EVALUATION OF THE ELDERLY AT OKEHI'S MEDICAL OUTREACH

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Abstract. Globally the health burden of older adults is growing and the rural areas are equally affected. Knowledge of the health status of the elderly in any locale will enable proper management of their health.The aims is to evaluate the health status of the elderly in Okehi, town in Etche Local Government area in Rivers State, Nigeria. This was a cross-sectional descriptive study of older adults who attended a two day medical outreach at Okehi, Etche in Rivers State which took place from 25th to 26th July 2023. The elderly constituted 25.4% of those who attended the medical outreach. Females showed a slight preponderance constituting 53.2% of the older adult population at the outreach. The modal age group was 65-74 (45.1%). Majority of the persons were farmers (59.1%), married (79.2%) and most (51.4%) had at least primary school education. Malaria (13.4%) arthritis (13.9%), hypertension (23.5%) and eye disorders (24.6%) were the highest morbidity participants. A great number (74.1%) had at least two morbidities while about 5.7% of them had no obvious medical challenges. Majority of the older adults at Okehi, Etche had multiple morbidities. Health care in the rural areas should be prioritised.
Keywords: *evaluation, elderly, health, Okehi, outreach*

Introduction

Persons are considered to be elderly when they are 60 years and above in accordance to the United Nations (UNHCR, 2024). The elderly are also considered to be aged over 65 years in countries in countries where they have predominant older adults constituting their demographics (Orimo et al., 2006). The definition of an older adult and the age cut off may also vary from country to country with time. There are various way which old age is classified. A popular classification of the older adult is considered as 65-74 as young old (early elderly), 75-84 as old old (mid elderly) and ≥85 as oldest old (Lee et al., 2018; Orimo et al., 2006). In 2015 the World Health Organisation, under the United Nations officially revised the age standard (UNHCR, 2024). The Portland state university of aging considered 60-74 years as the young age group and also considered centenarians as a special group. According to the new age classification young adult age is 25-44, middle age is 45-59, elderly age is 60-75, senile age is 75- 90 as and long livers are above 90 years (Dyussenbayev, 2017). The aging rural population is growing around the globe and this increase is even noticed in Nigeria (Cohen and Greaney, 2023). The proportion of the rural area may be declining in Nigeria over time from 54% in 2012 to 45.7% in 2023.7 Regardless of this decline, older adults often migrate to the rural area which is influenced by the desire to be closer to their home roots and living in a quiet area after retirement. Globally the rural area is faced with restricted healthcare facilities even in developed nations like the United States of America (USA) (Coburn and Bolda, 2001). This is also applicable to rural areas in Nigeria which are challenged by very poor or non- existent health facilities (Nnabuihe et al., 2015). Medical

outreaches are very beneficial to the elderly in terms of receiving basic and specialized care including surgical care which may not be affordable by them with their reduced/low/no income and having published data on the health status of the and needs of the elderly may encourage more attention to be given to the health of the rural elderly (Ikpae and Amadi, 2021; Eke, 2016).

Materials and Methods

This was a cross-sectional descriptive study of the elderly in Okehi town, the headquarters of Etche Local Government Area (LGA), in Rivers State, Nigeria. The study site has a functional general hospital. The study population were all adults above 60 years who attended the two day medical outreach carried out by the Christian Medical and Dental Association (CMDA) Rivers State Chapter. A flow chart was used in directing the participants to the different health care points. Consent, history, physical examination and treatment plan were collected using a prepared clerkship form developed by the Christian Medical and Dental Association, Rivers State Chapter. The data collected was entered into a Microsoft Excel Sheet and analysed. The data was represented using frequency tables and percentages. Chi square was used to assess associations and p-value less than .05 was considered significant.

Results and Discussion

The elderly constituted 25.4% of those who attended the medical outreach. A total of 681 persons were medically attended to. The modal age group was 65-74 (45.1%). The young old age group (60-74) consists of the highest population with a total of 75.7% of the total elderly population seen. Centenarians consisted of 1.2% of the population. The mean age of population was 69.7±1.37 years at 95% confidence interval (CI). The average age of males was 69.6 2.22 years at 95% CI while that of the females was 70.1±1.86 years at 95% CI. There was a slight female preponderance, with them constituting 53.2% of the older adult population at the outreach. Majority of the persons were farmers (59.1%), married (79.2%) and a majority (51.4%) had at least primary school education. Arthritis (13.9%), hypertension (23.5%) and eye disorders (24.6%) were the highest morbidity seen within the elderly. A great number (74.1%) had at least two morbidities while about 5.7% had no obvious medical challenges. Those who knew they had hypertension constituted 17.4% (15) of the elderly with hypertension, while 82.6% (71) of the elderly were unaware they have hypertension. Those known to be hypertensive with good BP control constituted 13.3 % (2) of the total number of known hypertensive and 2.3% of the total hypertensive population. Only 1(6.6%) of the known seniors with hypertension could not recall the names of his anti-hypertensive medication. Those with blood pressure within the prehypertension stage were 13.9% (24). Ten persons (5.8%) had diabetes mellitus in the population who were all males and this diagnosis constituted 2.7% of all the diagnoses made. All (100%) those affected with diabetes were aware of their disease condition. Those who had both hypertension and diabetes constituted 4.0% of the total population of elderly and 70% of those with diabetes mellitus. A chi-square test of independence was performed to examine the relation between the most common occupation which was farming and the three most common disorders which were arthritis, hypertension and eye disorders. The relation between these variables was significant for farmers and eye disease. X^2 (1,

N=173)=5.0329(4.362), p=.02487(.036744) but not for arthritis(X^2=0.8062(0.6083); p-value =.3438(.435447) and also not for hypertension (X^2=0.3394(0.1832); p-value=.56917(.66848). Farmers were more likely than non-farmers to have eye disease but not arthritis or hypertension in this study. Other results are represented in the *Table 1* to *Table 5*.

Table 1. *Socio-demographics of older participants.*

Category	Frequency (N)	Percentage (%)
Age group		
60-64	53	30.6
65-74	78	45.1
75-84	29	16.8
≥85	10	5.8
Non specified	3	1.7
Gender		
Female	92	53.2
Male	81	46.8
Marital Status		
Single	2	1.2
Married	137	79.2
Widowed	6	3.4
Not specified	28	16.2
Faith Practice		
Christian	158	91.3
Not specified	15	8.7
Ethnicity		
Etche	143	82.7
Others	7	4.0
Not specified	23	13.3
Residence		
Okehi, Etche	96	55.5
Other communities in Etche	51	29.5
Other rural communities in R/S	1	0.6
Port Harcourt, Rivers State	3	1.7
Not specified	22	12.7
State of Origin		
Rivers State	144	83.2
Imo	5	2.9
Abia	1	0.6
Not specified	23	13.3
Level of Education		
No formal education	1	0.6
Primary	55	31.8
Secondary	16	9.2
Tertiary	18	10.4
Not specified	83	48.0
Occupation		
Businessman	**7**	4.0
Carpenter	1	0.6
Civil servant	6	3.4
Clergyman	3	1.7
Driver	3	1.7
Farmer	102	59.0
Health worker	3	1.7
Mason	2	1.2
Retired(non-specified)	14	8.1
Security officer	2	1.2
Tailor	1	0.6
Teacher	1	0.6
Traditional ruler	2	1.2
Non-specified	26	15.0
Next of Kin		
Indicated	102	59.0
Not indicated	71	41.0
Caregiver		
Indicated	46	26.6
Did not indicate	127	73.4

***Table 2**. Presenting complaints.*

Category	Male	Female	Total
Abdominal/ Dental/Gastrointestinal symptoms			
Abdominal pain	5(41.6)	7(58.3)	12 (100%)
Abdominal discomfort	3(40)	5(60)	8 (100%)
Abdominal /inguinal swelling	2(33.3)	4(66.7)	6 (100%)
Toothache	0	1(100)	1(100)
Chest Symptoms/Respiratory Symptoms			
Chest pain	2(66.7)	1(33.3)	3(100)
Cough	3(60)	2(40)	5(100)
Dyspnoea	1(50)	1(50)	2(100)
Cardiac Symptoms			
Palpitation	1(25)	3(75)	4(100)
Easy Fatigability	0(0)	1(100)	1(100)
Eye Symptoms			
Blurry Vision	3(37.5)	5(62.5)	8(100)
Eye discharge	0(0)	1(100)	1(100)
Eye pain	3(33.3)	6(66.7)	9(100)
Poor Vision	26(60.5)	17(39.5)	43(100)
Pterygium	1(50.0)	1(50.0)	2(100)
Tearing	1(50.0)	1(50.0)	2(100)
Musculoskeletal /Pain symptoms/Integumentary			
Shoulder joint pain	1(33.3)	2(66.7)	3(100)
Knee joint pain	4(26.7)	11(73.3)	15(100)
Low back pain	1(16.7)	5(83.3)	6(100)
Leg pain	2(33.3)	4(66.7)	6(100)
Waist pain	15(75.0)	5(25.0)	20(100)
Generalized body pain	1(50.0)	1(50.0)	2(100)
Foot swelling	1(50.0)	1(50.0)	2(100)
Generalized body weakness	3(75.0)	1(25.0)	4(100)
Skin rash	0(0)	2(100)	2(100)
Skin itching	2(100)	0(0)	2(100)
Neurological /Ear /Non Specific Symptoms			
Dizziness	0(0)	3(100)	3(100)
Fever	17(50.0)	17(50.0)	34(100)
Headaches	6(28.6)	15(71.4)	21(100)
Hearing Impairment	0(0)	1(100)	1(100)
Insomnia(poor sleep)	3(75.0)	1(25.0)	4(100)
Memory Loss	1(50.0)	1(50.0)	2(100)
Vertigo	1(100)	0(0)	1(100)

***Table 3**. Blood pressure pattern.*

Category	60-64		65-74		75-84		>85		Non-specified		Total
	M	F	M	F	M	F	M	F	M	F	N(%)
Hypotension	1	0	1	0	0	0	1	1	0	0	4(2.3)
Normal	3	5	5	7	2	4	0	0	0	1	27(15.6)
Pre HTN	3	2	6	6	2	1	1	1	0	2	24(13.9)
Stage 1 HTN	6	8	9	10	2	3	2	1	0	0	41(23.7)
Stage 2 HTN	3	10	11	11	2	8	0	0	0	0	45(26.0)
Not done	8	4	3	9	2	3	1	2	0	0	32(18.5)
Total	24	29	35	43	10	19	5	5	0	3	173(100)

***Table 4**. Diagnoses in the community.*

Diagnosis	Frequency	Percentage
Arthritis	52	13.9
Arrhythmias	2	0.5
Cardiac failure	1	0.3
Cachexia	1	0.3
Cataract	4	1.1
Cervical spondylitis	1	0.3
Chronic low back pain	5	1.3
Chronic periodontitis	2	0.5
Dementia	2	0.5
Dental caries	4	1.1
Dermatitis	4	1.1
Diabetes	10	2.7
Enteric Fever	6	1.6
Eye Disorders(non-specified)	58	15.5
Fractured Tooth	1	0.3

Generalized Pruritus	3	0.8
Glaucoma	7	1.9
Glossitis	1	0.3
Goitre	1	0.3
Haemorrhoids	1	0.3
Hearing impairment	1	0.3
Helminthiasis	3	0.8
Hypertension	88	23.5
Inguinal Hernia	3	0.8
Insomnia	1	0.3
Lumbar Spondylitis	2	0.5
Malaria	50	13.4
Malignancy	2	0.5
Migraine	1	0.3
Morbid obesity	1	0.3
Myalgia	2	0.5
Otitis Media	1	0.3
Parkinson's disease	1	0.3
Peptic Ulcer & Dyspepsia	16	4.3
Peripheral Neuropathy	3	0.8
Pneumonia	3	0.8
Prostate Enlargement	3	0.8
Presbyopia	2	0.5
Pterygium	2	0.5
Refractive error	19	5.1
Retroviral disease	1	0.3
Sepsis	1	0.3
Stroke	1	0.3
Tinea Pedis (Athlete's feet)	1	0.3
Upper Respiratory tract Infection(URTI)	1	0.3
Urinary tract Infection(UTI)	3	0.8
Urticaria	1	0.3
Vertigo(BPPV)	1	0.3
Total	374	100

Table 5. *Diagnosis frequency.*

Number of Diagnoses	Number of persons	Proportion (%)	Total Number of Diagnoses
0	10	5.7	0
1	35	20.2	35
2	60	34.7	120
3	55	31.8	165
4	11	6.4	44
5	2	1.2	10
Total	173	100	374

The proportion of the elderly consists of about a quarter of all participants. There is was a slight female preponderance, this is similar to studies done in the rural area by Bell-Gam & Bouwari in Opobo (69.4%), Wokoma & Alasia in Barako (60.5%), and Alikor et al (68.8%) all in Rivers state, Nigeria (Bell-Gam and Bouwari, 2021; Alikor et al., 2013; Wokoma and Alasia, 2011). Mezie Okoye in a community in Anambra (58%) South east Nigeria and Asekun-Olarinmoye et al in Osun in South West (61.4%) also had female preponderance in the different rural adult population thy studied (Asekun-Olarinmoye et al., 2013; Mezie-Okoye, 2013). In a study done by Uddin, J. et al in US showed more than 50% of the participants to be female (Uddin et al., 2024). The reason for this female preponderance may not be unrelated to the fact that older females have greater health needs than their male counterparts; have fewer economic resources, have higher social support and may seek health care due to societal expectations and roles (Cameron et al., 2010; Redondo-Sendino et al., 2006). The above reasons increases the likelihood of the greater uptake of free medical opportunities as reported in this study. This is different from the finding done by Ikpe & Amadi in Wiyaakari (56.8%); Ekanem et al in a military zone in Ibawa in Akwa Ibom State (51.6%) and Opare-Addo et al Ashanti region in Ghana (52.05%) who reported male preponderance (Ikpae and

Amadi, 2021; Opare-Addo et al., 2020; Ekanem et al., 2013). The possibilities are males have a higher prevalence in these areas, men may be mandated to attend outreaches and women may be restricted to attend by several social responsibilities at home or by religious beliefs for instance refusing to be medically attended to by a male doctor (Olanrewaju et al., 2019; Vu et al., 2016). A greater number of the participants were indigenes of the town in which the medical outreach is being hosted, followed by those who lived within close environs. This is not surprising as health care facilities who would often benefit those living closer to it except in cases where there might be a false belief system or need for better health care that would affect the usage (Opare-Addo et al., 2020; Nnabuihe et al., 2015). Majority of the participants were farmers this finding is similar to the studies done in different rural communities across the globe. The studies carried out by Ikpae and Amadi (2021), Opare-Addo et al. (2020), Alikor et al. (2013), Asekun-Olarinmoye et al., (2013), Wokoma and Alasia (2011), showed farming to be a major occupation amongst participants. More than half of the participants in this study had some of formal education with primary level of education being the highest. This finding was similar to the studies done by Opare-Addo et al. (2020) in Ashanti region (50.29%), but Alikor et al. (2013) (49.6%) and Ekanem et al. (2013) (67.5%) reported more of secondary school level education. The difference might be due to the gradual urbanisation of some rural areas more than others due to proximity of certain rural areas closer to urban centres hence better access to secondary schools. This study also showed the extent of knowledge the older adults have about caregivers and next of kin. The response was poor in both variables. The CMDA, Rivers State has had seminars on the topic amongst its members highlighting the importance of living will, caregivers and next of kin in families particularly when approaching end of life.

The complaints made by the elderly can be seen in *Table 2*. The complaints reflect a variety of diseases that can occur in the older adult. These complaints are similar to those seen in studies done amongst older patients. Ikpae and Amadi (2021) reported dyspepsia, skin infection, eye problems, muscle pain and joint pains amongst the older population in their study. Srinivas and Manjubhashini (2014) in their study in Andhra Pradesh, India had joint pains (41%), defective vision (34%), polyuria (12%) and defective hearing (7%) as the most common presenting complaints. Similarly joint pains of different parts of the body and poor vision was a common complaint in this study as seen in *Table 3*; but hearing impairment was one of the least complaint and none ever complained of polyuria. Breathlessness and cough (5%) in respiratory system, dizziness (9%) in cardiovascular system and change in appetite and bowel habits (2%) in gastro intestinal system were the most common presenting compaints in various systems in the study by Srinivas and Manjubhashini (2014). In contrast this study had cough in the respiratory system, palpitation in the cardiovascular system, abdominal pain in the gastrointestinal system and headaches in the neurological system as common complaints. Blood pressure pattern seen amongst the older adults is displayed in *Table 3*. Hypertension is a major cause of morbidity in this study however other studies have shown different proportions which are higher in most studies done within the same region. Addo et al. (2006) had a closer prevalence with 25.4% being hypertensive in their study. In the studies carried out by Bell-Gam and Bouwari (2021) as well as Ikpae and Amadi (2021), more than half of the participants had hypertension; the prevalence were 51.4% and 56.5% respectively. Ekanem et al. (2013) reported 47%, Wokoma and Alasia (2011) had those with systolic hypertension to be 32.2%, diastolic hypertension to be 23.6% and the aggregate to be 27.9%; and Alikor et al. (2013) had the prevalence

to be 20.2% while Opare-Addo et al. (2020) had 16.2%. Srinivas and Manjubhashini (2014) as well as Asekun-Olarinmoye et al. (2013) in their various studies had a smaller value of 13.6% and 12% respectively. The differences in these studies can be explained by the different socio-demographics of the population studied as this also seen in the study carried out by Uddin et al. (2024) in the USA that showed overall increase in hypertension in different rural and urban areas however some areas had higher magnitude of change. There is evidence of increasing hypertension rates within the rural area globally. Meta-analysis of studies done within the Niger Delta region of Nigeria showed a higher prevalence of hypertension within rural area (32%) versus urban (27%) (Ezejimofor et al., 2018). This finding was also similar to the study done in North America that showed that 40% of participants in the most rural areas and 29.4% in the most urban areas reported having a hypertension diagnosis (Kuehn, 2020). The rate of change in hypertension prevalence was greater in rural compared to urban area in a meta-analysis done amongst low and mid income countries (Ranzani et al., 2022). The blood pressure pattern does not translate to all that may or not be hypertensive. Some of the elderly did not have their blood pressure done and this may be due to reduced health care manpower during the outreach or sudden dysfunctional blood pressure measuring kit during the outreach or refusal by the older adults to have their blood pressure checked. This is a missed opportunity for the older adult to get to know their blood pressure levels and the need to institute treatment or commence lifestyle modification. Old age has clearly been proven to be a factor in the development of hypertension. Hypertension was significantly noted to be higher in those 65 years and above, such that for every 10 years increase in participants' mean age, the prevalence of hypertension increased by 10.43% (95% CI 5.73-15.14), $p<0.001$ seen in the in the rural regions of Niger Delta in Nigeria.28 Similar findings was also noted in studies carried out in other rural areas by Alikor et al. (2013) as well as Asekun-Olarinmoye et al. (2013) who had younger adults in their study.

A great majority of patients in this study with high blood were not aware of their high blood pressure. Other studies showed varying proportions of those aware of their high blood pressure levels. Addo et al. (2006) had 32.3% aware while Alikor et al. (2013) had 19.2 % aware with a higher proportion (43.6%) having false knowledge about hypertension. In this study just a small proportion of those with hypertension have good control of their blood pressure. Addo et al. (2006) showed only 16.7% had their blood pressure under control while Asekun-Olarinmoye et al. (2013) in their study showed 18.5% had ever taken antihypertensive drugs on a regular basis. There was a high level of target blood pressure (64%) control achieved in institutionalized elderly in Canada when compared to those in the community (Tsuyuki et al., 2008). This difference may arise from the fact those institutionalized have carers who make it their job to ensure that the older adults take their medication. Although it can be argued that a single blood pressure reading may not qualify one as a hypertensive but there is need to commence lifestyle changes, treatment and further investigations at very high or low level even if it is a single blood pressure. Commencement of treatment for the elderly for hypertension has been proven to be beneficial to the elderly regardless the age from clinical trials (Aronow, 2020; Tsuyuki et al., 2008). Target blood pressure control depends on the age as well as presence of co-morbidities such as diabetes and advanced chronic renal disease which might not have any specified age limit; just as different trials have shown treatment to be beneficial in different clinical circumstances (Aronow, 2020). Diabetes in this study consisted of a smaller proportion of patients when

compared to hypertension. The study carried out by Ikpae and Amadi (2021) reported no case of diabetes in the elderly and only one person in an outreach population of more than three hundred persons. This was attributed to their lifestyle of practicing subsistence farming and fishing necessitating a lot of physical activity. In a study in Ghana, diabetes was found to be in smaller proportion of the rural dwellers (5.4%) while diabetes and hypertension co-morbidity consisted of 1.6% (Opare-Addo et al., 2020). Another study done amongst adults in a rural community in Nigeria showed diabetes to be in 25% of the rural participants and The elderly constituted majority (86.5%) of those with diabetes (Mezie-Okoye, 2013). Those with diabetes and hypertension made 68% of the total diabetic population (Mezie-Okoye, 2013). This ratio was similar to the value found in this study. This is not surprising because diabetes and hypertension are known to be risk factors of each other hence diabetes is regarded as a cardiovascular disease as well as an endocrine disorder (Mezie-Okoye, 2013).

A great number of disorders were seen in the elderly as displayed in *Table 4*. The WHO (2025) had reported in 2020 the number of people aged 60 years and older outnumbered children younger than 5 years. WHO (2025) noted the common conditions in older age include hearing loss, cataracts and refractive errors, back and neck pain and osteoarthritis, chronic obstructive pulmonary disease, diabetes, depression and dementia which this study has also highlighted as seen in *Table 4*. These are usually multiple occurring at the same time in the older adult and are referred to as geriatric syndromes due to multiple underlying factors. The top three conditions aside hypertension was malaria, arthritis and eye disorders. Malaria has been noted to be highly prevalent amongst older adults in Nigeria from studies done. Ikpae and Amadi (2021) reported 2.7%, Bello et al. (2023) had 4.6% while Fayehun and Salami (2014) had 27.5% as the prevalence of malaria in their studies. The difference rates may be due to the modality of diagnosis and the reports of improvement of symptoms such as fever and joint pains after self-medication by the elderly respondents. Arthritis is also major concern amongst the elderly as reported in studies globally. Varying prevalence of arthritis has been documented globally in different rural areas. Ikpae and Amadi (2021) had a lower with prevalence of 8.1%, in the south-southern part of Nigeria, Akinpelu et al. (2009) in the South-Western Nigeria had 19.6% and 15.8% amongst farmers in Alberta, Canada (Koucheh et al., 2024). Farming has been known to be highly associated with arthritis as studies have directly or indirectly shown (Koucheh et al., 2024; Ikpae and Amadi, 2021; Akinpelu et al., 2009). This study shows the older rural adults to be predominantly engaged in farming and farmers were more likely to have eye disorders which were statistically significant in this study. Farmers are prone to eye disorders from trauma from instruments such as hoe and cutlasses, attacks from animals, sand spill and foreign body in the eye. This can result in inflammation of different parts of the eye and cataract (Kyari, 2015). Eye disorders were not specified in majority of cases in this study however specific diagnoses made included refractive disorders, pterygium, presbyopia glaucoma and cataract. The study carried out by Ikpae and Amadi (2021) had higher prevalence of cataracts (16.2%) and presbyopia (24.3%) in Wiyaakara when compared to values from this study. Presbyopia was the commonest error of refraction occurring in 63.8% of the patients. Cataract (17.1%), allergic conjunctivitis (9.5%), glaucoma (8.6%) and corneal opacity (2.7%) were the most frequent ophthalmologic disorders encountered in another done in Okoboh (Wokoma et al., 2008). Presbyopia was the commonest error of refraction occurring in 72.9% of the patients with a mean age of 51.9±12.5 years. Glaucoma (19.4%) with a mean age of 55.1±20.8 years; Cataract

(11.1%) mean age 65.5±25.1years; allergic conjunctivitis (17.5%), mean age 41.5±21.4 years, and optic atrophy (5.6%), mean age 32.3±27.2 years respectively, were the most frequent ophthalmologic disorders encountered in the study done in Ogbodo (Wokoma and Ichenwo, 2011). All the three rural communities are in Khana, Abua Odual and Ikwerre Local Government Areas of Rivers State, Nigeria. This study was also carried out in a rural community in Rivers State however the non-specification of most of the eye disorders could account for the lower prevalence of presbyopia and cataract seen in other localities.

The body mass index (BMI) was not done for the participants however one participant stood out to be markedly obese. A higher proportion of those obese, overweight or underweight would have been identified if it was carried out in this study. The BMI has been linked to several co-morbidities even in older adults as seen in different studies in the elderly (Pepple and Amadi, 2023; Pepple et al., 2022; Ikpae and Amadi, 2021; Asekun-Olarinmoye et al., 2013). Skin complaints were few amongst the elderly as also noticed in other studies in the rural area within same West African region (Amadi, 2023; Ikpae and Amadi, 2021). Dermatitis was a common manifestation as seen in other studies done in rural areas in other parts of the world outside Africa (Zare et al., 2018). Dental diagnoses such as seen in *Table 4* were also made in this study. This is comparable to the study carried out by Ikpae and Amadi (2021) in Wiyaakara that showed chronic periodontitis and retro alveolar abscess occurring in 2.7% (1) each of the elderly population. Dental caries was also noted to be the highest cause of tooth mortality in rural elderly in Colarado, USA and it was associated with some social factors such as older age, lesser income and those without higher education (Tiwari et al., 2016). This finding is similar to the findings in this study with most participants with similar socio-demographics. Despite the various morbidities seen in this study there few without morbidity as seen in *Table 5*. This finding is similar to that done by Ikpae and Amadi (2021) who showed 13.5% of the elderly seen had no morbidity or health complaints and were classified as coming for routine health check seen across the different older age groups. It is possible that they may have had acute problems that have been cured or had successful interventions for chronic illness such as knee replacement therapy, using a herbal remedy or faith based remedies. They may have physiological changes which may or may not result in morbidities or their own morbidity is yet to be known or yet to be fully explored by doctors or were missed during examination or screening. On the positive note they may be the fortunate ones who have been blessed with the fountain of youth having good biological function despite their chronological age (Stella, 2021). Multiple morbidities appears to be the norm for older adults as seen in this study with majority having at least 2 diseases which affected one or more systems. The causes are usually multifactorial as noted by the WHO in her global assessment of the elderly. Other studies also report multiple morbidities among the elderly.

Conclusion

This study evaluated the health status of the elderly in an upland rural area in Nigeria who are faced with multiple morbidities as a result of complex biological and socio-economic challenges. More investment by the government and well-spirited individuals would alleviate the health challenges faced by elderly people. There is need for organised long lasting health care facilities for the elderly. In recommendations, there is

need for training health care workers in the understanding of the physiological decline and the care of the elderly. Health care services in the rural areas of Nigeria and the world at large should be established, improved and strengthened with facilities that enhance the health of older adults.

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Conflict of interest

The authors confirm that there is no conflict of interest involve with any parties in this research study.

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