

## Pattern of Medical Admissions in a Tertiary Health Centre in

### Abakaliki South-East Nigeria

Chukwuemeka O Eze\*, Christian E. Agu, Uma A Kalu, Chidiegwu A Maduanusi,  
Sunday T Nwali, Chika Igwenyi

Department of Internal Medicine, Federal Teaching Hospital Abakaliki, Ebonyi State Nigeria

\*E-mail of the corresponding author: [drezeconauth@yahoo.com](mailto:drezeconauth@yahoo.com), [drezeconauth@gmail.com](mailto:drezeconauth@gmail.com)

#### Abstract

The pattern of medical admissions varies amongst different regions of the world and this depends on many factors including the prevalent medical diseases in the region. This study determined the pattern of medical admissions in a tertiary health centre in Abakaliki South Eastern Nigeria and compared it with that from other parts of the country. It was a retrospective, descriptive and hospital based study. The admission and discharge registers of the medical wards of the Federal Teaching Hospital Abakaliki south-east Nigeria from July 2012 to June 2013 were reviewed and relevant data extracted and analyzed using Statistical Package for Social Sciences (SPSS) version 19 software. The patients admitted during the period numbered 1247, with age range of 15 to 99 years. There were 643(51.56%) males and 604 (48.44%) females, with a male to female ratio of 1.06:1. Seventy per cent of the patients were between 30 and 69years. Infectious diseases accounted for 255 (20.45%) of the admissions, while cardiovascular disorders and neurological disorders accounted for 251 (20.13%) and 233 (18.68%) respectively. Non-communicable diseases accounted for 711 (57.02%) of the cases while communicable diseases accounted for 536 (42.98%). There was male predilection for neurological and chronic liver diseases while female patients had predilection for infectious diseases. The study showed that majority of the patients was in the productive age. There was also double burden of both communicable and non-communicable diseases in Abakaliki with higher female prevalence of infectious diseases. Health planning towards prevention of the identified diseases should be instituted.

**Keywords:** pattern, medical, admissions, Abakaliki, Nigeria

#### Introduction

The pattern of medical admissions varies amongst different regions of the world and this depends on many factors including the prevalent medical diseases in the region. In the past, communicable diseases accounted for most of the morbidity and mortality among medical admissions across Africa (Pearson TA et al 1993). This depended on their traditional lifestyle including dietary habit and poor hygiene lifestyle. There is currently, a global trend towards non-communicable diseases as has been documented in various studies (Omran AR 2005, Omran AR 1983). Non-communicable diseases include hypertension, diabetes mellitus, malignancies, cerebrovascular diseases, coronary heart disease, congestive heart failure, and chronic kidney disease.

It has been suggested that developing nations including Africa will account for the major part of the increase in cardiovascular disease prevalence worldwide (Reddy KS & Yusuf S 1998). Most studies in Nigeria showed male preponderance amongst medical admissions (Ike SO 2008, Okunola O O et al 2012, Ogun et al 2000). Some studies reported more prevalence of non-communicable diseases in southern part of Nigeria (Ike SO 2008, Agomuo DI & Unachukwu CN 2007). This study described the pattern of medical admissions in a tertiary health centre in Abakaliki South Eastern Nigeria and compared it with that from other parts of the country.

#### Methodology

This is a retrospective descriptive and hospital based study of the demographics and admission pattern of patients in the medical wards of the Federal Teaching Hospital Abakaliki (FETHA) over a 1 year period from July 2012 to June 2013. The patients' case files were retrieved from the hospital medical records department and relevant data extracted (age, sex and final diagnosis) and analyzed using Statistical Package for Social Sciences (SPSS) version 19 software. The qualitative data were expressed as frequencies and percentages, while the quantitative data were summarized as means and standard deviation. The sex distribution of the medical disorders was compared using Fisher's test and p-value <0.05 was regarded as statistically significant.

#### Results

A total of 1247 patients were admitted in medical wards within the study period. There were 643 (51.56%) males and 604(48.44%) females with ratio of 1.06:1. The age range of the patients was 15 to 99years with mean age of  $51.52 \pm 18.23$  years (Male= 53.38, Female= 49.45). Seventy percent (869) of the admissions were between 30 and 69 years. The detail of age distribution is shown in table 1.

The communicable diseases were 536(42.98%) while non-communicable diseases were 711(57.02%). Among the communicable diseases, Human-immuno deficiency virus/ Acquired immune deficiency syndrome (HIV/AIDS) (13.63%), hepatic diseases (9.38%) and tuberculosis (TB)(4.57%) were the most prevalent while congestive cardiac failure (17.40%), stroke (14.03%) and diabetes mellitus (12.99%) were the most prevalent non-communicable diseases. When the diseases were grouped into medical specialties, infectious (20.45%), cardiovascular (20.13%) and neurological disorders (18.68%) were the most prevalent. Other details are shown in tables 2 and 3.

Fifty one percent (635) were admitted during the wet season (April to September) while 49% (612) were admitted in hot season (November to March). The details are shown in table 4.

### Discussion

The study described the pattern of medical admissions in a tertiary health care facility in Abakaliki south-eastern Nigeria. The male preponderance (52%) reported in this study is similar to other hospital based studies in Nigeria (Ike SO 2008, Okunola O O et al 2012, Agomuoh DI & Unachukwu CN 2007) and in Ethiopia (Elias A & Mirkuzie W). This could suggest a real higher male disease burden in view of higher disease risk factors in male ([Hawkes S](#) & [Buse K](#). 2013). Also, it could stem from gender inequality that still exists in developing nations like Nigeria giving men more access to health care delivery than women. The majority of the patients (70%) were between 30 and 69 years which is the societal workforce. This portends great drain on the economy and poses much demand of available limited health resources. This is similar to another earlier report in Enugu South east Nigeria (Ike SO 2008).

Non-communicable diseases accounted for 57% while communicable diseases accounted for 43% of the admissions and it's in keeping with the current trend of increasing burden of non-communicable disease in Africa (Omran AR 2005, Omran AR 1983). This is in keeping with other reports in Nigeria (Ike SO 2008, Agomuoh DI & Unachukwu CN 2007). This is also another dangerous trend of double disease burden of both communicable and non-communicable diseases. This puts heavy strain on the economy and health sector of the developing nations. The above is related to the change from traditional African lifestyle and dietary pattern to the Western pattern of increased urbanization, reduced physical activity, obesity, and refined food.

The most prevalent non-communicable diseases were congestive cardiac failure, stroke and diabetes mellitus in descending order and were similar to a study in south-south part of Nigeria (Agomuoh DI & Unachukwu CN 2007). The above 3 diseases are driven by reduced physical activity, obesity and intake of refined food which are now common in the study population.

In the same vein, HIV/AIDS, liver diseases and tuberculosis were the most prevalent communicable diseases in this study and it's similar to other studies (Agomuoh DI & Unachukwu CN 2007). The re-emergence of tuberculosis to prominence is tied to the HIV/AIDS pandemic as both constitute an 'unholy alliance' ([Pai-Dhungat JV](#) & [Parikh FJ](#) 2007).

Generally speaking, infectious diseases were the most prevalent disease in the study followed by cardiovascular, neurological, gastroenterological and endocrinology disorders. This is in keeping with a report in south west Nigeria (Ogah et al 2012). The above showed that there is high burden of both communicable and non-communicable diseases in Nigeria. HIV/AIDS and tuberculosis pandemic are responsible for high prevalence of infectious diseases. This shows how enormous the problem Nigerian health and economic sector have to contend with despite limited resources.

The female patients had statistically significant higher predilection for infectious diseases (HIV/AIDS, and malaria) than the male counterparts. Most females practice receptive sex which has higher risk of transmitting HIV unlike men that practice insertive variety.

On the other hand, male patients had statistically significant predilection for neurological and chronic liver diseases which is similar with other hospital based studies (Okunola et al 2012). Stroke was the commonest neurological disorder in this study and male sex is a known major risk factor for stroke (Gorelick PB 1995).

In conclusion, the majority of medical admissions at a tertiary health centre in Abakaliki south-east Nigeria were of the societal workforce with double burden of both communicable and non-communicable diseases. The most prevalent diseases are preventable with male and female predilection for neurological and infectious diseases respectively.

There should be good health planning that will be able to accommodate the enormous disease burden and that will emphasize preventive health. Campaign against the spread of HIV/AIDS should be intensified and taken to the grass root where the vulnerable groups are.

### References

1. Agomuoh D.I & Unachukwu C.N. (2007). 'Pattern of Diseases among Medical Admissions in Port Harcourt, Nigeria'. *The Niger Med Pract.* vol. 51 no. 3, pp. 45-50
2. Elias A. & Mirkuzie W. (2010). 'Reasons and outcomes of admissions to the medical wards of Jimma University Specialized Hospital, southwest Ethiopia'. *Ethiop J Health Sci* vol. 20, no. 2, pp. 113-120
3. Gorelick P.B. (1995). 'Stroke prevention'. *Arch Nuerol* vol. 52, pp.347-355
4. [Hawkes S.](#) & [Buse K.](#) (2013). 'Gender and global health: evidence, policy, and inconvenient truths'. *The Lancet* vol. [381, no. 9879](#), pp. 1783- 1787
5. Ike S.O. (2008). 'The pattern of admissions into the medical wards of the University of Nigeria Teaching Hospital, Enugu (2)'. *Niger J Clin Pract* vol. 11, no. 3, pp. 185-192
6. Ogah O.S., Akinyemi R.O., Adesomono A. & Ogbodo E.I. (2012). 'A two-year Review of medical Admissions at the emergency unit of a Nigerian Tertiary Health facility'. *Afr J Biomed Res* vol. 15, pp. 59-63
7. [Ogun S.A.](#), [Adelowo O.O.](#), [Familoni O.B.](#), [Jaiyesimi A.E.](#) & [Fakoya E.A.](#) (2000). 'Pattern and outcome of medical admissions at the Ogun State University Teaching Hospital, Sagamu-a three year review'. [West Afr J Med](#) vol. 19, no. 4, pp. 304-308
8. Okunola O.O., Akintunde A.A. & Akinwusi P.O. (2012). 'Some emerging issues in medical admission pattern in the tropics'. *Niger J Clin Pract* vol. 15, no. 1, pp. 51-54
9. Omran A.R. (2005). 'The epidemiologic transition: A theory of the epidemiology of population change'. *Milbank Q* vol. 83, pp. 731-757
10. Omran A.R. (1983). 'The epidemiologic transition theory. A preliminary update'. *J Trop Paediatr* vol. 29, pp. 305-316
11. [Pai-Dhungat J.V.](#) & [Parikh F.J.](#) (2007). 'HIV/TB--an unholy alliance'. [Assoc Physicians India](#) vol. 55, pp. 457
12. Pearson T.A, Jamison D.T, & Tergo-Gauderies J. (1993). 'Cardiovascular Disease'. In: Jamison DT, Mosley WH (ed), *Disease Control Priorities in Developing Countries*. New York, NY: Oxford University Press
13. Reddy K.S. & Yusuf S. (1998). 'Emerging epidemic of cardiovascular disease in developing countries'. *Circulation* vol. 97, pp. 596-601.

Table 1: Age and sex distribution

Age range	Male n(%)	Female n(%)	Total n(%)
10-19	16(1.28)	15(1.21)	31(2.49)
20-29	90(7.22)	107(8.58)	197(15.80)
30-39	92(7.38)	108(8.66)	200(16.04)
40-49	116(9.30)	94 (7.54)	210(16.84)
50-59	105(8.42)	104(8.34)	209(16.76)
60-69	141(11.31)	109(8.74)	250(20.05)
70-79	57(4.57)	48(3.85)	105(8.42)
80-89	21(1.69)	13(1.04)	34(2.73)
90-99	5(0.40)	6(0.48)	11(0.88)
Total	643(51.56)	604(48.44)	1247(100)

Table 2: Sex distribution of diseases among medical admissions

Diagnosis	Male n(%)	Female n(%)	p-value
Congestive cardiac failure	101 (15.71)	116(19.21)	0.1165
Stroke	100(15.55)	75(12.42)	0.1213
HIV/AIDS	75(11.66)	95(15.72)	0.0391
Diabetes mellitus	77(11.98)	85(14.07)	0.2747
Chronic liver disease	64(9.95)	39(6.46)	0.0250
Tuberculosis	25(3.89)	32(5.30)	0.2779
Chronic kidney disease	30(4.67)	17(2.82)	0.1017
Peptic ulcer disease	24(3.73)	22(3.64)	1.0000
Pneumonia	14(2.18)	24(3.97)	0.0710
Severe hypertension	16(2.49)	18(2.98)	0.6068
Meningitis	14(2.18)	15(2.48)	0.8513
Malaria	8(1.24)	20(3.31)	0.0202
Urinary tract infections	12(1.87)	12(1.99)	1.0000
Acute hepatitis	7 (1.09)	7(1.16)	1.0000
COPD/Asthma	10(1.56)	4(0.62)	0.1801
Others	66(10.26)	23(3.81)	0.0001
Total	643(100)	604(100)	

Table 3: Pattern of admission based on specialties

Medical specialty	Male n(%)	Female n(%)	Total n (%)	p-value
Infectious	108(16.80)	147(24.34)	255(20.45)	0.0012
Cardiovascular	117(18.20)	134(22.19)	251(20.13)	0.0898
Neurology	134(20.84)	99 (16.39)	233(18.68)	0.0496
Gastroenterology/Hepatology	95(14.77)	68 (11.26)	163(13.07)	0.0773
Endocrinology	77(11.98)	85(14.07)	162(12.99)	0.2747
Genitourinary	42(6.53)	29 (4.80)	71(5.69)	0.2214
Pulmonology	24(3.73)	28(4.64)	52(4.17)	0.2154
Haematology	7 (1.09)	3(0.50)	10(0.80)	0.3442
Communicable diseases	261(40.59)	275(45.53)	536 (42.98)	0.0860
Non-communicable diseases	382(59.40)	329 (54.47)	711 (57.02).	0.0860
	643(51.56)	604(48.44)	1247(100)	

Table 4: The temporal pattern of the admissions

Month	n(%)
January	116(9.30)
February	93(7.46)
March	93(7.46)
April	124(9.94)
May	117(9.38)
June	104(8.34)
July	93(7.46)
August	117(9.38)
September	74(5.93)
October	116(9.30)
November	85(6.81)
December	109(8.74)

This academic article was published by The International Institute for Science, Technology and Education (IISTE). The IISTE is a pioneer in the Open Access Publishing service based in the U.S. and Europe. The aim of the institute is Accelerating Global Knowledge Sharing.

More information about the publisher can be found in the IISTE's homepage:

<http://www.iiste.org>

## CALL FOR JOURNAL PAPERS

The IISTE is currently hosting more than 30 peer-reviewed academic journals and collaborating with academic institutions around the world. There's no deadline for submission. **Prospective authors of IISTE journals can find the submission instruction on the following page:** <http://www.iiste.org/journals/> The IISTE editorial team promises to review and publish all the qualified submissions in a **fast** manner. All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Printed version of the journals is also available upon request of readers and authors.

## MORE RESOURCES

Book publication information: <http://www.iiste.org/book/>

Recent conferences: <http://www.iiste.org/conference/>

## IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digital Library, NewJour, Google Scholar

