Morbidity Pattern and Illness Variances among the Elderly seen in General Outpatient Department of Comprehensive Health Centre, Ukpo, South East Nigeria

Silvia Isioma Ezemenahi[1], Adaobi Ifeoma Modebe[2], Jerry Kenechukwu Akagha[3], Chisom Sheila Ezemenahi[4], Adesuwa Queen Aigbokhaode[5]

[1]Department of Family Medicine, Nnamdi Azikiwe University Awka, Nigeria. [2,3]Department of Community Medicine, Nnamdi Azikiwe University Awka, Nigeria. [4]Department of Medicine, America University of Barbados, Barbados. [5]Department of Family Medicine, Federal Medical Center, Asaba, Nigeria.

ABSTRACT

Background: The elderly constitute the fastest-growing age group globally, with a significant increase occurring in developing countries. They develop health deterioration due to increased incidence of chronic diseases, which leads to morbidity that poses challenges and burdens to the healthcare system. **Objectives**: This study sought to assess the morbidity pattern among elderly patients seen in the General Outpatient Department (GOPD) of a comprehensive health centre, Ukpo, in Anambra, South East, Nigeria. **Materials and Methods:** This was a retrospective review of data from medical records of 140 elderly patients who visited the facility from January 1st 2016 to December 31st 2020. Information obtained included age, occupational status, place of domicile, and diagnosis. Data were analysed using the SPSS version 20 software package. **Results**: Out of 140 elderly patients seen within the study period, females accounted for 72.90%, and only 14.29% of the geriatric morbidity were due to communicable diseases, predominantly Malaria (14.3%). Their mean age and standard deviation was 75.6 ± 5.7 years. Diseases like Hypertension (37.1%) and Arthritis (23.6%) were the most common non-communicable diseases. Chi-square analysis showed a strong relationship between age and distribution of morbidities among the elderly population of this study ($p<0.001$). **Conclusion:** Non-communicable diseases like Hypertension, Arthritis, and Cataract were common in the elderly population of this study. There is a need to provide facilities to cater to the health needs of this special population.

Keywords: Elderly, Illness variance, Morbidity pattern, South-East, Nigeria

INTRODUCTION

The aging population is a worldwide issue, as aging is associated with changes that result in health problems which can lead to physical impairment and mental and social problems.[1] As the population ages, they tend to develop more chronic disease states, frailty, and dependency.[1-3] Although imprecise and controversial, the elderly age group is defined as persons with a chronological age of 65 years and above.[3]

OPEN ACCESS
****Correspondence:***
SiIvia Isioma Ezemenahi, Department of Family Medicine Nnamdi Azikiwe University, Nnewi Campus.
Tel: *+2348033940938*
Email:
si.ezemenahi@unizik.edu.ng

Specialty Section:
This article was submitted to Clinical, a section of TJMR.

Received: *4 October, 2022*
Accepted: *17 July, 2023*
Published: *June-July 2023*

Citation:
SI Ezemenahi, AI Modebe, JK Akagha, CS Ezemenahi, AQ Aigbokhaode. Morbidity Pattern and Illness Variances among the Elderly seen in General Outpatient Department of Comprehensive Health Centre, Ukpo, South East Nigeria. Trop J Med Res. 2023:22(1);79-85
DOI: 10.5281/zenodo.8361367

Access Code

http://tjmr.org.ng

According to the United Nations report in 2019,[4] the elderly are the world's fastest-growing group, with a steep rise occurring in developing countries.[3-4] By 2025, the global population of this group of individuals will be approximately 1.2 billion, also, it is projected that the total number of older persons living in low and middle-income countries (LMIC) will be approximately 850 million by 2025, accounting for 12% of the overall population of these countries.[5] Nigeria ranks 24th globally among countries with the most number of older persons.[4]

Population aging is a top global demographic trend in most countries. In Nigeria, the socio-demographic changes, as well as collapsing family structures with a lack of social security system, pose unique challenges to the elderly and a burden to the healthcare system.[6-8] Identifying the demographic and other modifiable risk factors that contribute to the chronic diseases disparities in the elderly is an important step in developing appropriate interventions to reduce the prevalence of chronic diseases.[6-7]These demographic transitions require shifting the global focus to cater to the preventive healthcare and medical needs of the elderly population.[6-7]

Several factors come together to an extent to determine the appearance of the most common chronic diseases, such as cardiovascular diseases, type 2 diabetes, cancers, chronic respiratory diseases, or neurodegenerative diseases.[9] The common belief is that most of these diseases occur in and affect elderly subjects; the causes of these diseases, when closely examined, age, is seen as a non-modifiable risk factor.[8-9]. Some researchers have argued that when the individual is aging, accumulated changes in the organism, such as the physiological dysregulation of numerous body systems, permit the clinical manifestation of long-lasting, underlying, detrimental pathological processes.[8-10]. In contrast, others believe that no disease occurs inevitably with aging because while aging is a risk factor, it is neither a necessary nor sufficient cause for chronic diseases.[11-12]

Globally, recent studies have reported a paradigm shift from communicable to non-communicable diseases causing severe morbidity among the elderly.[4,6,13]

In Nigeria, Udoh et al. reported accumulating evidence that chronic diseases are the major health issues in the elderly population in Nigeria.[14] The leading causes of mortality in Nigeria include Hypertension, diabetes mellitus, stroke, cardiovascular disease, and cancer.[14-15]

Exploring the pattern of morbidity in the elderly is extremely important in designing interventions and informing policy decisions.[12] However, there is lack of preparedness by the LMIC, Nigeria inclusive, to meet the healthcare needs of this group.[6] Identifying the socio-demographic and other modifiable risk factors contributing to the chronic disease disparities in the elderly is a necessary step in developing appropriate strategies to eliminate or reduce the prevalence of chronic diseases. This study aimed to determine the morbidity pattern and illness variances among the elderly population in the General Patient Department of a comprehensive health care centre, Ukpo, in South East Nigeria. The knowledge of the disease pattern and illness variances in the elderly will help prepare the health system to cater to them adequately.

METHODS

Study Design

This was a 5-year retrospective descriptive study to assess disease morbidity patterns and illness variance among the elderly patients of the Community Health Care Centre at Ukpo, Anambra, South-East, Nigeria

Study setting

This study was conducted at Comprehensive Health Centre (CHC) Ukpo in Dunukofia. Dunukofia is a local government area in Anambra State, south-east Nigeria. Towns that make up the local government are Ukpo, the headquarters; Ifitedunu, Dunukofia, Umunnachi, Umudioka, Ukwulu, and Nawgu.[16] It shares boundaries with Awka North, Idemili North, Njikoka, and Oyi Local Government

Areas.[17] Ukpo has a population of 2,223/ km^2 and a population density of 5,721/km^2.[16] The CHC Ukpo was commissioned in 1997 and currently provides 24-hour outpatient and in-patient services to the people of Dunukofia and its environs.[17] Most patients seen at CHC are managed at first contact, and very few are referred to specialty units at NAUTH. The clinic is run by consultant Community health physicians and postgraduate residents' doctors in community medicine.

Study Population

All elderly patients aged > 65 years and above who had assessed care at the GOPD in CHC Ukpo within that study period (January 1st 2016 to December 31st 2020).

No records would be excluded, as all health records of patients who presented at the facility within the study period will be included. Records were retrieved from the medical health records department. Information used includes; socio-demographic data (age, occupation, and marital status) of the patients, presenting complaints, blood pressure, pulse rate and physical examination findings at first visits, and diagnosis made within the study period.

Data Collection:

A checklist was designed to record the patients' profiles, including age, gender, place of domicile, marital status, level of education, occupational status, religion, and diagnosis.

With permission from the records department, records of morbidities among the elderly group were collected. Diagnosed diseases were classified into two broad groups, namely, Communicable and Non-communicable diseases. Non-communicable diseases were categorized further based on physiological systems such as cardiovascular system (CVS); Eye; Endocrine/Nutrition; gastrointestinal system (GIS).

Data Analysis:

Data obtained were checked for completeness, then entered and analyzed using Statistical Package for Social Science (SPSS Inc) software, version 26.0. The variables would be defined and assigned value labels. The data would be encrypted and kept in a pass-worded computer that only the researcher can access. Descriptive analyses performed, including frequencies, percentages, means, and Chi-square which was used to test associations. This study set the significance level at $P < 0.05$ for all analyses.

Ethical Consideration

Ethical approval for this study was obtained from the Nnamdi Azikiwe University Teaching Hospital Ethical Committee (NAUTHEC) through the head of the department of community medicine, Nnamdi Azikiwe University (NAU). Ethical number NAUTH/CS/66/VOL.14//VER.3/47/2021/023. Permission and approval were also obtained from the head of the department of medical records CHC, Ukpo, before the patient case files were retrieved for data collection. Information obtained from case notes was only to be used for this project, and patient identities were kept confidential. Since this is a retrospective research, the information was obtained from the patient's record at the Health Information Department; hence informed consent, privacy, and confidentiality was not obtained from the individuals.

RESULTS

One hundred and forty elderly patients were analysed within the period under review. Table 1 shows the socio-demographic variables of the study participants. The socio-demographic parameters showed a higher number of elderly females 102(72.9%), than males 38 (27.1%) visiting the general outpatient department of CHC. The majority of the elderly fall within the age range 77-82 years 49(35.0%), followed by those within the age of 71-76 years 44(31.40%) and then 65-70 years 35(25.00%). Their mean age was 75.6±5.7

Most of the patients were dependent, 86(61.4%), and while 29 (20.7%) were farmers.

Table 2 shows that Hypertension is the most common cause of morbidity (37.1%), followed by

Arthritis (23.6%), while dementia and leg ulcers accounted for 0.71% each.

Table 3 shows distribution of morbidities by age among the study participants. Arthritis and Eye diseases were the most common in patients aged 77-82 years 10(20.41%), 8(16.33%) respectively. Hypertension and Diabetes were most prevalent 17(38.64%), 4(9.09%) respectively among patients aged 71-76 years, while Dementia was observed only among those above 94 years. Pneumonia and Malaria were more among the elderly within the age of 77-82 years 4(8.16%) and 5(10.21%) respectively.

Chi-square analysis shows a strong association between age and distribution of morbidities among geriatric patients attending GOPC of CHC within the period of study (P =0.001). This is shown in Table 3.

Malaria and Arthritis were more common among farmers (15.8%) and (21.3%), respectively, while Gastroenteritis and PUD were more common among the aged (2.4%) and (5.8%), respectively. Hypertension was the most common across all occupations, while leg ulcers were found only among the aged (1.4%). Pneumonia was more common in the Aged (2.7%) and Traders (6.3%) This is shown in Table 4.

Table 1: Socio-demographic variables of the study participants

Variable	Frequency (%)
Age(years)	
65-70yrs	35 (25.0)
71-76yrs	44 (31.4)
77-82yrs	49 (35.0)
83-88yrs	9 (6.4)
89-94yrs	2 (1.4)
Greater than 94yrs	1 (0.7)
Mean±STD	75.6±5.7
Range	65-99
Sex	
Female	102 (72.9)
Male	38 (27.1)
Ethnic group	
Igbo	140 (100.0)
Occupation	
Artisan	4 (2.9)
Rtd civil servant	4 (2.9)
Dependent	86 (61.4)
Edu/scdegree	1 (0.7)
Farmer	29 (20.7)
House wife	3 (2.1)
Secretary	1 (0.7)
Trading	12 (8.6)
Total	**140 (100.0)**

Table [2]: Prevalence of the different morbidities among the study participants.

Diagnosis	Yes (%)	No (%)
Arthritis	33 (23.6)	107 (76.4)
Left leg ulcer	1 (0.7)	139 (99.3)
Hypertension	52 (37.1)	88 (62.9)
Malaria	20 (14.3)	120 (85.7)
Diabetes	12 (8.6)	128 (91.4)
Gastroenteritis	6 (4.3)	134 (95.7)
Respiratory Tract Infections	3 (2.1)	137 (97.9)
Urinary Tract Infections	5 (3.6)	135 (96.4)
Eye Diseases	28 (20.0)	112 (80.0)
Dementia	1 (0.7)	139 (99.3)
Peptic Ulcer Diseases	6 (4.3)	134 (95.7)
Pneumonia	1 (0.7)	139 (99.3)
Knee and joint	1 (0.7)	139 (99.3)

Table [3]: Distribution of morbidities by age among the study participants

Diagnosis	Age (years)						X^2-value	p-value
	65-70yrs	71-76yrs	77-82yrs	83-88yrs	89-94yrs	Greater than 94yrs		
Arthritis	8 (22.8)	9 (20.4)	10 (20.4)	3 (33.3)	-	-		
Ulcer	-	-	-	1 (11.1)	-	-		
Hypertension	14 (40.0)	17 (38.6)	14 (28.5)	1 (11.1)	-	-		
Malaria	3 (8.6)	2 (4.5)	5 (10.2)	1 (11.1)	-	-		
Diabetes	2 (5.7)	4 (9.1)	3 (6.1)	-	-	-		
Gastro enteritis	1 (2.8)	1 (2.3)	2 (4.1)	-	-	-	60.34	<0.001
Pneumonia	-	1 (2.3)	4 (8.2)	-	-	-		
Urinary tract infection	-	2 (4.5)	-	-	-	-		
Eye diseases	6 (17.1)	7 (15.9)	8 (16.3)	3(33.3)	2(100.00%)	-		
Dementia	-	-	-	-	-	1(100.00%)		
Peptic Ulcer disease	1 (2.8)	1 (2.3)	3 (6.1)	-	-	-		

Table 4: Percentage distribution of morbidities across different occupation among the study participants

Occupation	Diagnosis (%)										
	ATR	ULC	HTN	MAL	DM	GE	RTI	UTI	ED	DEM	PUD
Aged (n=74)	20.7	1.4	30.8	11.5	5.7	2.4	2.7	1.4	17.6	-	5.8
RCS (n=5)	40.0	-	20.0	0	20.0	0	0	20.0	-	-	-
RT (n=1)	-	-	100	-	-	-	-	-	-	-	-
Carpentry (n=3)	-	-	-	-	-	-	-	-	66.8	33.2	-
Driver (n=1)	-	-	-	-	100	-	-	-	-	-	-
Farmer (n=38)	21.3	-	21.1	15.8	10.5	2.3	0	8.0	18.4	-	2.6
House wife (n=5)	40.0	-	60.0	-	-	-	-	-	-	-	-
Secretary (n=1)	0	-	0	0	0	0	0	0	100	-	-
Trading (n=16)	31.2	-	37.5	0	12.5	0	6.3	0	12.5	-	-
Welder(n=1)	-	-	-	100.0	-	-	-	-	-	-	-

RCS = Retired civil servants, RT = Retired Teachers , ATR = Arthritis, MAL = Malaria, RTI = Respiratory tract Infection, ULC = Leg Ulcer, DM = Diabetes, UTI = Urinary tract Infection, HTN = Hypertension, GE = Gastroenteritis, ED = Eye diseases, DEM = Dementia, PUD = Peptic ulcer disease

DISCUSSION

In this study, the mean age of the respondents was 75.6 ± 5.7years, which was slightly higher than results from similar recent studies across Nigeria.[2,18] This could indicate a growing aging population in our environment and, therefore, the need to show more interest in this population group.

This study showed a female preponderance of 72.90% than males (27.10%) visiting the General outpatient department within the period of study. This could be because the females visit the health facility more regularly than the male's counterpart, these findings were similar to studies carried out in Oman, Calabar and Federal Capital Territory (FCT), Nigeria among geriatrics.[13,15,19]

Hypertension was identified in this study as the most common cause of morbidity among elderly patients 52 (37.1%), followed by arthritis 33 (23.6%), eye disease like cataracts as the most common at 20.0%, Diabetes at 8.6%, and pneumonia at 0.7% Dementia and leg ulcer been the most minor cause of morbidity among geriatric patients (0.7%) in this study. The most common cause of morbidity from communicable diseases identified in this study was Malaria, with a percentage of 14.3%, similar to the study done in other parts of Nigeria.[15] Although non-communicable diseases, especially Hypertension, Arthritis, Diabetes, and eye problem, constitute a more significant burden of geriatric health problems. The duo of communicable and non-communicable diseases has been documented to affect the elderly, most recently due to the increasing aging population in Sub-Saharan Africa due to improving life expectancy.

Arthritis and Eye diseases were the more common morbidity in geriatric patients aged 77-82 years 10(20.4%), 8(16.3%) respectively. Also, Hypertension and Diabetes were most prevalent 17(38.6%), 4(9.1%) respectively among geriatric patients aged 71-76years, while Dementia was a cause of morbidity only in elders aged above 94years 1(100.00%). On the other hand, Pneumonia and Malaria were more common among the elderly between the age of 77-82 years 4(8.2%) and 5(10.2%) respectively.

Arthritis was seen more among farmers, 21.3%, due to the fact that osteoarthritis is associated with a higher frequency of falls, disability, and psychological distress among the elderly, which is in line with the Calabar study.[14-15]

Chi-square analysis showed a strong association between age and distribution of morbidities among geriatric patients attending GOPD within the study period (P=0.001), as seen in table 3 above.

This finding of a strong association between age and morbidities among the respondents is in tandem with many other findings in studies done in Nigeria,[6,7,13,15] as this could be due to the aging process, diminishing the functionality of the organs, and poor health-seeking behaviour in this our clime. Better health-seeking behaviour will undoubtedly reduce morbidities and mortality in the long run

Like all cross-sectional studies, it could only give a snap-short representation; hence the findings of this

study are specific to the time it was done. Missing and incomplete patient records due to lack of adequate records/data is also a limitation.

In Conclusion: Non-communicable diseases like Hypertension, cataracts, osteoarthritis, and Diabetes mellitus are common among the elderly in this study. Therefore, it is pertinent that further health training and facilities are provided to cater to this special population's health needs to improve their quality of life.

Acknowledgment: We sincerely appreciate the head of the department of medical records, CHC, Ukpo, for the assistance in providing the case notes of these patients for the research.

Author contributions

E.S.I. conceived and carried out the research, participated in protocol writing, data analysis, manuscript writing and review. M.I. was for implementation and revision of the manuscript. J.A. Conceived and carried out the research with the guidance of M.I and E.S.I., participated in protocol writing and review of the manuscript. A.A.Q. participated in the data analysis, protocol writing and review of the manuscript. E.S.C was involved in the writing of the protocol as well as review of the manuscript. The authors read and approved the final manuscript and agreed to be accountable for all aspects of the work.

Data availability

The data used to support the findings of this study are available from the corresponding author upon reasonable request.

Funding: The authors received no financial support for the research, authorship, and/or publication of this article.

Conflict of interest: The authors hereby declare that they have no financial or personal relationship(s) with anybody/organization whatsoever that may have inappropriately influenced them in writing this article.

Ethical approval: For this study was obtained from the Nnamdi Azikiwe University Teaching Hospital Ethical Committee (NAUTHEC) through the head of the department of community medicine, Nnamdi Azikiwe University (NAU). Ethical number NAUTH/CS/66/VOL.14//VER.3/47/2021/023. Permission and approval were also obtained from the head of the department of medical records CHC, Ukpo, before the patient case files were retrieved for data collection.

REFERENCES

1. Shilpa A, Kalyani S, Manisha S, Grazia D, Antonio G, Daniele S. Ageing Process and Physiological Changes. Gerontol. Geriatr. 2018; 2:1-5.
2. Adebusoye LA, Ladipo MM, Owoaje ET, Ogunbode AM. Morbidity Pattern amongst Elderly Patients Presenting at a Primary Care Clinic in Nigeria. Afr J Prm Health Care Fam Med. 2011; 3(1): 6
3. Shaikh MN, Firdous J, Muhammad AS, Muhammad MK. The pattern of Morbidity Among Elders Attending General Practice: Health Needs Assessment of Geriatric Patients in Oman. Geriatr. Care. 2018; 4(7774): 91
4. United Nations Population Division, *World Population Prospects 2019, retrieved from* https://population.un.org/wpp/Download/Standard/Population/ as of 21st February 2021.
5. United Nations World Population Ageing. Department of Economics and Social Affairs PD, Editor; 2015. Retrieved from un.org/en/development/desa/publications/word-population-prospects-2015-revision.html as of 21st February.
6. Cadmus E O, Adebusoye L A, Olowookere O O, Oluwatosin O G, Owoaje E T, Alonge T O. A descriptive study of the morbidity pattern of older persons presenting at a Geriatric Centre in Southwestern Nigeria. Niger J Clin Pract. 2017;20:873-8
7. Perpetua LT, Pelser A, Peter M. Care of the Elderly in Nigeria: Implications for Policy. Cogent Soc Sci. 2018; 4:1

8. Maresova P, Javanmardi E, Barakovic S, Barakovic Husic J, Tomsone S. et al. Consequences of chronic diseases and other limitations associated with old age - a scoping review. BMC Public Health. 2019 Nov 1; 19(1):1431. doi: 10.1186/s12889-019-7762-5. PMID: 31675997; PMCID: PMC6823935.
9. Morabia A, Abel T. The WHO report "Preventing chronic diseases: a vital investment" and us. Soz Praventivmed. 2006; 51(2):74. doi: 10.1007/s00038-005-0015-7. PMID: 18027782
10. Fup T, Larbi A, Dupuis G, Le Page A, Frost EH, Cohen AA, et al. Immunosenescence and Inflamm-Aging As Two Sides of the Same Coin: Friends or Foes? Front Immunol. 2018 10th January; 8:1960. doi: 10.3389/fimmu.2017.01960. PMID: 29375577; PMCID: PMC5767595.
11. Rohman KJ. Greenland S, Lash TL. Modern epidemiology. 3rd Ed. Philadelphia, Pa: Lippincott, Williams, and Wilkins.2008;
12. Zho C, Wong L, Zhu Q, Yang H. Prevalence and correlates of chronic diseases in an elderly population: A community-based survey in Haikou. PLoS One. 2018 Jun 14;13(6):e0199006.
13. Neem SM, Jahan F, Siddiqui M A, Khan MM. The pattern of Morbidity Among Elders Attending General Practice: Health Needs Assessment of Geriatric Patients in Oman. Geriatric Care. 2018; *4*(4).
14. Udoh SB, Idung AU. Morbidity Pattern in Geriatric Patients Attending a General Outpatient Clinic in a Tertiary Hospital in Nigeria: A Society with No Social Support System. IOSR JDMS. 2014; 13(3): 49-54
15. Inde MU, Eko JE, Inah SA, Eyo PI. Assessment of Disease Morbidity Pattern and Health Care Seeking Behaviour Among the Elderly in Calabar Municipality, Cross River State, Nigeria. IJTDH. 2019; 35(4): 1-10,
16. Ukpo Dunuokofia retrieved from https://en.wikipedia.org/wiki/Dunukofia as of 21st February 2021.
17. Comprehensive Health Centre, Ukpo, retrieved from https://nauth.org.ng/uni_department/comprehensive-health-centre/ as of 21st February 2021.
18. Fakoya OO, Abioye-Kuteyi EA, Bello IS, Oyegbade OO, Olowookere SA, Ezeoma IT. Determinants of Quality of Life of Elderly Patients Attending a General Practice Clinic in Southwest Nigeria. Int Q Community Health Educ. 2018 Oct;39(1):3-7. doi: 10.1177/0272684X18781781. Epub 2018 Jun 12. PMID: 29895200.
19. Okeke O, Nweke C. Morbidity Pattern of Geriatric Patients Attending a General Outpatient Clinic in FCT, Nigeria. Nig J Fam Pr. 2018; 9(2).