

## Morbidity Pattern as Determinants of Functional Disability among Geriatric Patients attending the General Outpatient Clinic of Federal Medical Centre (FMC), Abeokuta

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### **Abstract**

**Objective:** This study aimed to examine the morbidity patterns as determinants of functional disability among geriatric patients attending the General Outpatient Clinic of Federal Medical Centre (FMC), Abeokuta.

**Methods:** A descriptive, cross-sectional, hospital-based study was conducted with 385 elderly patients (aged 60 years and above). We utilized a systematic random sampling technique. Data were collected using a structured questionnaire, Katz index of independence in activities of daily living (ADLs), and Lawton instrumental activities of daily living scale (IADLs). Logistic regression analysis was performed to assess the relationship between clinical characteristics and functional disability.

**Results:** The majority of respondents (54.2%) had cardiovascular diseases. A significant association was found between cardiovascular diseases and functional disability in both BADL ( $P=0.032$ ) and IADL ( $P=0.002$ ). Musculoskeletal and endocrine/metabolic diseases also showed a significant relationship with functional disability in IADL. However, other conditions like digestive, eye, ear, and psychological disorders did not show a significant impact on functional disability. Additionally, the presence of multiple morbidities and non-communicable diseases significantly correlated with functional disability, particularly in IADL.

**Conclusion:** The study highlights the significant impact of specific chronic diseases, particularly cardiovascular, musculoskeletal, and endocrine/metabolic disorders, on the functional capabilities of elderly patients. Managing these conditions is crucial for maintaining the functional independence of the elderly. The findings underscore the need for integrated chronic disease management programs and a multidisciplinary approach to geriatric care.

**Recommendations:** The study recommends the implementation of integrated chronic disease management programs, the establishment of multidisciplinary geriatric care teams, and the development of elderly-focused healthcare policies and infrastructure to improve the quality of life and functional independence of the elderly population.

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## Introduction

### Background to the Study

The exploration of morbidity pattern as determinants of functional disability among geriatric patients is a subject of paramount importance in contemporary healthcare research. This importance is highlighted by the global demographic shift towards an aging population, a trend that is particularly noticeable in developing countries, including Nigeria (World Health Organization, 2015). As this demographic change continues, understanding the health patterns of geriatric populations becomes crucial for the effective delivery of healthcare services and the formulation of targeted health policies (Adebusoye et al., 2011).

Geriatric patients, typically defined as individuals aged 60 years and above, represent a unique segment of the population with specific healthcare needs (Katz et al., 1963). The aging process is often accompanied by a decline in physiological reserves and an increased vulnerability to chronic diseases and multimorbidity, which is the co-occurrence of two or more chronic medical conditions (Fried et al., 2004; Gill et al., 2002). The Federal Medical Centre (FMC) in Abeokuta, Nigeria, serves a substantial number of these elderly patients, making it an ideal setting for studying the morbidity patterns in this demographic.

Morbidity patterns in the elderly are influenced by a variety of clinical factors, including the presence of chronic diseases, the severity of these diseases, and the presence of geriatric syndromes such as frailty, cognitive impairment, and functional disability (Guralnik et al., 1993; Gureje et al., 2006). These factors are critical in understanding the healthcare needs and resource utilization among the elderly population. For instance, chronic diseases such as hypertension, diabetes, and arthritis are prevalent among the elderly and significantly contribute to their morbidity burden (Millán-Calenti et al., 2010).

The impact of these chronic conditions is profound, influencing not only the physical health of the elderly but also their functional status and quality of life. The ability to perform activities of daily living (ADL) and instrumental activities of daily living (IADL) are essential markers of an elderly individual's functional status (Lawton & Brody, 1969). Research indicates a strong correlation between the decline in these functional capabilities and increased rates of hospitalization, and long-term care requirements (Gill et al., 2002). In the context of Nigeria, where healthcare resources may be limited, understanding these associations is crucial for healthcare planning (Adedokun & Olarinoye, 2012).

The prevalence of multimorbidity among the elderly in Nigeria poses a significant challenge to healthcare providers. Multimorbidity often leads to polypharmacy, increased healthcare costs, and a higher risk of adverse drug reactions, all of which complicate the management of elderly patients (Olowookere et al., 2014). Additionally, the social determinants of health, such as socioeconomic status, education, and access to healthcare services, play a vital role in the health outcomes of the elderly population (Spector & Fleishman, 1998).

In the Nigerian context, traditional family structures and social support systems have been changing, impacting the care and wellbeing of the elderly (Adebusoye et al., 2011). The shift from extended family care to more nuclear family settings in urban areas has implications for the social support available to the elderly, which in turn affects their health and functional status (Gureje et al., 2006).

Furthermore, the patterns of morbidity among the elderly in Nigeria may differ from those observed in more developed countries, owing to differences in lifestyle, genetics, environmental factors, and healthcare systems (Fried et al., 2004). Studies have shown that elderly populations in developing countries, including Nigeria, often face a double burden of

communicable and non-communicable diseases (Guralnik et al., 1993). This unique morbidity pattern necessitates a tailored approach to healthcare that addresses both sets of diseases.

The General Outpatient Clinic of the Federal Medical Centre in Abeokuta provides an opportunity to study these patterns in a real-world setting. Understanding the morbidity patterns among geriatric patients attending this clinic is essential for developing effective interventions and healthcare policies tailored to the needs of this population. The clinic's records and patient interactions provide valuable data for identifying prevalent conditions, understanding the complexity of multimorbidity, and assessing the impact of various clinical factors on the health and wellbeing of the elderly.

The study of morbidity pattern as determinants of functional disability among geriatric patients at FMC Abeokuta is not only crucial for local healthcare planning and delivery but also contributes to the broader understanding of geriatric health in a global context. The findings from such a study have the potential to inform healthcare providers, policymakers, and caregivers about the specific needs of the elderly, leading to improved healthcare outcomes and enhanced quality of life for this growing segment of the population.

### **Statement of the Problem**

The exploration of morbidity patterns among geriatric patients, especially in the context of developing countries like Nigeria, presents a complex array of challenges and concerns that are critical to address. As the population of elderly individuals continues to grow globally, with a significant increase in developing regions, there is an urgent need to understand the various factors contributing to morbidity in this demographic (World Health Organization, 2015). The General Outpatient Clinic of the Federal Medical Centre (FMC) in Abeokuta, Nigeria, offers a representative microcosm for studying these patterns due to its diverse patient population and the range of health issues presented.

One of the primary concerns in geriatric healthcare is the prevalence of multimorbidity, which refers to the coexistence of multiple chronic conditions in an individual (Guralnik et al., 1993). In the geriatric population, multimorbidity is not just common but is often accompanied by a range of complexities that exacerbate the healthcare burden. This phenomenon poses significant challenges for both patients and healthcare systems, leading to increased hospitalization rates, higher healthcare costs, and more complex clinical management, including the risk of polypharmacy and adverse drug reactions (Fried et al., 2004; Gill et al., 2002).

In Nigeria, like in many other developing countries, the healthcare system is grappling with the dual burden of communicable and non-communicable diseases. The elderly population is particularly vulnerable to this dual burden, complicating the morbidity profile (Gureje et al., 2006). Moreover, the traditional health care systems in these regions, often under-resourced and overburdened, are not optimally structured to address the multifaceted needs of an aging population (Adedokun & Olarinoye, 2012).

Another significant aspect of geriatric morbidity is the decline in functional status, including both basic and instrumental activities of daily living (ADLs and IADLs). The ability to perform these activities is a key indicator of an elderly individual's independence and quality of life (Lawton & Brody, 1969). Studies have consistently shown a correlation between reduced functional capabilities and increased dependency, institutionalization, and healthcare costs (Millán-Calenti et al., 2010). In the Nigerian context, where family-based care is traditionally

prevalent, the decline in functional status can have profound social implications, affecting the well-being of both the elderly and their caregivers (Adebusoye et al., 2011).

The aging process is also inherently associated with physiological changes that increase vulnerability to various health conditions. These changes can lead to increased frailty, a decline in cognitive functions, and susceptibility to geriatric syndromes, which further complicates the clinical management of elderly patients (Gill et al., 2002). In addition, socioeconomic factors, including access to healthcare, level of education, and income, significantly influence the health outcomes of the elderly. The disparities in healthcare access and quality of care contribute to the varied morbidity patterns seen in different segments of the elderly population (Spector & Fleishman, 1998).

In light of these challenges, the healthcare system in Nigeria, particularly at primary care facilities like the General Outpatient Clinic of FMC Abeokuta, faces the daunting task of adapting to the evolving needs of an aging population. This adaptation requires a comprehensive understanding of the morbidity patterns among geriatric patients, encompassing the identification of prevalent diseases, assessment of functional status, and recognition of the socio-economic factors influencing health outcomes.

However, there is a notable gap in the literature regarding the comprehensive study of morbidity patterns among the elderly in outpatient clinical settings in Nigeria. Most existing studies focus on community-based populations or specific health conditions, rather than the broader spectrum of morbidities presented in a clinical setting (Guralnik et al., 1993; Fried et al., 2004). Moreover, there is a lack of studies that integrate clinical factors with socio-demographic determinants to provide a holistic understanding of geriatric morbidity in this region.

Therefore, this study aims to fill this critical gap by providing comprehensive insights into the morbidity patterns among geriatric patients at the General Outpatient Clinic of FMC Abeokuta. This research is poised to contribute significantly not only to the local context of healthcare planning and policy development but also to the broader understanding of geriatric health and morbidity patterns in similar settings globally. The findings of this study are expected to inform healthcare practitioners, policymakers, and caregivers about the multifaceted needs of the elderly population, ultimately leading to improved healthcare strategies and better quality of life for this vulnerable segment of the society.

### **Aim and Objectives of the Study**

To examine morbidity pattern as determinants of functional disability among geriatric patients attending the General Outpatient Clinic of Federal Medical Centre (FMC), Abeokuta; The specific objectives of the study are as follows:

1. To determine the prevalence of functional disability among respondents in the BADL of geriatric patients attending the general outpatient clinic of Federal Medical Centre (FMC), Abeokuta.
2. To ascertain the prevalence of functional disability among respondents in the IADL of geriatric patients attending the general outpatient clinic of Federal Medical Centre (FMC), Abeokuta.

### **Research Questions**

This study was set out to answer the following questions

1. What is the prevalence of functional disability among respondents in the BADL of geriatric patients attending the general outpatient clinic of Federal Medical Centre (FMC), Abeokuta?
2. What is the prevalence of functional disability among respondents in the BADL of geriatric patients attending the general outpatient clinic of Federal Medical Centre (FMC), Abeokuta?

### **Hypotheses**

The following hypotheses were tested at 0.05 level of significance;

H<sub>01</sub>: There is no significant relationship between morbidity pattern and functional disability of respondents in the BADL of geriatric patients attending the general outpatient clinic of Federal Medical Centre (FMC), Abeokuta

H<sub>02</sub>: There is no significant relationship between morbidity pattern and functional disability of respondents in the IADL of geriatric patients attending the general outpatient clinic of Federal Medical Centre (FMC), Abeokuta

### **Methodology**

The study was carried out at the GOPC of the department of Family Medicine, Federal Medical Centre Abeokuta Ogun State South West Nigeria. This was a descriptive, cross-sectional, hospital based study of morbidity pattern and functional status among the geriatric patients attending the General Outpatient Clinic of Federal Medical Centre (FMC), Abeokuta. The study population consisted of newly registered adults aged 60 years and above attending the General Outpatient Clinic (GOPC) of FMC Abeokuta during the study period. The estimated population per year based on the number of newly registered adult patients aged 60 years and above that attended the clinic in 2016 was 1,920

Sample size was determined by applying the formula<sup>100</sup>

$$(n) = z^2 p q / d^2$$

Thus, a sample size of 350 was used. However, in order to allow for drop-outs during recruitment, an attrition value of 10% (35) was added to the minimum sample size. This gave a sample size of 385 participants that was recruited for the study. A systematic random sampling technique was used to select 385 elderly patients for this study. The first person was selected from the first two elderly patients arriving at the GOPC on each day by simple random sampling (balloting). Thereafter, every consenting second elderly person was recruited until the required number (385) was achieved. Patients who refused to give consent or did not meet the inclusion criteria were replaced with the next eligible patient. Using this procedure, each elderly patient in the population had a known probability of selection.

An informed written consent was obtained from all study participants.

Data was collected by principal investigator using the following tools:

1. Questionnaire to collect data on socio-demographic characteristics, lifestyle factors, morbidity pattern and physical examination.
2. Katz index of independence in activities of daily living scale (Katz ADLs) to collect data on functional status.
3. Lawton instrumental activities of daily living scale (IADLs) to collect data on functional status.

The pre-testing of the questionnaire was conducted on 38 elderly patients who were selected randomly from the above clinic and it lasted for 2 days. The pre-testing was done to find out

how the questionnaire would interact with the respondents and ensured that there were no ambiguities. Necessary adjustment was made after the pre-test. The instrument had an inter-rater reliability of 0.85. The validity of the Lawton IADL tested by determining its correlation with other scales measuring domains of functional status is significant at the 0.01 or 0.05 level. All information collected was entered into a computerized database and analysed using Statistical Package for Social Sciences (SPSS) software version 22.0. The morbidity pattern of the respondents were described using appropriate tables and charts. To determine the association between functional status and each independent variable, Chi square test analysis was done.

## RESULTS

### Clinical Characteristics of the Study Population

**Table 1: Clinical Characteristics of the study population**

Variables	Categories	Frequency (%)	
Identified Morbidities at the time of study	General	16 (4.2)	
	Cardiovascular	206 (54.2)	
	Digestive	10 (2.6)	
	Eye	60 (15.8)	
	Ear	22 (5.8)	
	Musculoskeletal	73 (19.2)	
	Respiratory	26 (6.8)	
	Endocrine /metabolic	69 (18.2)	
	Psychological	20 (5.3)	
	Male genital	25 (6.6)	
	Female genital	5 (1.3)	
	Skin	6 (1.6)	
	Presence of multiple morbidities	Yes	71 (18.2)
		No	314 (81.8)
Presence of non communicable diseases	Yes	325 (84.4)	
	No	60 (15.6)	
Presence of common chronic non communicable diseases among correspondents	Hypertension	109 (28.7)	
	Cardiovascular disease	16 (5.3)	
	Diabetes mellitus	68 (17.1)	
	Stroke	20 (5.3)	
	Osteoarthritis	36 (9.5)	
	Cancer	10 (2.6)	
	Cataract	43 (11.3)	
	Glaucoma	9 (2.4)	
	Dementia	8 (2.1)	
	Chronic obstructive pulmonary diseases (COPD)	6 (1.6)	



Body mass index ( kg/m <sup>2</sup> )	Underweight(<18.5)	27 (6.8)
	Normal weight(18.5-24.9)	194 (50.5)
	Over weight(25.0-29.9)	112 (29.3)
	Obese (≥30.0)	52 (13.4)

The large proportion of the respondents (54.2%) had cardiovascular disease. Very few of the respondents (18.2%) had multiple morbidities. Among the study participants, 325 (84.4%) respondents presented with non communicable diseases (NCD). Among the chronic NCD, hypertension ranked highest 109 (28.7%) followed by diabetes mellitus 68 (17.1%) and cataract 43 (11.3%). Over 40% of the respondents were overweight and obese using body mass index (BMI ≥ 25.0 kg/m<sup>2</sup>).

### Analyses of Research Questions

**Research Question 1:** What is the Pattern of Functional Status in the Basic Activity of Daily Living (BADL) of geriatric patients attending the general outpatient clinic of Federal Medical Centre (FMC), Abeokuta?

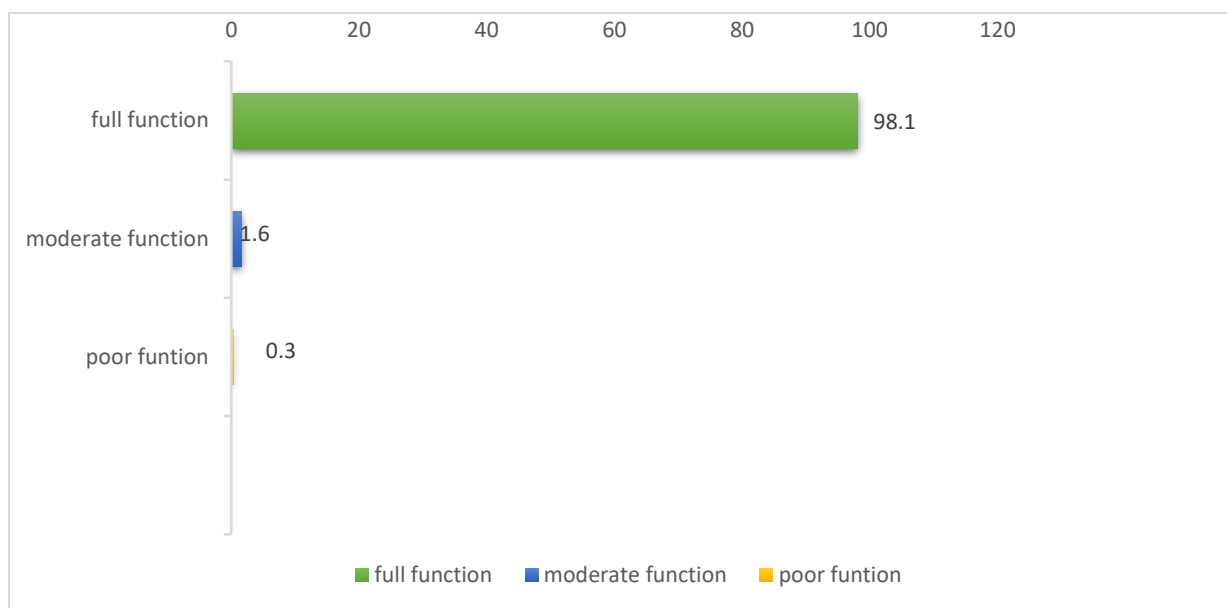


Figure 1 represents the pattern of functional status among the respondents in BADL. Majority of the respondents [n=373 (98.1%)] achieved full functioning in BADL. The detail of the pattern of functional status in BADL is illustrated in figure 1.

**Research Question 2:** What is the Pattern of Functional Status in the Instrumental Activity of Daily Living (IADL) of geriatric patients attending the general outpatient clinic of Federal Medical Centre (FMC), Abeokuta?

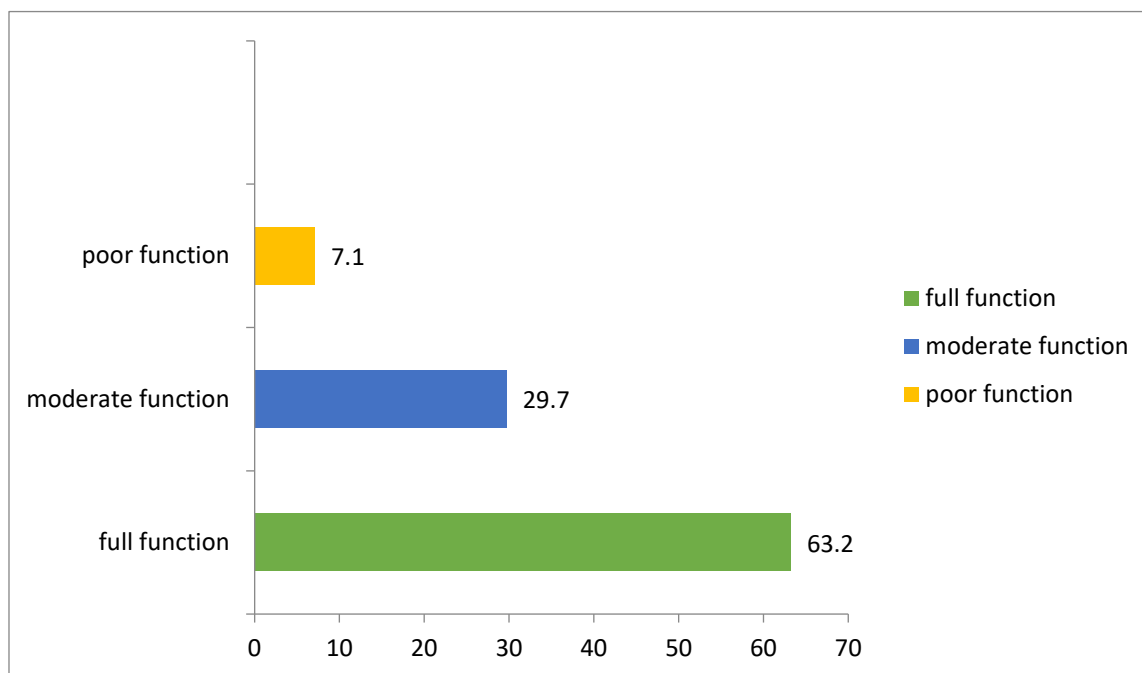


Figure 2 represents the pattern of functional status among the respondents in IADL. Two hundred and forty [n=240 (63.2%)] respondents achieved full functioning activities in IADL. The detail of the pattern of functional status in IADL is illustrated in figure 2.

### Test of Hypothesis

**H<sub>01</sub>:** There is no significant relationship between morbidity pattern and functional disability of respondents in the BADL of geriatric patients attending the general outpatient clinic of Federal Medical Centre (FMC), Abeokuta.

**Table 3: Logistic regression analysis of morbidity pattern and functional disability of respondents in the BADL of geriatric patients**

Variables	Categories	Full function	Functional disability (poor and moderate function)	X <sup>2</sup>	Df	P-value
General	Yes	21 (100.0)	0 (0.0)	0.359	1	0.549
	No	356 (97.8)	8 (2.2)			
Digestive	Yes	15 (100.0)	0 (0.0)	0.221	1	0.638
	No	362 (97.8)	8 (2.2)			
Eye	Yes	68 (97.1)	3 (2.9)	0.281	1	0.596
	No	307 (98.1)	7 (1.9)			
Ear	Yes	27 (100.0)	0 (0.0)	0.502	1	0.479
	No	350 (97.8)	8 (2.2)			
Musculoskeletal	Yes	75 (98.6)	3 (1.4)	0.237	1	0.626
	No	300 (97.7)	7 (2.3)			
Cardiovascular	Yes	200 (97.1)	6 (2.9)	1.423	1	0.233



Respiratory	No	175 (98.90)	4 (1.1)	0.410	1	0.522
	Yes	28 (96.2)	3 (3.8)			
Endocrine/metabolic	No	347 (98.0)	7 (2.0)	0.257	1	0.612
	Yes	69 (97.1)	5 (2.9)			
Psychological	No	305 (98.1)	6 (1.9)	0.858	1	0.354
	Yes	22 (95.0)	3 (5.0)			
Male genital	No	353 (98.1)	7 (1.9)	0.675	1	0.411
	Yes	34 (100.0)	0 (0.0)			
Female genital	No	343 (97.7)	8 (2.3)	0.109	1	0.741
	Yes	10 (100.0)	0 (0.0)			
Skin	No	367 (97.9)	8 (2.1)	3.272	1	0.056
	Yes	8 (83.3)	3 (16.7)			
Multiple morbidity	No	367 (98.1)	7 (1.9)	0.176	1	0.675
	Yes	71 (98.6)	3 (1.4)			
	No	304 (97.7)	7 (2.3)			

Fischer's exact test.

Table 2 of the study examines the relationship between functional disability and the morbidity pattern of respondents in Basic Activities of Daily Living (BADL) among geriatric patients attending the general outpatient clinic of the Federal Medical Centre (FMC) in Abeokuta. This analysis investigates whether various health conditions impact the ability of elderly patients to perform basic daily tasks.

The data shows that in almost all health categories assessed—including general health, digestive issues, eye conditions, ear problems, musculoskeletal, cardiovascular, respiratory, endocrine/metabolic, psychological, male and female genital issues, and skin conditions—there was no significant relationship between the presence of these conditions and functional disability in BADL. For example, in the general health category, 100% of those with general health issues and 97.8% of those without such issues had full function in BADL, indicating no significant functional disability ( $P=0.549$ ). This trend was consistent across other health categories, such as digestive ( $P=0.638$ ), cardiovascular ( $P=0.233$ ), and respiratory ( $P=0.522$ ), where the presence of these conditions did not significantly impact the respondents' ability to perform basic daily tasks.

One notable observation, however, was in the skin condition category, where there was a slight indication of a trend, with 83.3% of those with skin conditions having full function compared to 98.1% without such conditions. Although this did not reach statistical significance ( $P=0.056$ ), it suggests a potential area for further exploration. Overall, the study found no significant association between functional disability in BADL and the various morbidity patterns assessed. This indicates that the presence of these health conditions, in general, does not significantly impair the ability of the elderly patients at FMC Abeokuta to perform basic activities of daily living.

**H<sub>02</sub>:** There is no significant relationship between morbidity pattern and functional disability of respondents in the Instrumental Activity of Daily Living (IADL) and socio-demographic factors of geriatric patients attending the general outpatient clinic of Federal Medical Centre (FMC), Abeokuta.

**Table 4: Logistic regression analysis of morbidity pattern and functional disability of respondents**

Variables	Categories	Full function	Functional disability (poor and moderate function)	X <sup>2</sup>	Df	P-value
General	Yes	16 (81.2)	5 (18.8)	2.350	1	0.125
	No	227 (62.4)	137 (37.6)			
Digestive	Yes	10 (80.0)	5 (20.0)	1.252	1	0.263
	No	232 (62.7)	138 (37.3)			
Eye	Yes	39 (52.9)	34 (47.1)	3.715	1	0.054
	No	204 (65.4)	108 (34.6)			
Ear	Yes	16 (59.1)	11 (40.9)	0.166	1	0.684
	No	227 (63.4)	131 (36.6)			
Musculoskeletal	Yes	50 (65.8)	28 (35.2)	0.262	1	0.609
	No	192 (62.5)	115 (37.5)			
Cardiovascular	Yes	131 (62.6)	80 (37.4)	0.056	1	0.813
	No	111 (63.8)	63 (36.2)			
Respiratory	Yes	12 (42.3)	16 (57.7)	5.214	1	<b>0.022</b>
	No	230 (64.7)	127 (35.3)			
Endocrine/metabolic	Yes	47 (65.2)	27 (34.8)	0.154	1	0.695
	No	195 (62.7)	116 (37.3)			
Psychological	Yes	16 (65.0)	9 (35.0)	0.031	1	0.861
	No	227 (63.1)	133 (36.9)			
Male genital	Yes	18 (65.2)	16 (44.8)	0.860	1	0.354
	No	224 (63.8)	127 (36.2)			
Female genital	Yes	7 (80.0)	3 (20.0)	0.618	1	0.432
	No	236 (62.9)	139 (37.1)			
Skin	Yes	7 (66.7)	3 (33.3)	0.032	1	0.857
	No	236 (63.1)	138 (36.9)			
Multiple morbidity	Yes	45 (60.9)	29 (39.1)	0.190	1	0.663
	No	198 (63.7)	113 (36.3)			

Fischer's exact test.

statistical significance (*Chi-Square Test*)

The study presented in Table 6 explores the relationship between functional disability and the morbidity pattern of respondents in the Instrumental Activities of Daily Living (IADL) among geriatric patients at the Federal Medical Centre (FMC) in Abeokuta. The table categorizes various health conditions and compares the proportion of patients with full function in IADL to those with functional disability (poor and moderate function).

In several health categories, including general health, digestive, musculoskeletal, cardiovascular, endocrine/metabolic, psychological, male and female genital, and skin conditions, the study found no significant relationship between the presence of these conditions and functional disability in IADL. For instance, in the general health category, 81.2% of those with general health issues and 62.4% of those without reported full function, with no significant difference in functional disability observed (P=0.125). Similarly, in the cardiovascular category, 62.6% of patients with cardiovascular issues and 63.8% without them had full function, also showing no significant relationship (P=0.813). These findings were echoed

across other mentioned health categories, where the presence of specific health conditions did not significantly affect the functional ability in IADL.

However, the study revealed a statistically significant relationship in the respiratory category, where 42.3% of those with respiratory issues had full function in IADL compared to 64.7% of those without such issues, indicating a higher prevalence of functional disability among patients with respiratory conditions ( $P=0.022$ ). In contrast, for conditions related to the eyes and ears, the differences in functional ability were not statistically significant but were suggestive of a trend, with lower full function rates observed among those with eye (52.9% with full function) and ear (59.1% with full function) conditions compared to those without (65.4% and 63.4%, respectively). These findings indicate a potential impact of certain health conditions, specifically respiratory issues, on the functional abilities of elderly patients in IADL, warranting further investigation and consideration in geriatric care.

## Discussion

In this study, more than half of the respondents (54.2%) had cardiovascular disease as the most common morbidity presented at the clinic. This prevalence is similar to findings in other studies done in Nigeria (Cadmus, 2017; Udor & Idung, 2014) and India (Agrawal et al., 2011; Iloh et al., 2013)]. It's not surprising that hypertension (28.7%) is the most common chronic NCD in this study, aligning with findings by Egbewale et al. (2019) in Osun, Western Nigeria. Hypertension has been reported to be the most common cause of cardiovascular disease in the geriatric population (Seedat et al., 2014; Iloh & Amadi, 2013).

Musculoskeletal problems were the second most common (19.2%) cause of morbidity among the elderly, with osteoarthritis being the most common musculoskeletal problem (9.5%). This observation aligns with other studies in Nigeria (Iloh et al., 2013; Fadare et al., 2013; Seedat et al., 2014) and in developed nations (Klijs et al., 2011). Age-related musculoskeletal changes promote the development of these disorders among the elderly.

Metabolic disorders were the third most common morbidity (18.2%), with diabetes mellitus (17.1%) being the most prevalent, comparable to rates in Uyo, South-South, Nigeria (Udor & Idung, 2014). Diseases of the eyes accounted for 15.8% of morbidity, with cataract (11.3%) being major. This finding, although significant, showed a lower prevalence compared to Adebusoye et al.'s study in Ibadan.

Approximately two-fifths (42.7%) of respondents were overweight or obese. This rate is comparable to findings in Ibadan, South Western, Nigeria (Adebusoye et al., 2012). Dietary habits and minimal physical activity are key contributors to obesity in the elderly (Adebusoye et al., 2012).

Regarding lifestyle factors, few (7.6%) study participants were currently drinking alcohol, comparable to studies in Nigeria (Omotara et al., 2015) and Africa (Peltzer & Phaswana-Mafuya, 2013), but contrasting with higher rates in developed nations (Comijs et al., 2012). Only 1.1% were currently smoking, lower than rates in Borno and Adamawa, North-Eastern Nigeria (Omotara et al., 2015), but in contrast to higher rates in developed countries (Thun et al., 2012).

The small proportion (17.6%) practicing regular exercise contrasts with Omotara et al.'s (2015) and Aro et al. in South Africa (2018). Regular exercise is crucial for improving functional capacity in the elderly (Aro et al., 2018).

Advanced age was a predictor of functional disability in the IADL (Mellouli et al., 2017; Lasisi & Gureje, 2010; Ajayi et al., 2015), with functional capacity declining as age advances. Women were more likely to have functional disability in the IADL (Gureje et al., 2011; Carmona-Torres et al., 2019), likely due to higher life expectancy and health challenges. Widowhood and low levels of education were also associated with higher rates of functional disability (Gureje et al., 2011; Cwirlej-Sozanska et al., 2019; Ajayi et al., 2015). Socio-economic status influenced health conditions and functional capacity, with poorer elderly experiencing more disability (Brito et al., 2015; Santos et al., 2015). Regular exercise was linked to reduced functional disability in the IADL (Cwirlej-Sozanska et al., 2019), but smoking and alcohol consumption had complex relationships with functional disability (Nunes et al., 2017; Leon-Munoz et al., 2016). Respiratory diseases were associated with functional disability in the IADL, but not independently predictive (Sahin et al., 2015)."

In this study, respiratory disease was associated with functional disability in IADL. However, with logistic regression respiratory disease was not independently predictor of functional disability among respondents in IADL. This is similar to findings by Sahin et al<sup>154</sup> at family medicine clinic in Turkey, where he reported that respiratory diseases had a negative effect on IADL among elderly. This finding might be due to the possibility of the patient's exposure to the particles in the open air especially when shopping. Also due to the air pollutant in our environment from bush burning, dust and smoking (secondary smokers) may contribute to decline in their functional capacity. This study showed no association between morbidity pattern and functional disability among respondents in BADL.

## **Conclusion**

This study revealed several notable observations: Firstly, a considerable lack of exercise was observed among the respondents, which is a concerning health aspect. In the realm of Instrumental Activities of Daily Living (IADL), functional disability was significantly associated with several factors. These include advanced age, female gender, being a widow or widower, lower income levels, absence of formal education, lack of exercise, cigarette smoking, alcohol consumption, and the presence of respiratory diseases. Notably, among these factors, being female, advanced age, and lack of education emerged as independent predictors of functional disability in IADL. This highlights the need for targeted interventions and support systems that address these specific risk factors to improve the functional capabilities and overall well-being of the geriatric population.

## **Recommendations**

Based on the findings of the study, the following recommendations were made:

1. All head of health institutions should provide special clinic (geriatric clinic) for this group of people as they are seeking for health needs in our various health centers.
2. Government should provide free health services for the elderly in our various health institutions as it is done in developed countries.
3. Geriatric care should be developed in Nigeria with the inclusion in medical school curriculum. Family physicians should be encouraged to subspecialize in geriatric care medicine.

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