

Prevalence and Distribution of Neurological Disease in a Neurology Clinic in Enugu, Nigeria

Onwuekwe IO* and Ezeala-Adikaibe B*

*Neurology Unit, Department of Medicine,
University of Nigeria Teaching Hospital, Enugu, Nigeria.

Abstract

Background: Specialization in various areas of medicine is established in most tertiary hospitals in Nigeria. There is thus an increasing awareness by the populace on need for specialist medical care. However, neurologists are few and unevenly spread in the country. This raises a serious concern considering the enormous burden that neurological diseases may constitute in our environment.

Objective: To examine the scope of the burden of neurological disease as encountered in a typical neurological/medical clinic in a tertiary centre in the South East zone of the country.

Methods: A retrospective study was carried out of all medical cases seen at the Neurology Clinic of the University of Nigeria Teaching Hospital Enugu over a 20 - month period from January 2007 to August 2008. Patients were at least 15 years of age. The final diagnosis as made in each patient's folder by the Consultant Neurologist or Neurology Senior Registrar was recorded. The data obtained was subjected to descriptive analysis.

Results: Out of a total of 3175, neurological disorders constituted 48.7% of all cases seen in the study period. Non-neurological conditions accounted for as much as 47.1% of the total. In 4.2 % of cases, there was no definite diagnosis recorded. Epilepsy was the commonest neurological diagnosis in the clinic, followed by stroke.

Conclusion: It is evident that though the neurologist, in the typical Nigerian out-patient medical clinic, may attend mostly to patients with clinical conditions referable to his area of specialisation, a good knowledge of General Medicine is still very relevant for utmost medical health service benefit even in a tertiary hospital setting.

Key word: Neurological disease; neurological clinic; burden: Nigeria

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Introduction

Neurological disorders account for more than 20% of the worldwide disease burden with Africa hosting the greater majority of people affected.¹ Even more worrisome is the dearth of neurologists in the continent. The situation in Nigeria, the most populous black nation, is not different. At the time of this study there were

only four Consultant Neurologists working in the South East zone of the country.

There is a paucity of data on the burden of neurological diseases in Nigeria. Hospital derived data may be under-representative of the true prevalence of diseases in developing countries but they often serve as a window to the true situation. This is a report on the profile of neurological diseases as seen at the adult Neurology clinic at Enugu, Nigeria.

Correspondence: Dr. Ikenna O Onwuekwe, Neurology Unit, Department of Medicine, University of Nigeria Teaching Hospital, PM.B. 01129 Enugu, Nigeria.
Email: onwuekweio@yahoo.com, ikenna.onwuekwe@unn.edu.ng

Patients and Methods

The adult Neurology clinic of the University of Nigeria Teaching Hospital (UNTH) Enugu is run once every week (on Wednesday) by a Consultant Neurologist assisted by a Senior Registrar in Neurology. The patients are usually referrals from the general out-patient department (GOPD), discharges from admissions in the same Hospital, as well as referrals from hospitals outside UNTH Enugu. The case records of patients registered in the clinic over a twenty month period, 1st January 2007 to 31st August 2008, were obtained and reviewed. The diagnosis for each patient as made in the folder by either the Consultant or the Senior Registrar was obtained and the collated data analysed.

Results

In the period under review a total of 3175 patients attended the adult Neurology clinic, giving an average of about 160/month and 40/week. Neurological disease was diagnosed in 1546 cases (48.7%) while there were 1496 cases (47.1%) of non- neurological nature. In 133 cases (4.2%) the final diagnosis was not stated (no diagnosis). Table 1 summarises the details. Epilepsy was the most common neurological disorder encountered in the clinic, followed by stroke (cerebrovascular accident). The distribution of the top 10 neurological conditions seen in the clinic is as shown in Table 2.

Table 1: Distribution of Cases Seen at the Neurology Out-Patient Clinic in Enugu

Diagnosis	Number	%
Neurological	1546	48.7
Non- neurological	1496	47.1
No diagnosis	133	4.2
Total	3175	100

Table 2: Top 10 Diseases Seen at the Neurology Out-Patient Clinic in UNTH Enugu

Rank	Disorder	Number	%
1	Epilepsy	538	34.8
2	Stroke	278	18.0
3	Degenerative spinal cord disease	108	7.0
4	Peripheral neuropathy	106	6.9
5	Dementia	105	6.8
6	Movement disorder	87	5.6
7	Neuropsychiatry disorder	69	4.5
8	Spinal tuberculosis	45	2.9
9	Cephalalgia	42	2.7
10	Motor neurone disease	36	2.3
	No diagnosis	133	4.2

Table 3: Top 10 Conditions Seen in a Neurological Out-Patient Clinic in the UK⁵

Rank	Disorder	%
1	Blackouts	12.5
	Epilepsy	10.4
	Vasovagal attacks	2.1
2	Headache	12.5
	Tension headache	7.5
	Migraine	5.0
3	Cerebrovascular disease	7.4
4	Entrapment neuropathy	4.4
5	Conversion hysteria	3.8
6	Anatomical	3.7
7	Multiple sclerosis	3.5
8	Hyperventilation	2.0
9	Parkinson's disease	1.9
10	Post- traumatic syndrome	1.8
	No diagnosis	26.5

Discussion

Some findings in this study agree with results from other centres. Epilepsy is the commonest neurological disease encountered by the adult neurologist in Enugu. It is the most common neurological condition presenting to medical clinics in Africa.² The situation is similar in the paediatric neurology clinic at Enugu.³ However in the United States epilepsy is the second commonest neurological disease after stroke.⁴

In the United Kingdom (UK), a survey of the out-patient clinic consultations with neurologists showed blackouts (including epilepsy) to be the most common diagnosis. Stroke ranked high on the list as well.⁵ The results of this survey (see table 3 for the top 10 diagnoses) agree to an extent with our findings. The proportion of 'no diagnosis' in the UK study (26.5%) is surprisingly large in comparison to our rate of 4.2%. It is expected

that the technological advantage available to the neurologist in UK should attenuate the probability of such instances occurring.

Another aspect of interest in our study is the proportion of neurological cases that presented to the clinic which almost approximated the non-neurological conditions (48.7%: 47.1%). The high number of general medical cases presenting to a neurology clinic suggests that aptitude in General Medicine should continue to be an essential ingredient of the skills of a Consultant Physician working in Nigeria.

Nevertheless the burden for neurological disease is significant. In a review of medical admissions at the UNTH Enugu between 1993 -1998, Onwubere and Ike (1999) noted that neurological diseases accounted for the highest proportion of cases (in both male and female patients) followed by cardiovascular disorders.⁶ By contrast, in a similar review of medical admissions between 1990 –

1992, at the Nnamdi Azikiwe University Teaching Hospital Nnewi (also in South East Nigeria), neurological diseases ranked second to cardiovascular disorders.⁷

There is a need to acknowledge that the spectrum of neurological disorders as seen in our study may have been influenced by the investigative facilities available to the clinician. Under-diagnosis of certain types of neurological disorders can occur if detailed neuro-diagnostic tools such as CT scan, MRI, EEG, EMG, PET e.t.c are not available or where available are unaffordable to majority of the patients.

Unfortunately this study was not designed to elaborate in detail non-neurological diagnoses as encountered in the clinic. This limitation is indicative that more detailed studies are necessary to compare specialty specific diagnoses and non-specialty specific cases as managed in tertiary centres across Nigeria. Another factor that may limit the applicability of this study is that being a tertiary level referral health facility, only a proportion of the cases that typically present to primary or secondary level care givers are referred to the neurology clinic.

Nevertheless it is interesting to note from this study that most cases as seen in the clinic were non-infective/ non-inflammatory in nature. The preponderance of chronic conditions that are often associated with significant degrees of morbidity, including disability and handicap, will necessitate that attention is given to the provision of ancillary services such as physical therapy, speech therapy, occupational therapy, counselling and medical social work. It also

may also suggest a need to re-strategise public health education services.

The neurologist practicing in a developing economy like Nigeria should expect to manage a very significant proportion of non-neurological/general medical cases in the out-patient clinic, even in a tertiary level hospital facility.

There is equally the need for modern neuro-diagnostic facilities to be made available in appropriate hospital settings in Nigeria.

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References

1. Burton KJ and Allen S. A review of neurological disorders presenting at a paediatric neurology clinic and response to anticonvulsant. *Ann Trop Pediatric* 2003; 23: 139 - 143.
2. Sanya EO. Epilepsy and epileptic syndromes. *NCR* 2004; 8:12-8.
3. Izuora GI and Iloeje SO. A review of neurological disorders seen at the paediatric neurological clinic of the University of Nigeria Teaching Hospital, Enugu. *Ann Trop Pediatric* 1989; 9: 185-190.
4. Stafstrom CE. The pathophysiology of epileptic seizures: a primer for paediatricians. *Pediatric Rev* 1998; 19: 342 -351.
5. Fowler TJ and Scadding JW. Introduction. In: Fowler TJ and Scadding JE (Eds) *Clinical Neurology* 3rd ed. London: Arnold; 2003; 1-20.
6. Onwubere BJC and Ike SO. Review of admissions into the medical wards of the

- University of Nigeria Teaching Hospital Enugu. *Nig J Int Med* 1999; .2(2): 59- 62.
7. Osuafor TO and Ele PU. The pattern of admissions in the medical wards of the Nnamdi Azikiwe University Teaching Hospital (NAUTH) Nnewi. *Orient J Med* 2004; 16(1): 11 -15.