied exclusively on government or charitable hospitals, reflecting dependence on public health infrastructure, while 14% used private clinics alone. This dual reliance indicates gaps in continuity of care and the need for integrated geriatric services across sectors.

Hospitalization history further illustrates the morbidity burden: 26.25% had been hospitalized in the past year, a figure consistent with geriatric studies that highlight frequent inpatient care due to chronic disease exacerbations and functional decline. The majority (73.75%) had not required hospitalization, which may reflect either effective outpatient management or unmet needs due to barriers in accessing inpatient care.

The morbidity profile of the elderly participants revealed a high prevalence of musculoskeletal complaints, with knee joint pain (93.8%) and low backache (46.6%) being the most common. Muscular pain was also frequently reported (53.3%). These findings are consistent with geriatric studies that highlight musculoskeletal disorders as leading causes of disability, functional limitation, and reduced quality of life in older adults.

Gastrointestinal symptoms were reported by 23.25% of participants, with acidity (83.9%) being the predominant complaint. Cardiovascular symptoms were noted in 18.75%, with palpitations (56%) and giddiness (74.6%) being particularly common, reflecting the burden of age-related cardiovascular dysfunction. Respiratory complaints were present in 10.25%, dominated by breathlessness (90.2%), underscoring the impact of chronic airway disease in this age group.

Sensory impairments were striking: ophthalmic problems (29.25%) were led by diminution of vision (89.2%), while ENT complaints (21.25%) were largely due to hearing loss (78.8%). These findings highlight the dual burden of visual and auditory decline, which are critical determinants of social isolation and reduced functional independence in the elderly. Genitourinary symptoms were also common, with nocturia (77.5%) being the leading issue, consistent with age-related changes in urinary physiology and the prevalence of prostatic disorders.

Other notable complaints included dental problems (36.25%), headache (21.25%), generalized weakness (12.25%), and dermatological issues (3.75%). Together, these reflect the broad spectrum of physical morbidity that characterizes aging populations.

In the present study from Urban Kalaburagi, musculoskeletal complaints and hypertension emerged as leading morbidities, a pattern consistent with findings from Raichur district where orthopedic problems (50.5%) and cataract (50.4%) were the leading morbidities among the elderly patients (George LS et al., 2017).⁽¹⁰⁾

The high prevalence of joint pain in our study resonates with rural coastal Karnataka data, where nearly half of the elderly reported joint stiffness (50.8%) alongside hypertension (55.9%) and impaired vision (52.5%) (Hameed S et al., 2022).⁽¹¹⁾

Unlike the rural Karnataka study by Divya DC et al.,⁽¹²⁾ where cataract (56.5%) and anemia (55.1%) were most prevalent, our urban population demonstrated a greater burden of cardiovascular and gastrointestinal complaints, suggesting possible lifestyle and dietary influences.

Nationally, multimorbidity has been reported in over 23% of older adults, with Kerala showing the highest prevalence (42%) (Khan MR et al., 2022).⁽¹³⁾ Our findings of multiple coexisting morbidities among the urban elderly in Kalaburagi are consistent with this broader epidemiological transition toward chronic non-communicable diseases.

The burden of diabetes observed in our cohort parallels findings from Andhra Pradesh, where metabolic disorders were frequently documented among the elderly (Reddy et al., 2019)⁽¹⁴⁾, underscoring the growing challenge of non-communicable diseases across diverse settings.

Similarly, according to Radjasegarane et al.,⁽¹⁵⁾ elderly individuals in rural Puducherry demonstrated a high burden of chronic and functional morbidities, with hypertension (32.5%) and diabetes (18.5%) emerging as the most common non-communicable diseases. In addition, musculoskeletal complaints (41.2%) and visual impairment (29.8%) were frequent, underscoring the dual challenge of disease and disability in later life. The study further revealed that morbidity was significantly associated with advancing age and female gender, highlighting the disproportionate vulnerability of older women.

Unlike the Hosur study which highlighted gastrointestinal complaints and psychological distress as major contributors to morbidity (Sushma M., 2024)⁽¹⁶⁾, our urban population demonstrated relatively lower prevalence of these conditions, possibly reflecting differences in lifestyle and healthcare access.

The gender differences observed in our study, with women showing higher morbidity, align with national evidence that women are more likely to suffer multimorbidity compared to men (Singh B, Kumar A, 2025)⁽¹⁷⁾.

Similar to Joshi et al.'s Rajasthan study (2003)⁽¹⁸⁾, we found that advancing age and female gender were significantly associated with higher morbidity, reaffirming the disproportionate vulnerability of older women in both rural and urban contexts.

The overall morbidity profile in Kalaburagi aligns with national trends, yet the comparatively higher prevalence of sensory impairments in our study suggests urban elderly may face unique challenges related to vision and hearing loss, warranting targeted interventions.

The study also identified newly diagnosed conditions during assessment, most notably cataract (16.25%), dental caries (10.5%), and coronary heart disease (7%). Hypertension (5.5%) and diabetes (1.5%) were also newly detected, underscoring the importance of opportunistic screening in geriatric health programs. Other diagnoses such as hernia, hydrocele, prolapse, and ovarian masses, though less frequent, highlight the diverse clinical needs of older adults.

Henceforth, this study underscores the multidimensional burden of aging, with demographic, socioeconomic, nutritional, and morbidity profiles converging to reveal a complex picture of geriatric health. The population was predominantly composed of younger elderly men from lower-middle and upper-lower socioeconomic strata, many of whom were homemakers or laborers, reflecting occupational disadvantage and economic vulnerability. Nutritional assessment highlighted a dual burden, with undernutrition persisting among disadvantaged groups while overweight and obesity dominated overall, signaling a nutritional transition. Morbidity patterns were equally striking: nearly half reported chronic diseases, chiefly hypertension and diabetes, with multimorbidity extending to cardiovascular, respiratory, infectious, and psychiatric conditions. Hospitalization rates (26.25%) and reliance on both public and private facilities reflected gaps in continuity of care. Physical symptomatology revealed high prevalence of musculoskeletal pain, sensory decline (vision and hearing loss), genitourinary complaints, and dental problems, all contributing to functional limitations. Opportunistic screening further uncovered hidden disease burdens, including cataract, coronary heart disease, and undiagnosed hypertension and diabetes. Taken together, these findings highlight that geriatric health is shaped by the synergistic effects of socioeconomic inequity, nutritional imbalance, chronic disease, and functional decline, underscoring the urgent need for integrated, community-based, multidisciplinary geriatric care models that address both preventive and rehabilitative needs to promote healthy and equitable aging.

CONCLUSION:

This study on the health status of the geriatric population in Kalaburagi City has revealed significant health concerns within this demographic. A substantial proportion of the elderly are afflicted with chronic conditions, including hypertension, diabetes, osteoarthritis, visual and auditory impairments, and mental health issues such as depression and anxiety.

To conclude, these findings highlight an urgent need for a multi-pronged intervention strategy tailored to the geriatric population of Kalaburagi. Improving the quality of life for the elderly will require strengthening public healthcare infrastructure, implementing specialized geriatric outreach programs, and launching community-based health literacy campaigns to bridge the gap in routine care. Ultimately, a collaborative effort between government agencies, healthcare providers, and local communities is vital to ensure that the elderly can age with dignity, adequate support, and improved health outcomes.

Declaration of patient consent:

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has given his/her consent for clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Conflicts of interest: There are no conflicts of interest.

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