

## Morbidity Pattern in Geriatric Patients Attending a General Out-Patient's Clinic in a Tertiary Hospital in Nigeria: A Society with No Social Support System.

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### Abstract:

**Background:** In developing countries, currently there is a paradigm shift from communicable to non-communicable diseases causing severe morbidity among the elderly population. Despite this, social support system for this slowly increasing population is lacking living them with the full burden of providing for their health care needs. This study is aimed at assessing morbidity pattern among the elderly patients using a tertiary health care institution in Nigeria.

**Material And Methods:** This is a retrospective review of morbidity pattern among elderly patients attending the General outpatients Clinic(GOPC), University of Uyo Teaching Hospital(UUTH) between January 2010 and December 2012 by using their Medical records. Information obtained included their bio data, living condition, dependency, diagnosis made at presentation etc.

**Results:** Out of 37,748 adult patients seen within the study period, 4319 of them were aged 65 years and above, made up of 1755(40.6%) males and 2564(59.4%) females with male to female ratio of 1:1.6. A total of 1905(44.1%) of the geriatric morbidity were due to communicable diseases while 2414(55.9%) were due to non-communicable diseases. Commonest communicable diseases were Malaria(44.6%) and Typhoid (24.8%) while diseases of the cardiovascular system (28.5%) and Bone/joints (25.8%) were the commonest non-communicable diseases.

**Conclusion:** There is an emerging and overriding trend of non-communicable disease (NCD) among the elderly population in this region. Public health education on Lifestyle modification for the aging population may help in reducing this increasing tide of NCDs-related morbidity. Introduction of social security system would be of immense benefit by helping them to assess health care services.

**Keywords:** Geriatric patients, morbidity pattern, outpatients' clinic, tertiary hospital, Nigeria.

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### I. Introduction

The natural process of aging is associated with physical, social and mental changes. These changes directly or indirectly increase the aged vulnerability to age-related diseases and conditions. As the population ages, there is a corresponding change in life expectancy and disease burden [1-3]. Studies have shown that despite declining average life expectancy in Nigeria due to infectious disease burden including HIV/AIDS pandemic, there is an actual increase in population of the elderly[4-5]. Arguably, this may be a result of improved nutrition, medicine and health care delivery. Current estimates indicate that the elderly constitute 6% of Nigeria's population. The aged will necessarily suffer from a wide range of communicable and non-communicable diseases that generally help in determining his longevity and wellbeing. This category of the population is among the greatest contributors to disability-adjusted life years due to chronic diseases[6]. This study is therefore aimed at reviewing the pattern of geriatric morbidity presenting in the General outpatient clinic of this tertiary health institution. To our knowledge, there has not been any study on morbidity pattern of the geriatric patients presenting in the General Out-patient department of tertiary hospital in Niger Delta region of Nigeria. Since morbidity, physical and mental illness increasingly is being recognized as a measureable indicator of wellbeing[7-8], feedback from this study will provide vital information in setting priorities in health services reform in our sub region.

### II. Materials And Methods.

#### Location Of Study

The study was carried out at the General Out-patients Clinic (GOPC) of the University of Uyo Teaching Hospital, (UUTH) situated in the outskirts of Uyo, a community in South-South Nigeria popularly referred to as Niger Delta region and capital of AkwaIbom State. AkwaIbom State has 31 Local Government

Areas with Uyo being one. The UUTH is a 500-bed hospital established in 2001. At present, it is the only tertiary hospital serving the entire state with a population of over 4 million people, as well as some areas of adjoining states of Abia, Cross River and Rivers. The GOPC is run by the Family Medicine Department and holds daily Clinic sessions. Presently the department has six(6) Consultant Family Physicians supervising fourteen(14) Postgraduate Residents in Family Medicine at various levels of training.

This is a retrospective study which assessed the morbidity pattern of elderly people, 65 years and above seen in the General outpatient's clinic (GOPC) of University of Uyo Teaching Hospital (UUTH) between January 2010 and December 2012.

**METHODS:** We reviewed out-patients clinic's records and extracted relevant information including patient's biodata- age, sex, marital status; literacy status etc and diagnosis. The data were entered into data collection sheet. Diagnosed diseases were classified into two broad groups namely; Communicable and Non-communicable diseases. Non-communicable diseases were further categorized on the basis of physiological systems e.g. hypertension, cardiovascular accident (CVA)etc were group under cardiovascular system(CVS). Cataracts, Glaucoma etc. were group under Eye etc. Diabetes mellitus, thyroid disease etc. were group under Endocrine/Nutrition while peptic ulcer diseases, Gastro esophageal disease (GERD) were group under gastrointestinal system (GIS) etc.

Patients with missing information on bio-data and diagnosis were excluded. For those with multiple diagnoses, morbidity with longest duration or the final diagnosis (supported by relevant laboratory investigations) was recorded as primary illness for the patient. This was done since a number of the subjects presented with multiple complaints, some of which were not medically related to their actual disease process. Ethical approval for the study was obtained from the University of Uyo Teaching Hospital Ethical committee.

**DATA ANALYSIS:** The data so collected were analyzed using Statistical Packaging for Social Sciences (SPSS) version 17.Simple descriptive statistical analysis was performed and the results presented below.

### **III. Results**

A total of 37,748 new patients were seen in the GOPC within the period under review. Out of these, 4319 were geriatric patients (aged 65 years and above) made up of 1755(40.6%) males and 2564(59.4%) females with female to male preponderance ratio of 1.6:1. The geriatric population in this study was 11.4%.

A total of 53.4% of them were aged 65-69 years. Those who were 70-79 years constituted 37.4 % while 9.2 % were those over 80 years of age. About 70.2 % of them were married at time of study while 28.6% and 1.2% were either widowed or divorced. Majority, 2026 (47.0%) of them had primary education, 1,465 (33.9%) had secondary education while 444(10.2%) and 384(8.9%) had postsecondary and No formal education respectively. Their living condition showed that 3472(80.4%) were living with spouse/children while 597(13.8%) and 250(5.8%) were living with other people and alone respectively in most months of the year. Only a small proportion, 255 (5.9%) of them were still gainfully employed while the rest, 4064(94.1%) were not. Their economic dependency level showed that 2389(55.3%) were partially dependent while the rest were either totally dependent, 1719(39.8%) or independent, 211(4.9%).

One thousand, nine hundred and five (44.1%) of the geriatric morbidity were due to communicable diseases while 2414(55.9%) were due to non-communicable diseases. For communicable diseases, malaria 849(44.6%) was responsible for most cases of geriatric morbidity seen in the GOPC. Other causes of morbidity included, 473(24.8%), 21(1.1%) and 4(0.2%) for Typhoid fever, lower respiratory tract infection(TB/Pneumonia) and STI/HIV respectively. Top five non-communicable diseases on basis of physiological systems causing geriatric morbidity included; cardiovascular system 688(28.5%),Bone/Joints 624(25.8%),Endocrine/Nutrition 383(15.8%),Eye 262(10.9%) and Gastrointestinal 99(4.1%).Other disease conditions are shown in table 2.

### **IV. Discussion**

Our study showed that communicable diseases accounted for 44.1% of total geriatric morbidity within the three years period while non-communicable diseases accounted for 55.9%. The proportion of non-communicable disease is higher than the prevalence rate of 26-34% described for the burden of Non-communicable diseases in developing countries [9].

This may be due to the fact that our study being a hospital-based study may not necessarily have reflected the actual situation in the community. However, higher prevalence of non-communicable diseases as against communicable diseases in this study is similar to reports from other studies in Nigeria[10].This finding is in support of current diseases trend in developing countries which has shown a paradigm shift from prominence of communicable diseases causing morbidity and mortality to non-communicable diseases[11].This is possibly due to significant socio-economic changes in our society in the last decade resulting in change of diets, rural-urban drift and changes in lifestyle issues[12]. The resultant effect being that diseases such as

hypertension, DM and CVD with age as risk factor, which hitherto were regarded as disease of affluence are increasing in prevalence at an alarming rate in our environment. This trend is worrisome and especially so because in Nigeria currently, allocation of resources are significantly targeted at maternal and child health as well as the three big infectious disease namely; HIV/AIDS, malaria and Tuberculosis leaving a vacuum in other health care areas including Geriatric care. This is even so since there is no form of social security program in existence thereby allowing the full weight of the health burden on the family system. A major finding in this study is that in all, 59.4% of patients seen in the GOPC within the period of study were females. This is not surprising because studies have shown that women generally have poorer health than men hence their likelihood of accessing health care facility for care [13-14]. Again, it has been shown that women in Nigeria live longer than men-Life expectancy at birth; women-55.77 years, men-49.35 years [15]. This implies that women are likely to live long enough to experience more illnesses and disabilities which are not life threatening. Curbing with this trend therefore will require initiating and strengthening of preventive care services for this group of people. Over 70% of the participants were married. This is reflected in their living arrangement where over 80% of them lived with either their spouses or children. This is an interesting finding providing evidence for existence of family-centrality and possible family support system which is an important factor for the overall wellbeing of the elderly. Traditionally in a typical African society, the family is a major source of support and care for the elderly. Okumagba, et al [16] in their study reported that majority of the elderly in a typical Niger Delta community lived together and received care from their immediate family. Economic dependency of the elderly was significantly high, from total dependence (39.8%) to partial independence (55.3%). The fact that these elderly people lived with their family members as shown in this study does not necessarily mean that their health needs are adequately catered for by their family members. This is because such family members may equally be raising a young family with huge social responsibilities. This may actually leave the elderly with little or no financial strength to access health care as need arise since lack of money can directly hinder health care access [17]. The implication is that for the few who presented at the GOPC on health grounds there may be greater number in the society that could not do same. This further points to the need for establishment of social security programme for the elderly in Nigeria.

Among those with Communicable diseases, malaria was the commonest reason for outpatient consultation in this study (44.6%). This is lower than projected 50% of all adult general outpatient's consultation in Nigeria [18]. Our study however was not based on total adult general outpatient's attendance but on the elderly group which constituted only 11.4% of the total outpatient's consultation. However, by extrapolation, it implies that malaria is a major cause of morbidity among adults in this age group bracket necessitating them to have need for medical attention in outpatient clinics. Recognizing the fact that malaria is endemic in this region, finding in our study suggest that although a lot has been done through the Roll Back Malaria program, malaria still remains a major cause of morbidity among the elderly patients in this environment. This implies that there is need to look into possibility for the development of new strategies for the control of this endemic disease in this region of Sub-Saharan Africa.

Typhoid fever was responsible for over 24% of geriatric consultation in this centre. This is not surprising knowing that typhoid fever is equally endemic in Nigeria with high asymptomatic carrier rate. A study in Lagos, South-West Nigeria revealed that up to 53% apparently well adults presenting for blood donation showed significant Widal titres to confirm infection in them [19]. However, it must be emphasized that the scourge of typhoid infection is not only limited to Niger Delta region of Nigeria. For instance, a study in Spain, South – West Europe recorded typhoid infection as being widespread affecting both young and old persons with higher case fatality among those aged 65 years and above [20]. Its endemicity has been shown to be due to interrelated factors including improper processing/disposal of human wastes, poor environmental/water sanitation and indiscriminate use of antibiotics [21]. The natural history of Typhoid infection therefore implies that its spread and transmission can be controlled through improvement in environmental/water sanitation. Interestingly, TB/Pneumonia and HIV/STI (1.1% and 0.2% respectively) constituted a near insignificant cause of morbidity among elderly adults in this study. This finding may equally mean that there is greater awareness and utilization of the State Government's owned Infectious Disease Hospital (IDH) which is fully functional and less costly for the attendees due to Control Partners' funding, making services here highly subsidized.

Over 28% of the elderly patients' outpatient consultation was due to disease of the cardiovascular system with hypertension constituting over 90% in frequency. This finding is similar to reports from other studies in Nigeria [22-23]. Agrawala et al [24] found similar trend in India. Result from this study also corroborated finding in recent studies showing that diseases of cardiovascular system has become a major Clinical and Public health problem in Nigeria [2,23,25].

Disease of the musculoskeletal system (Bone/Joints) was the second most common cause of morbidity found among the respondents accounting for 25.8%. This figure is slightly lower than 26.8% obtained in a similar study in Ibadan [2]. Diseases of the joints have been shown to significantly impair social and occupational functioning of the elderly [26]. Musculoskeletal diseases have been reported to affect nearly 50%

of patients aged 65 years and above[2, 24, 27].The elderly patients in this study may have coped adequately since majority of them lived with their spouses or children. However, social and economic burden on the extended family structure cannot be justifiably quantified knowing that due to absence of social security programme, the care of these elderly people rest wholly on the family support network, which if absent could result in a major society/community dysfunction.

Over 15% of the elderly patients were seen in the GOPC due to Endocrine/Nutrition related disorders with Diabetes mellitus topping the list. This is not surprising since age-related sedentary lifestyle; over consumption of improper food with poor metabolism are inevitable occurrences in the elderly. Advocacy should therefore be made for establishment of interventional/preventive strategies in resource poor setting like Nigeria to address the health needs of these groups of citizens in the emerging circumstance of likely increases in the population of this age group bracket[28] . Such intervention will not only improve the quality of life of these elderly citizens but will invariably reduce public health cost.

Disease of the eye was also a major cause of morbidity among the elderly in this study accounting for 10.9%.This is significant considering the fact that this is a society where diminution of vision is generally believed to be associated with aging and hence should attract little or no attention including seeking for medical care. Cataract was a major cause of eye related morbidity in this centre. As shown by Quillen, the prevalence of vision impairment increases with age with approximately one person in three having some form of vision-reducing eye disease by the age of 65[29] .

Up to 4.1% of the subjects had GIT related morbidity with peptic ulcer disease being the most common. This may not be unconnected with chronic use of NSAIDS which are widely used by the elderly for control of pains [30], although this was difficult to establish due to our study design. The other causes of NCD morbidity including ENT, Skin and Blood/Blood forming organs etc contributed less than 1.5% respectively.

### V. Limitation

Some limitation should be noted in this study. Being a retrospective study, extraction of final diagnoses from patient's folders who presented with multiple complaints/morbidities could alter the actual prevalence of the disease entities so recorded. Secondly we relied on the clinical soundness of the attending physician in making the diagnoses recorded for each patient.

### VI. Conclusion:

Despite the foregoing, the study had allowed us to note the emerging trend of non-communicable disease (NCD) in this region. We advocate for a holistic care of the elderly in order to reduce the burden of NCDs but without ignoring the scourge of Communicable diseases among them. Public health education on Lifestyle modification for the aging population may help in reducing this increasing tide of NCDs-related morbidity. Inclusion of those 65 years and above in the National Health Insurance (NHIS) which presently caters for serving Government employees, their spouse and four biological children is strongly being advocated.

### VII. Competing Interests

The authors do hereby declare that we have no competing interests in this work.

**Table 1 Sociodemographic Characteristic Of The Respondents, N=4319**

Characteristics	2010		2011		2012		TOTAL(%)
	Male, n=680 (%)	Female, n=1032(%)	Male, n=494(%)	Female, n=715(%)	Male, n=581(%)	Female, n=817(%)	
<b>Age group(years)</b>							
65-69	417(24.3)	563(32.9)	256(21.2)	309(25.6)	364(26.0)	396(28.3)	2305(53.4)
70-79	251(14.7)	380(22.2)	165(13.6)	301(24.9)	163(11.7)	355(25.4)	1615(37.4)
80+	12(0.7)	89(5.2)	73(6.0)	105(8.7)	54(3.9)	66(4.7)	399(9.2)
<b>Marital status</b>							
Married	654(38.2)	783(45.7)	216(17.9)	437(36.1)	365(26.2)	578(41.3)	3033(70.2)
Widowed	19(1.1)	246(14.4)	276(22.8)	266(22.0)	197(14.1)	231(16.5)	1235(28.6)
Divorced	7(0.4)	3(0.2)	2(0.2)	12(1.0)	19(1.3)	8(0.6)	51(1.2)
<b>Literacy status</b>							
No formal education	46(2.7)	114(6.7)	37(3.1)	88(7.3)	26(1.9)	73(5.2)	384(8.9)
Primary	342(20.0)	567(33.1)	303(25.1)	297(24.6)	311(22.2)	206(14.7)	2026(47.0)
Secondary	118(6.9)	332(19.3)	99(8.1)	314(26.0)	151(10.8)	451(32.3)	1465(33.9)
Postsecondary	174(10.2)	19(1.1)	55(4.5)	16(1.3)	93(6.7)	87(6.2)	444(10.2)
<b>Living arrangement</b>							

*Morbidity Pattern In Geriatrics Patients Attending A General Out-Patient's Clinic In A Tertiary*

Alone	12(0.7)	89(5.2)	10(0.8)	68(5.6)	17(1.2)	54(3.9)	250(5.8)
With spouse/children	593(34.6)	922(53.9)	346(28.6)	526(43.6)	428(30.6)	657(47.0)	3472(80.4)
With others	75(4.4)	21(1.2)	138(11.4)	121(10.0)	136(9.7)	106(7.6)	597(13.8)
<b>Current Occupation</b>							
None	639(37.3)	1022(59.7)	441(36.5)	693(57.3)	489(35.0)	780(55.8)	4064(94.1)
Employed	41(2.4)	10(0.6)	53(4.4)	22(1.8)	92(6.6)	37(2.6)	255(5.9)
<b>Economic Dependency</b>							
Independent	54(3.2)	7(0.4)	56(4.5)	28(2.3)	49(3.5)	17(1.2)	211(4.9)
Partially independent	603(35.2)	507(29.6)	396(32.7)	175(14.5)	501(35.9)	207(14.8)	2389(55.3)
Totally dependent	23(1.3)	518(30.3)	42(3.7)	512(42.3)	31(2.2)	593(42.4)	1719(39.8)
<b>TOTAL</b>	<b>680(39.7)</b>	<b>1032(60.3)</b>	<b>494(40.9)</b>	<b>715(59.1)</b>	<b>581(40.9)</b>	<b>817(59.1)</b>	<b>4319(100.0)</b>

**TABLE 2 DISTRIBUTION OF GERIATRIC MORBIDITY,N=4319**

<b>COMMUNICABLE DISEASES,N=1905(44.1%)</b>							
<b>DISEASES</b>	<b>2010</b>		<b>2011</b>		<b>2012</b>		<b>TOTAL(%)</b>
	<b>MALE, n=352(%)</b>	<b>FEMALE, n=443(%)</b>	<b>MALE, n=192(%)</b>	<b>FEMALE, n=321(%)</b>	<b>MALE, N=238(%)</b>	<b>FEMALE, n=359(%)</b>	
Malaria	151(8.8)	142(8.3)	122(10.1)	149(12.3)	109(7.8)	176(12.6)	849(44.6)
STI/HIV	3(0.2)	0(0)	1(0.1)	0(0)	0(0)	0(0)	4(0.2)
TB/Pneumonia	1(0.1)	2(0.1)	5(0.4)	3(0.2)	3(0.2)	7(0.5)	21(1.1)
Typhoid	103(6.0)	89(5.2)	46(3.8)	72(6.0)	94(6.7)	69(4.9)	473(24.8)
Others*	94(5.5)	210(12.3)	18(1.5)	97(8.0)	32(2.3)	107(7.7)	558(29.3)
<b>TOTAL</b>	<b>352(20.6)</b>	<b>443(25.8)</b>	<b>192(15.8)</b>	<b>321(26.6)</b>	<b>238(17.0)</b>	<b>359(25.7)</b>	<b>1905(100.0)</b>
*Included- Scabies, Helminthiasis, UTI, Hepatitis, Viral conjunctivitis etc							
<b>NON-COMMUNICABLE DISEASES,N=2414(55.9%)</b>							
Endocrine/Nutrition	51(3.0)	32(1.9)	83(6.9)	63(5.2)	51(3.6)	103(7.5)	383(15.8)
CVS	93(5.4)	201(11.7)	91(7.5)	113(9.3)	104(7.4)	86(6.2)	688(28.5)
GIS	42(2.5)	2(0.1)	8(0.7)	19(1.6)	21(1.5)	7(0.5)	99(4.1)
Blood/blood forming organs	2(0.1)	9(0.5)	4(0.3)	1(0.1)	8(0.6)	2(0.1)	26(1.1)
CNS	7(0.4)	8(0.5)	9(0.7)	1(0.1)	5(0.4)	3(0.2)	33(1.4)
Eye/	46(2.7)	93(5.4)	13(1.1)	21(1.8)	52(3.7)	37(2.6)	262(10.9)
ENT	4(0.2)	5(0.3)	3(0.2)	8(0.7)	4(0.3)	9(0.6)	33(1.4)
Bone/Joints	59(3.4)	191(11.2)	65(5.4)	67(5.5)	84(6.0)	158(11.3)	624(25.8)
Skin	4(0.2)	1(0.1)	7(0.6)	5(0.4)	3(0.2)	7(0.5)	27(1.1)
Disease of male/female organs	1(0.1)	2(0.1)	3(0.2)	0(0)	0(0)	2(0.1)	8(0.3)
Others*	19(1.1)	45(2.6)	16(1.3)	96(8.0)	11(0.8)	44(3.2)	231(9.6)
<b>TOTAL</b>	<b>328(19.2)</b>	<b>589(34.4)</b>	<b>302(25.0)</b>	<b>394(32.6)</b>	<b>343(24.5)</b>	<b>458(32.8)</b>	<b>2414(100.0)</b>
*Included;Non-specific abdominal pain,Lower back pain,Hernias,Refractiveerror,Chest pain, malignancies etc							

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