

Pattern of Morbidity Among Elderly Patients Attending the General Outpatient Clinic of Afe Babalola University Multisystem Hospital, Ado Ekiti

Olusegun Emmanuel Omosanya¹, Yinka Bamidele Aderibigbe,^{1,2} Yetunde Olusola Akinola^{1,2}, Louis Okeibunor Odeigha.^{1,2}

1. Department of family medicine, Afe Babalola University Multi-System Hospital, Ado Ekiti

2. Department of family medicine, Afe Babalola University, Ado Ekiti.

Corresponding Author

Name: Olusegun Emmanuel Omosanya

Department of family medicine, Afe Babalola University Multi-System Hospital, Ado Ekiti

Abstract

Background: With the global increase in life expectancy, Nigeria is experiencing a growing elderly population facing a double burden of communicable and non-communicable diseases. Understanding the morbidity pattern among this demographic is essential for developing age-appropriate healthcare services. To determine the pattern of morbidity among elderly patients attending the General Outpatient Clinic (GOPC) of Afe Babalola University Multisystem Hospital (AMSH), Ado Ekiti, Nigeria.

Methods: This was a retrospective descriptive study of elderly patients aged 60 years and above who attended the GOPC at AMSH between January and December 2024. Data were extracted from hospital medical records, including age, sex, and clinical diagnoses. Descriptive statistics were used to summarize the data, and chi-square tests were applied to examine associations between categorical variables using SPSS version 27. Statistical significance was set at $p < 0.05$.

Results: A total of 730 elderly patients were included, with a mean age of 75.3 ± 8.0 years. Males constituted 53.3% and females 46.7% of the population. The most prevalent conditions were cardiovascular diseases (206; 28.2%) and neurological disorders (197; 27.0%). Other notable morbidities included musculoskeletal diseases (97; 13.3%), endocrine diseases (70; 9.6%), and malaria (70; 10.7%). Only 78 patients (10.7%) visited for routine medical check-ups. Cardiovascular disease was significantly more prevalent among females than males (35.2% vs. 22.1%, $p < 0.001$). Routine check-up attendance declined with increasing age but was not statistically significant.

Conclusion: Cardiovascular and neurological conditions are the predominant morbidities among elderly patients attending the GOPC of AMSH. There is a critical need for age-sensitive outpatient services, preventive health education, and policy initiatives to support geriatric healthcare in Nigeria.

Keywords: Elderly, morbidity pattern, cardiovascular disease, outpatient clinic, Nigeria, retrospective study, non-communicable diseases.

INTRODUCTION

The world is undergoing a major demographic shift as life expectancy increases and birth rates decline, leading to a significant rise in the proportion of elderly individuals. According to the United Nations, the number of persons aged 65 years and older is expected to double from 703 million in 2019 to 1.5 billion by 2050.¹ This transformation is particularly challenging for developing countries like Nigeria, where the pace of population ageing is accelerating amid persistent economic, infrastructural, and healthcare constraints.² The elderly, often defined in Nigeria as individuals aged 60 years and above, face a unique set of health challenges including multimorbidity, functional decline, and reduced access to quality care.³

Ageing is inherently accompanied by physiological, psychological, and social changes that increase the risk of chronic illnesses and disabilities. These changes alter disease presentations, complicate diagnoses, and affect treatment outcomes. Common diseases in this population - such as hypertension, diabetes, osteoarthritis, and stroke - often co-exist and --require long-term, coordinated care.⁴ In addition,

elderly patients are more prone to geriatric syndromes including frailty, cognitive impairment, urinary incontinence, and polypharmacy, which further complicate the clinical picture and increase healthcare utilization.⁵

In Nigeria, the elderly population is estimated to constitute about 5% of the total populace.⁶ However, this group bears a disproportionate share of the disease burden. Studies have shown that older adults frequently present with cardiovascular, endocrine, neurological, and musculoskeletal conditions, with many experiencing two or more of these illnesses simultaneously. Yet, despite this increasing burden, geriatric healthcare services remain poorly developed. The General Outpatient Department (GOPD) of tertiary hospitals serves as a vital point of entry into the healthcare system for many elderly patients and -provides an excellent opportunity to evaluate disease trends in this population.

Understanding morbidity patterns among the elderly in outpatient settings is crucial for several reasons. First, it provides insight into the leading health problems affecting older adults and highlights areas where preventive interventions can be implemented. Second, it enables

clinicians to anticipate and manage common comorbidities, reducing the risk of complications and hospitalizations. Third, it informs health policy and resource allocation, ensuring that adequate funding and infrastructure are dedicated to geriatric care services.⁸ Finally, such understanding promotes the design of age-sensitive care models that integrate physical, mental, and social health.

Afe Babalola University Multisystem Hospital (AMSH), located in Ado-Ekiti, Southwest Nigeria, is a rapidly developing private tertiary healthcare institution that caters to a diverse population. The hospital's General Outpatient Clinic is often the first contact point for elderly patients seeking care. Given the hospital's growing role in healthcare delivery, it becomes imperative to generate localized evidence that can guide effective clinical and public health -interventions.

Previous studies conducted in other parts of Nigeria have consistently identified cardiovascular diseases - particularly hypertension and stroke - as the leading causes of morbidity among elderly patients.^{9,10} Other significant conditions include osteoarthritis, diabetes mellitus, chronic respiratory diseases, and neurodegenerative disorders such as dementia and Parkinson's disease. However, regional variations in disease prevalence exist due to differences in environmental factors, healthcare-seeking behavior, and sociocultural norms.¹¹

This study described the pattern of morbidity among elderly patients attending the General Outpatient Department of Afe Babalola University Multisystem Hospital. The findings are expected to contribute to the growing body of evidence necessary for developing targeted geriatric care models and to serve as a baseline for future epidemiological and clinical research in the region.

MATERIALS AND METHODS

Study Area

This study was conducted at the General Out-Patient Clinic (GOPC), of ABUAD MSH, Ado Ekiti. ABUAD MSH is a private tertiary health institution that is accredited for Postgraduate medical training and research. The hospital is located at Km 8.5 Afe Babalola Way, Ado-Ikare road, Ado Ekiti, Ado Local Government, Ekiti State. AMSH has a 400 bed space with capacity to further expand its facilities. It was established in 2014, it offers specialist services as well as residency training in Family Medicine and Radiology. The GOPC of Family Medicine provides comprehensive, continuous and holistic healthcare to patients and serves as the point of contact for all patients. A total of 730 elderly patients aged 60 years and above were included in the study.

The hospital has specialist clinics in the Departments of Surgery, Internal Medicine, Paediatrics, Obstetrics/Gynaecology, Psychiatry, Otorhinolaryngology, and Ophthalmology, all headed by consultants who are

fellows of the National Postgraduate and/or West African Medical Colleges. It also has other categories of workers, including nurses, pharmacists, technicians, ward orderlies, administrative staff among others. The hospital serves as a referral centre for primary and secondary public and private health care facilities in Ekiti State and neighboring parts of Kwara, Kogi and all over the South Western Region.

Study Design and Period

This was a retrospective study that assessed the morbidity pattern of elderly people, 60 years and above seen in the GOPC of ABAD MSH between January 2024 and December 2024.

Data Collection Method

Hospital out-patients 60 years and above clinic's records were extracted and reviewed for relevant information; this included demographic and clinical characteristics. Diagnoses were classified on the basis of physiological systems. Where more than one morbidity was recorded for a patient, all diagnoses were noted; however, the data summary and tables presented here focused on primary morbidity categories, and patterns of comorbidity were not analyzed in detail.

Data Analysis

The collected data were analyzed using Statistical Packaging for Social Sciences version 27. The prevalence of various morbidities was calculated, and patterns were analyzed based on age groups and sex. Chi-square tests were used to assess associations between categorical variables, with a significance level set at $p < 0.05$.

Ethical Considerations

Ethical approval for the study (clearance number-AMSH/REC/25/007) was obtained from the Health Research Ethics Committee of Afe Babalola University, Ado-Ekiti. Permission to access and review patients' medical records was granted by the hospital management. Confidentiality of participants' information was maintained throughout the study by anonymizing data and restricting access to authorized personnel only

RESULTS

A total of 730 elderly patients aged 60 years and above were included in the study. The mean age was 75.3 ± 8.0 years, with an age range of 65 to 99 years. The majority of the patients were within the 70–79-year age group (262; 35.9%), followed by those aged 60–69 years (244; 33.4%), and those aged 80 years and above (224; 30.7%). There were more males (389; 53.3%) than females (341; 46.7%).

The most prevalent health condition among the study population was cardiovascular disease, accounting for 206 cases (28.2%). This was closely followed by neurological diseases with 197 cases (27.0%). Musculoskeletal disorders were observed in 97 patients (13.3%), while endocrine diseases, including diabetes, were seen in 70 patients (9.6%). Genitourinary diseases accounted for 60 cases (8.2%),

respiratory diseases for 41 cases (5.6%), and gastrointestinal disorders for 33 patients (4.5%). Psychiatric conditions were the least common, affecting 12 patients (1.6%).

Interestingly, 70 patients (10.7%) presented with malaria, indicating that communicable diseases still occur among the elderly in this setting. In addition, 84 cases (11.5%) were grouped under miscellaneous or “Others,” which included less frequent conditions such as dermatological, ophthalmologic, and other diagnoses, each contributing less than 2% of total cases. A separate analysis showed that 78 patients (10.7%) visited the clinic for routine medical check-ups; this is presented in Figure 1.

Further analysis revealed a slight increase in the prevalence of cardiovascular diseases with advancing age: 60–69 years (62; 25.4%), 70–79 years (77; 29.4%), and 80 years and above (67; 29.9%), though this trend was not statistically significant ($p = 0.486$). However, a statistically significant gender difference was observed, with females having a higher prevalence of cardiovascular diseases (120; 35.2%) compared to males (86; 22.1%) ($p < 0.001$).

Routine medical check-ups were more common among those aged 60–69 years (30; 12.3%), followed by 70–79 years (30; 11.5%) and ≥ 80 years (18; 8.0%), though this trend was also not statistically significant ($p = 0.291$). Males had a slightly higher rate of check-ups (46; 11.9%) than females (32; 9.4%) but the difference was not statistically significant ($p = 0.275$).

These findings highlight the predominance of non-communicable diseases among the elderly, especially cardiovascular and neurological disorders, along with low participation in preventive health services.

A controlled office blood pressure was regarded as an average clinic blood pressure of less than 140/90mmHg.²⁵

Data analysis

All data was checked, cleaned and fed into a personal computer and analyzed using the Statistical Package for Social Sciences (SPSS 25.0) for windows software version. Descriptive and inferential analysis were done with results presented using frequency tables and Charts with Chi-square used to evaluate strength of association for bivariate analysis with p value of < 0.05 taken as statistically significant.

Results

A total of 300 known hypertensives completed the study and were included in analysis.

Table 1 shows the Socio-demographic characteristics of respondents. Respondents aged less than 40 years constitutes 6% of the respondents while the rest of the respondents were aged 40 years and above, 62.7% were females, 85.3% were Yoruba, 64.3% had tertiary education, 81.3% were married with 79.3% in

monogamous relationships, 52.7% were civil servants, 68.3% were Christians, while 91.7% earned more than 30,000 Naira/month.

Table 1: Age and gender distribution of patients

Variable	Frequency (N = 730)	Percentage (%)
Age (in years)		
60 – 69	244	33.4
70 – 79	262	35.9
≥ 80	224	30.7
Mean age \pm SD	75.3 \pm 8.0	
Range	65 – 99	
Gender		
Male	389	53.3
Female	341	46.7

Table 2: Pattern of morbidity among elderly patients

Variable	Frequency (N = 730)	Percentage (%)
Diagnosis		
Cardiovascular (CVD)	206	28.2
Neurological diseases	197	27.0
Respiratory diseases	41	5.6
Genitourinary diseases	60	8.2
Gastrointestinal diseases	33	4.5
Endocrinal diseases	70	9.6
Musculoskeletal diseases	97	13.3
Psychiatric diseases	12	1.6
Malaria	70	10.7
Others	84	11.5

*Note: Patients could present with more than one morbidity; therefore, the total frequency exceeds 730. “Others” included conditions such as dermatological disorders, ophthalmologic problems, and other less frequently occurring diagnoses (each $< 2\%$).

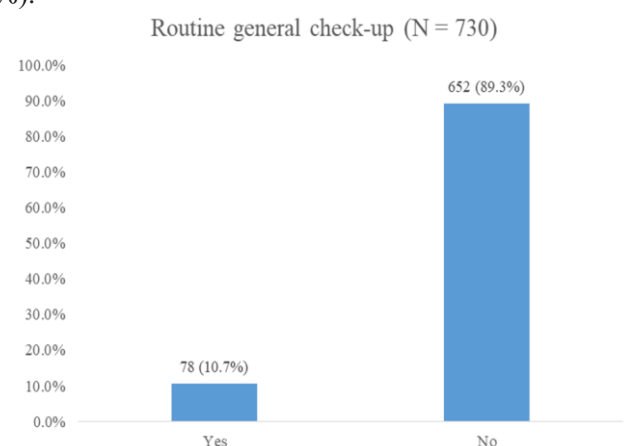


Table 3: Prevalence of cardiovascular diseases distributed by age and gender

Variable	Cardiovascular Diseases		Chi square	p-value
	Yes n (%)	No n (%)		
Age (in years)				
60 – 69	62 (25.4)	182 (74.6)	1.444	0.486
70 – 79	77 (29.4)	185 (70.6)		
≥80	67 (29.9)	157 (70.1)		
Gender				
Male	86 (22.1)	303 (77.9)	15.354	<0.001*
Female	120 (35.2)	221 (64.8)		

Table 4: Prevalence of routine medical check-up distributed by age and gender

Variable	Routine Medical Check-up		Chi square	p-value
	Yes n (%)	No n (%)		
Age (in years)				
60 – 69	30 (12.3)	214 (87.7)	2.471	0.291
70 – 79	30 (11.5)	232 (88.5)		
≥80	18 (8.0)	206 (92.0)		
Gender				
Male	46 (11.9)	342 (88.1)	1.189	0.275
Female	32 (9.4)	310 (90.6)		

DISCUSSION

The present study reveals critical insights into the morbidity profile of elderly patients attending the General Outpatient Clinic (GOPC) at Afe Babalola University Multisystem Hospital (AMSH) in Ado-Ekiti. The findings reaffirm the growing dominance of non-communicable diseases (NCDs) among Nigeria's aging population, echoing broader regional and global epidemiologic transitions. This shift reflects not only changes in health determinants but also the increasing longevity of the Nigerian population, with more individuals living into their seventh and eighth decades of life.

Cardiovascular diseases (CVDs) were the most frequently diagnosed morbidity, affecting 206 out of 730 elderly patients (28.2%). This aligns with current literature in Nigeria and sub-Saharan Africa, where hypertension, heart failure, and ischemic heart diseases are the leading causes of morbidity and mortality among older adults.^{12,13} A recent national review found hypertension prevalence rates among older Nigerians approaching 40%, with poor control rates contributing to complications such as stroke and heart failure.¹⁴ Our findings are consistent with those from tertiary health institutions in southwest Nigeria and other urban facilities where CVD burden remains high among geriatric patients.^{15,16}

Interestingly, our study demonstrated a statistically significant higher prevalence of CVD among females compared to males (35.2% vs 22.1%, $p < 0.001$). This is noteworthy because men have traditionally been thought to be more affected by heart disease. However, newer studies suggest that postmenopausal hormonal changes and longer female life expectancy may contribute to a higher burden of CVD in elderly women.¹⁷ Moreover, the gender disparity may be partly due to women utilizing healthcare services more frequently and thus being more likely to receive a formal diagnosis.¹⁸

Neurological diseases, which accounted for 197 cases (27.0%), were the second most common morbidity in our study population. These include stroke, dementia, and other neurodegenerative conditions. The high burden of neurological disorders reflects increasing life expectancy, age-related cognitive decline, and a rise in vascular risk factors. This finding is comparable to recent observations in both hospital- and community-based studies in Nigeria and other African nations.^{19,20} Stroke has remained a leading cause of adult disability in Nigeria, and dementia is increasingly recognized due to improved awareness and diagnostic capabilities.¹¹ However, stigma and misconceptions - especially those linking cognitive decline with spiritual afflictions - continue to hinder early diagnosis and care for affected individuals.²¹

Musculoskeletal disorders (13.3%) and endocrine diseases, including diabetes

mellitus (9.6%), were also notable contributors to morbidity. These conditions, though often underestimated, have significant implications for the functionality and quality of life of older individuals. Chronic pain and joint limitations can lead to immobility and dependence, while poorly controlled diabetes is a known risk factor for multiple complications including neuropathy, renal impairment, and CVD.²² Studies across Nigeria and Ghana similarly report increasing rates of type 2 diabetes and osteoarthritis among elderly populations, driven by urbanization, dietary shifts, and physical inactivity.

Despite the dominance of NCDs, infectious diseases have not disappeared from the elderly morbidity spectrum. Malaria was diagnosed in 70 patients (10.7%), underscoring that even in aging populations, communicable diseases remain relevant in tropical settings. Although the incidence of malaria generally decreases with age due to acquired immunity, immunosenescence may render elderly persons more vulnerable to atypical and severe presentations.²³ This overlap between infectious and chronic diseases necessitates a health system that can respond to both types of conditions, especially in a primary care setting.

Routine medical check-ups were documented in only 10.7% of patients, and the prevalence of such visits declined with advancing age. This is troubling given that early detection and management of chronic conditions rely heavily on routine screening and monitoring. The low rate of routine visits may be attributed to financial barriers, poor health-seeking behaviour, lack of awareness, or cultural beliefs that discourage preventive care.²⁴ These findings point to the urgent need for elderly-focused health education and policies that support accessible, affordable preventive services.

It is also concerning that there was no statistically significant difference in routine check-up rates across age groups or between genders, suggesting that factors limiting preventive healthcare access cut across demographic lines. Several studies have shown that the integration of geriatric health

services into primary care can substantially improve health outcomes through timely identification of risks and appropriate referral systems.^{9,10,25,26}

Taken together, the findings of this study reinforce the need for health system reforms focused on the emerging needs of Nigeria's aging population. There is a clear shift toward chronic, degenerative, and lifestyle-related illnesses that require continuous, coordinated care models. In addition, the observed pattern of morbidity supports the call for integrating routine health assessments, patient education, gender-responsive services, and community-based interventions into geriatric care strategies.

Moreover, while the current study is hospital-based and may not capture community-level morbidity dynamics, it provides critical baseline data that should inform broader public health planning. Expanding research into community-based elderly populations will be essential for understanding hidden burdens and reaching under-served segments of the elderly.

Although more than one morbidity was often recorded for individual patients, the data summary presented here focused on the primary morbidity categories. As such, detailed patterns of comorbidity were not systematically analyzed. This represents a limitation of the present study. Future research, particularly prospective studies, should specifically capture and examine multimorbidity patterns to better understand the burden of multiple coexisting diseases among the elderly.

CONCLUSION

This study highlights the significant burden of non-communicable diseases among elderly patients attending the General Outpatient Clinic of Afe Babalola University Multisystem Hospital. Cardiovascular and neurological conditions were the most prevalent, together accounting for more than half of all documented morbidity. Other important conditions included musculoskeletal and endocrine diseases, while malaria and other communicable illnesses remained relevant. The findings reflect a typical epidemiological transition where aging populations are increasingly affected by chronic degenerative diseases, even as infectious diseases persist in low- and middle-income countries like Nigeria.

A notable finding was the gender disparity in cardiovascular disease prevalence, with females more affected than males. Additionally, the overall low frequency of routine medical check-ups, particularly among those aged 80 years and above, signals sub-optimal engagement with preventive health services. This trend may be linked to sociocultural beliefs, limited health literacy, and economic constraints - factors that are consistent with existing literature on barriers to healthcare among Nigeria's elderly population.

The results emphasize the urgent need to adapt primary

healthcare services to accommodate the unique health needs of the elderly. Multi-morbidity, poly-pharmacy, and functional decline are becoming common in this demographic and require a shift toward integrated, person-centered care. Strengthening geriatric health infrastructure, increasing access to routine screening, and promoting age-appropriate health education will be essential for reducing the burden of disease and improving quality of life.

Ultimately, this study contributes valuable local data to the growing body of literature on geriatric morbidity in Nigeria and underscores the need for policy and clinical interventions that are responsive to the challenges of an aging population. Further research - especially community-based and longitudinal studies - will be critical in expanding our understanding and supporting sustainable healthcare planning for the elderly.

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