

# Assessment of reasons for encounter among elderly patients attending a tertiary hospital in Southern Nigeria.

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## ABSTRACT

**Background:** Reasons for encounter refer to the reasons why a patient seeks health care. Understanding individual expectations makes it possible for an individualized response that patients value and which determines the effectiveness of treatment. Assessment of reasons for encounter among geriatric patients in a primary care setting may provide an interesting perspective. The aim of this study was to assess the reasons for encounter among elderly patients attending the Geriatric Clinic of a hospital in southern Nigeria.

**Methods:** A cross sectional study was conducted in which two hundred and fifty new patients aged 65 years and above were recruited over three months. A questionnaire was used to obtain sociodemographic data. Reasons for encounter data was collected using a structured checklist based on second version of the International Classification of Primary Care (ICPC-2-E). SPSS version 18 was used for data analysis.

**Results:** Participants' age ranged from 65 years to 99 years with mean age of  $72.3 \pm 7.33$  years. There were 140 females and 110 males with a female to male ratio of 1.2:1. A total of 1,457 Reasons for encounters were seen among the 250 participants. This gave an average of six reasons for encounter per participant. The top three commonest reasons for encounter among the chapters were related to the musculoskeletal system, digestive system and cardiovascular system.

**Conclusion:** This study shows the frequency and distribution of health complaints in the elderly commonly encountered in primary care. This is a reflection of the individual patients' perceived needs, and priorities regarding their health problem in our practice setting.

**Contribution:** Understanding the reasons for encounter across a primary care population is essential for the development of people-centred health services.

**Keywords:** Elderly, geriatric, primary care, presenting complaint, reasons for encounter.

## INTRODUCTION

Over the next three decades, the global number of older persons is projected to more than double, reaching over 1.5 billion persons in 2050.<sup>1</sup> All regions will see an increase in the size of their older population between 2019 and 2050.<sup>1</sup> Africa has the highest rate population growth with projections estimating that the continent will double her elderly population between 1998 and 2050 unlike the one-third growth in the elderly population projected for developed countries during the same period.<sup>2</sup>

Sub-Saharan Africa, including Nigeria, is generally still at the second stage of demographic transition, where the death rate begins to drop amidst a birth rate that remains high. This leads to a growing population with a longer life expectancy and thus a larger population

of elderly people. The increasing elderly population in sub-Saharan Africa has led to an increased demand for health and social services.<sup>3</sup>

With this demographic reality and its attendant challenges it will be a major challenge for Nigeria to meet the health care needs of the older adults.<sup>4,5</sup> Aging is characterized by rising susceptibility to development of multiple chronic diseases and, therefore, represents the major risk factor for multimorbidity.<sup>6</sup> The elderly are at a high risk for disease and disability, this aging population will place urgent demands on a developing countries' health care systems, most of which are ill-prepared for such demands.<sup>7</sup> As the proportion of elderly age group rises, the epidemiological profiles of Nigerians will invariably reflect the diseases and health problems of this group of senior citizens.<sup>8</sup> Adebuseye et al. in a

study on morbidity pattern amongst elderly patients presenting at a primary care clinic in Nigeria reported that the most prevalent health problems of the elderly were chronic medical illnesses like hypertension, cataracts, osteoarthritis and psychosomatic disorders.<sup>3</sup>

Reasons for encounter (RFE) or patients' presenting complaint refer to the reasons why a patient seeks health care; whether due to a symptom or complaint, follow-up on a known problem, request for screening or diagnostic investigations, request for medical management or administrative procedures such as making referrals or issuing medical certificates.<sup>9</sup> RFE is important in the patient-centred approach as it takes into consideration the patient's perspective of why he or she seeks health services.<sup>9</sup> RFE are obtained based on three major types of complaints; namely (i) symptoms, (ii) a follow-up on a known diagnosis and (iii) a procedure or administrative request.<sup>9</sup>

Understanding individual expectations makes it possible for an individualized response that patients value and which determines the effectiveness of treatment. Therefore, it is important that physicians understand what it was that made the patient decide to come and consult, and that they are skilled to explore this.<sup>10</sup>

For centuries, medical science evolved around the nosology and pathophysiology of single diseases and devoted little or no study to the coexistence of multiple chronic conditions in a single patient.<sup>6</sup> Progressively, it has become clear that the paradigm of "1 patient–1 disease" no longer fits the medical necessities and needs of most patients, and that a more holistic, patient-centered view should be developed.<sup>6</sup> The ICPC, which was developed by the ICPC Working Party, broke new ground in the world of classification when it was published by WONCA in 1987. It enabled health care providers to classify three important elements of the health care encounter using a single classification: the reasons for encounter, diagnoses or problems, and the process of care. The problem orientation of the medical record and a linkage of encounters over time permit the classification of the episode from the beginning, starting with the RFE, to its conclusion with a more defined problem, diagnosis or disease.<sup>11</sup> These ICPC-2 classifications are suitable for undifferentiated problems in the primary care setting,<sup>12</sup> and it is internationally recognized as the best tool for coding primary care medical encounters.<sup>13</sup> In this respect, ICPC is a unique instrument to collect person-centred data for research and patient care. Ayankogbe et al. carried out a study to assess ICPC-2- defined pattern of

illnesses among patients in urban Lagos, Nigeria. The seven topmost reasons for visiting the medical practice/clinic/hospital were: General and unspecified, pregnancy, child bearing and family planning, respiratory problems, problems related to the digestive system, musculoskeletal, skin and neurological problems.<sup>11</sup>

Researches are emerging globally, but there is still little published works available on the situation in sub-Saharan Africa.<sup>11</sup> This is a critical knowledge gap, since primary care is the first and most frequently consulted health care facility and constitutes the scaffold of health care delivery. Primary care practice by virtue of its continuity, comprehensiveness and coordination is the most ideal setting for delivering optimal care needed by patients with multiple chronic conditions.<sup>14</sup> Therefore, a cross-sectional review of reasons for encounter among patients 65 years of age and older in primary care setting may provide an interesting perspective.

With an increasing elderly population in Nigeria, better documentation of their health profiles would be required to inform policy makers of the health problems they present with. Knowledge of the reasons for encounter will be needed to provide evidence for developing policies on health services planning. This is necessary for any meaningful plan of action targeted at providing quality healthcare for this section of the population.

## **MATERIALS AND METHODS**

### **Study design and setting**

The study was a cross-sectional study which assessed the reasons for presentation among elderly patients attending the Geriatric Clinic of the Family Medicine Department, Federal Medical Centre, Asaba in Southern Nigeria. The clinic serves as a primary care clinic within a tertiary institution. The study was conducted over a period of three months (1st of February to 30th of April 2019).

### **Study population**

All new patients aged 65 years and above who presented to the Geriatric Clinic during the study period.

### **Sample size estimation**

The sample size was derived using the formula for estimating minimum sample size for descriptive studies when studying proportions with entire population size <10,000,<sup>15</sup> using estimated population of 600 geriatric patients obtained from hospital medical records department over the study

period. Due to the multivariate nature of the burden and pattern of illnesses presenting in family physician primary care practices, and assuming that 50% of the geriatric patients would have at least one reason for encounter at 95% confidence level and 5% margin of error, a sample size of 234 subjects was estimated as the minimum sample size to arrive at a valid conclusion. However, 250 respondents were enrolled for the study.

### Sampling strategy

For the survey a non-probability convenience sampling method was used. From the hospital medical records, the Geriatric Clinic attends to an average of 20 patients each clinic day of which about 10 of them are new patients. The clinic runs Monday to Friday, this translated to 50 new patients per week, 200 new patients in a month and 600 new patients in three months. From this pool consecutive new patients attending the Geriatric Clinic during the study period were recruited. The patients and their caregivers that did not consent to participate were excluded from the study. The case file of those recruited were tagged with a green ribbon at the top right hand corner. This was to ensure that no patient would be selected twice. Data collection: A questionnaire was used to collect sociodemographic data covering age, gender, marital status and who accompanied patient to the hospital. The age of the respondents was determined by direct recall, where this was not possible association with historical events, age at marriage and age at birth of their first child was employed. RFE data (whether due to a symptom or complaint, follow-up on a known problem, request for screening or diagnostic investigations, request for medical management or administrative procedures) was collected using a structured checklist based on second version of the International Classification of Primary Care (ICPC-2-E) questionnaire as developed by the World Organization of Family Doctors.<sup>3,16</sup> The questionnaire and the ICPC-2-E based checklist were interviewer administered by resident doctors in the Geriatric Clinic. They were trained by the researchers to familiarize them with the use of the ICPC-2-E checklist for harmonization. The ICPC-2-E checklist has previously been used in an African study.<sup>3</sup> The ICPC-2-E assesses health problems related to (1) general signs and unspecified (2) blood (3) digestive system (4) eyes (5) ears (6) cardiovascular system (7) musculoskeletal system (8) mental/psychological illness (9) neurological (10) respiratory system (11) skin (12) endocrine/metabolic and nutritional functions (13) genitourinary system (14) social problems. Health problems were self-reported. Caregivers were interviewed in some older persons who may have

cognitive dysfunction and also to avoid under-reporting.

### Data Analysis

The data was cleaned and imputed into the computer. Analysis was done using Statistical Package for Social Science version 18 (Statistics for Windows, Chicago: SPSS Inc). Descriptive statistics was used to describe sociodemographic characteristics of the participants. Appropriate tables were used to illustrate categorical variables.

### Ethical consideration

Ethical approval was obtained from the Ethics and Research Committee of Federal Medical Centre, Asaba (FMC/ASB/A81 VOL. XII/296). Written informed consent was obtained from all respondents and their caregiver where applicable following an explanation of the study aim and procedures before administration of the questionnaire. Necessary steps were taken to preserve patient anonymity and confidentiality. Willingness or unwillingness to participate in the study in no way interfered with the patients' management.

### RESULTS

A total of two hundred and fifty (250) geriatric participants were recruited for the study. Of this 110 (44.0%) were males and 140 (56.0%) were females. The participants' population consisted of more females than males with a female to male ratio of 1.2:1. The age of the participants ranged from 65 years to 99 years with mean age of  $72.3 \pm 7.33$  years. The highest percentage of participants in the study was represented by the age range 65 - 74 years old (63.6%), while those that were equal to or above 85 years of age had the lowest representation. Most were married (58.0%) and majority of them were accompanied to the hospital (84.8%). (Table 1)

**Table 1: Socio-demographic characteristics of the subjects.**

Variables	N	%
Age (Yeas)		
65-74	159	63.6
75-84	80	32.0
≥85	11	4.4
Gender		
Male	110	44.0
Female	140	56.0
Marital Status		
Single	3	1.2
Married	145	58.0
Divorced	6	2.4
Widowed	96	38.4

Who accompanied the patient to the clinic

Came alone	38	15.2
Came with someone	212	84.8

There was a total of 1,457 reasons for encounters (RFE) reported among the 250 participants in the study. Majority of the participants had more than one RFE. This gave an average of 6 RFE per participant. (Table 2)

**Table 2: Reasons for encounter by ICPC 2 chapters in order of the most frequent RFE within the different chapters (N=1,457<sup>†</sup>)**

Reasons for encounter	n	n/N%
Musculoskeletal	273	18.7
Digestive	225	15.5
Cardiovascular	176	12.1
Eyes	160	11.0
General and unspecified	144	9.9
Neurological	131	9.0
Respiratory	90	6.2
Genitourinary	72	4.9
Social problems	60	4.1
Blood	32	2.2
Endocrine/metabolic and nutritional	32	2.2
Ear	31	2.1
Mental/psychological	21	1.4
Skin	10	0.7

<sup>†</sup> Some participants presented with multiple reasons for encounter

The commonest RFE among the chapters were related to the musculoskeletal system (273 RFE) which was 18.7% of all RFE. This was closely followed by RFE related to the digestive system (225) which was 15.5%, cardiovascular system related RFE came next (176) at 12.1% and the least RFE was related to Skin conditions (10) which was 0.7%. (Table 2)

**TABLE 3a: Reasons for encounter by ICPC 2 chapters in order of the most frequent individual RFE within chapter (N=1,457<sup>†</sup>)**

Reasons for encounter	n (Number of reasons for encounter observed within each chapter)	Percentage of all reasons for encounters (n/N %)
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**MUSCULOSKELETAL**

Joint pains	106	7.3
Back pain	65	4.4

Osteoarthritis	39	2.7
Previous RTA	36	2.4
Limitation of function	14	1.0
Neck pain	6	0.4
Others	4	0.3
Fall at home	3	0.2
<b>DIGESTIVE</b>		
Heartburn	59	4.0
Abdominal pain	46	3.1
Indigestion	38	2.6
Constipation	24	1.7
Teeth and gum	14	1.0
Vomiting	10	0.7
Diarrhoea	7	0.5
Flatulence	7	0.5
Hernia	7	0.5
Swallowing problems	6	0.4
Bleeding from the anus	4	0.3
Abdominal distension	3	0.2
<b>CARDIOVASCULAR</b>		
Hypertension	110	7.6
Pedal swelling	30	2.1
Limitation of movement	17	1.1
Fear of heart disease	10	0.7
Palpitation	6	0.4
Others	3	0.2
<b>EYES</b>		
Poor vision	71	4.8
Excessive tearing	23	1.6
Cataract	22	1.5
Eye pain	16	1.1
Abnormal eye sensation	10	0.7
Eye swelling	7	0.5
Redness of the eyes	4	0.3
Other eye problems	4	0.3
Abnormal eye movement	3	0.2

<sup>†</sup>Some participants presented with multiple reasons for encounter

**TABLE 3b: Reasons for encounter by ICPC 2 chapters in order of the most frequent individual RFE within chapter (N=1,457<sup>†</sup>)**

Reasons for encounter	n (Number of reason for encounter observed within each chapter)	Percentage of all Reasons For Encounters (n/N %)
<b>GENERAL AND UNSPECIFIED</b>		
Fever	56	3.9
Poor appetite	34	2.3
Feeling ill	23	1.6
Weight loss	12	0.8
Fear of treatment	7	0.5
Health maintenance	5	0.3
Allergy	4	0.3
Functional limitation	3	0.2
<b>NEUROLOGICAL</b>		
Headache	88	6.0
Feeling depressed	14	1.0
Sleep disturbances	13	0.9
Vertigo	9	0.6
Shaky hands	4	0.3
Crawling sensation	3	0.2
<b>RESPIRATORY</b>		
Chest pain	28	2.0
Severe cough	19	1.3
Breathlessness	12	0.8
Past CXR	10	0.7
Asthma	6	0.4
Foul smelling sputum	5	0.3
Chest tightness	4	0.3
Nasal congestion/sneezing	3	0.2
Others	3	0.2

<sup>†</sup>Some participants presented with multiple reasons for encounter

**TABLE 3c: Reasons for encounter by ICPC 2 chapters in order of the most frequent individual RFE within chapter (N=1,457<sup>†</sup>)**

Reasons for encounter	n (Number of reasons for encounter observed within each chapter)	Percentage of all reasons for encounter (n/N %)
<b>GENITOURINARY</b>		
Urinary frequency	25	1.7
Difficulty in passing urine	17	1.2
Decreased sexual fulfilment	9	0.6
Incontinence	9	0.6
Painful urination	6	0.4
Hematuria	3	0.2
Past history of STI	3	0.2
<b>SOCIAL PROBLEMS</b>		
Financial problems	40	2.7
Welfare problems	17	1.2
Health care access problems	3	0.2
<b>BLOOD</b>		
Previous transfusion	25	1.7
Bleeding problems	4	0.3
Anaemia	3	0.2
<b>ENDOCRINE</b>		
Diabetes mellitus	32	2.2
<b>EAR</b>		
Hearing problems	17	1.1
Ear pain	7	0.5
Ear discharge	4	0.3
Ringing sensation	3	0.2
<b>MENTAL/PSYCHOLOGICAL</b>		
Forgetfulness	10	0.6
Tobacco abuse	4	0.3
Reduced sexual drive	4	0.3
Alcohol abuse	3	0.2
<b>SKIN</b>		
Rashes	7	0.5
Burns and scald	3	0.2

<sup>†</sup>Some participants presented with multiple reasons for encounter



The top ten most frequent individual RFE within chapter were hypertension which makes up 7.6% of all RFE, this was followed by joint pains which was 7.3% and headache was next at 6.0%, the others were poor vision (4.8%), heartburn (4.0%), fever (3.9%), financial problems (2.7%), diabetes mellitus (2.2%), chest pain (2.0%), urinary frequency (1.7%) and previous transfusion (1.7%) (Table 3a, Table 3b and Table 3c)

## DISCUSSION

This study explored the reasons for encounter (RFE) or the reasons why geriatric patients seek health care. Geriatrics are known to present with multiple complaints and morbidities.<sup>6</sup> The findings of multiple RFE per participant in this study were similar to reports from earlier studies among geriatric populations in Nigeria. Adebuseye et al found an average of 1.7 health problems per respondent (range 1-6 Health problems) based on the self-reported health problems, this was much lower than the 6 RFE per respondent obtained from this study. The reason for the disparity may be because the elderly in their study were said to often under-report their health problems and may attribute certain health problems to ageing, thus finding it unnecessary to complain about them to a physician.<sup>3</sup> In this study 84.8% of the participants came accompanied by someone, this may account for the willingness by the participants to volunteer information regarding their health complaints. Frese et al did a similar study among German population older than 65 years, the mean number of reasons for visit per patient in their study was 1.5. It was however advised that, this finding should be interpreted with care since the reasons for visit were documented by the General Practitioners according to what the patients said, and patients were not explicitly asked for all their reasons for visit.<sup>17</sup>

In this study the top three commonest RFE among the chapters were related to the musculoskeletal system followed by RFE related to the digestive system then cardiovascular system related RFE. Reports from studies among geriatric patients in Nigeria have shown that the pattern of distribution of geriatric health problems can be similar but varied in proportions. Iloh et-al reported similar findings in a study carried out among a geriatric population in Eastern Nigeria. The top three non-communicable diseases found in their study were related to cardiovascular disorder, musculoskeletal disorders and dyspepsia.<sup>18</sup> Abegunde et al, observed that musculoskeletal problems, hypertension, visual impairment and osteoarthritis were the most prevalent health problems in both urban and rural elderly population.<sup>19</sup> In this study digestive related

complaint was the second most common RFE. Reports of gastrointestinal disorders have been found to be relatively common among the elderly. In the study carried out by Udoh et-al it was reported that gastrointestinal related morbidity was among the top 5 conditions causing geriatric morbidity.<sup>20</sup> A multicentre study by Makoto Kaneko et-al among an elderly population also reported that among the top three reasons for encounter in their study were cardiovascular and gastrointestinal related disorders.<sup>12</sup> The above observations were more or less in tandem with the findings in this study.

When the most frequent individual reason for encounter within chapter were explored, hypertension was the most frequent individual reason for encounter within chapter in this study. In other primary care clinics in Nigeria, the trends varied little as this finding was similar to what was reported from other studies among geriatrics. Cadmus et-al reported hypertension as the most common health problems found among geriatric patients in a study carried out in a geriatric centre in southwestern Nigeria.<sup>21</sup> High blood pressure among the elderly was also the most common morbidity reported by the respondents in a study carried out among the elderly in Calabar municipality, Cross River State, Nigeria.<sup>22</sup> Olawumi et al in a study carried out among elderly patients in Kano found that cardiovascular diseases were the most prevalent morbidity among the respondents, followed by the diseases of the musculoskeletal system and hypertension was the most prevalent among all the cardiovascular diseases.<sup>23</sup> Hypertension was also the most common cardiovascular morbidity reported by Iloh et al among a geriatric population in Eastern Nigeria.<sup>18</sup> Studies conducted in virtually all continents of the world have identified hypertension as a major geriatric health problem.<sup>24,25</sup> Numerous population-based surveys in various regions of the world estimate that 7 out of 10 adults, 65 years and older, have been diagnosed with elevated blood pressure.<sup>25</sup>

Udoh et al reported that diseases of the cardiovascular system and bone/joints were the commonest non-communicable diseases found among the elderly patients of a tertiary institution in Uyo, Nigeria.<sup>20</sup> Joint pain was the second most frequent individual reason for encounter in this study. Other study findings have reported joint pain as a very common morbidity reported by the elderly.<sup>26</sup> Disease of the musculoskeletal system (bone/joints) was the second most common cause of morbidity found among the respondents in the study carried at the General Out-patient of Uyo Teaching Hospital by Udoh et al.<sup>20</sup> Margaret Uyilewhoma Inde et al similarly

reported joint pains/arthritis to be the third most common morbidities reported by the respondents in their study.<sup>22</sup> The findings above are in accordance with other studies that identified musculoskeletal problems and osteoarthritis as major causes of frequent illness among the aged population.<sup>3,22,27</sup>

Headache related complaint, poor vision, heartburn, fever, financial problems, diabetes mellitus, chest pain, urinary frequency and previous transfusion were some of the other most frequent individual reasons for encounter within chapter. Udoh et al in their study in Uyo reported similar findings. In their study, disease of the eye was also a major cause of morbidity among the elderly, diabetes mellitus was the most common endocrine health complaint seen and gastrointestinal related morbidity were found with peptic ulcer disease being the most common.<sup>20</sup> They also reported other similar non-communicable disease morbidity including ENT, Skin and Blood/Blood forming organ in their study.<sup>20</sup>

The findings from this study reflect the frequency and distribution of health problems in the elderly commonly encountered in primary care. This is a reflection of the individual patients' perceived needs, expectations, and priorities around their health problem in our practice setting. Understanding the reasons for encounters across a primary care population is essential for the development of people-centred health services.<sup>28</sup>

### Limitations

This study was a hospital-based cross-sectional study in a primary healthcare clinic within a tertiary health institution hence the findings may not be generalizable to the entire population of elderly patients. Therefore, multicentre research will be needed for a more detailed appreciation of the distribution and nature of health problems within the communities presenting in these primary medical and health facilities.

This study despite the stated limitation has addressed a very relevant topic which is necessary for healthcare planning and policy implementation in Nigeria.

Practical implications/Recommendations.

Patients' reasons to consult reflect their behaviour with regards to illness and disease. Identifying individual needs and expectations will make it not only possible to address, but also, where appropriate, to change them. This study provides useful information as to the current health needs of the elderly which is useful to inform health service planning and health professional education. It is imperative that developing countries such as Nigeria strengthen their healthcare workforce and infrastructure to meet the healthcare needs of older adults, in spite of prevailing

resource limitations.

### Conclusion

Geriatric patients are known to present with multiple complaints and morbidity. In this study the total number of observed reasons for encounter was 1,457 per 250 participants. This gave a mean of 6 RFE per participant. The top 3 commonest RFEs among the chapters were related to the musculoskeletal system, digestive system and cardiovascular system.

Patterns of distribution of geriatric health problems can be similar but varied in proportions. When the most frequent individual reason for encounter within chapter were explored, hypertension was the most frequent individual reason for encounter within chapter in this study.

It is important that in primary care setting, the physician understands what it was that made the patient decide to come and consult, and that he/she is skilled to explore this. Gaining a better understanding of the elderly reasons for encounter can help sensitize family doctors to older people's health needs.

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