A comparison of medical admissions Kamuzu Central Hospital, Lilongwe, Malawi, with disease patterns in Nigeria and South Africa

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Introduction

Epidemiological information concerning disease patterns in Africa is lacking and a plea has been made for more research into the prevalence of disease.[1] The difficulties involved in studying rural Africa populations has meant that most information is based on hospital experience. It is over a decade since Brown analysed 2230 medical admisions to Queen Elizabeth Central Hospital, Blantyre, Malawi.[2] We present an analysis of admissions to the adult medical wards of Kamuzu Central Hospital, Lilongwe, and compare this with our experience in Nigeria and Lebowa, South Africa.[3]

Patients, methods and results

The diagnosis was recorded in 976 patients admitted to the Medical Ward of Kamuzu Central Hospital, Lilongwe, between January and April of 1985 (Table 1). Kamuzu Central Hospital is the district hospital for Lilongwe and the referral centre for both the Centre and Northern Regions of Malawi. All patients in whom a diagnosis was recorded are included.

Table 1. Diagnosis recorded in 976 patients discharged from the Medical Ward of Kamuzu Central Hospital from January to April 1985

Disease Category	Number of Patients	% Total No.
Respiratory	225	23.1
TB alone	98	10.0
Cardiovascular	41	4.2
Hepatic	26	2.7
Diabetes	12	1.2
Neurological	55	5.6
Malignant	13	1.3
Nutritional	7	0.7
Haematological	72	7.4
Joint	28	2.9
Renal	19	1.9
Gastrointestinal	57	5.8
Infections	350	35.9
– Malaria	232	23.7
– Typhoid	20	2.0
– Meningitis	15	1.5
– Diarrhoeal	49	5.0
Other	71	7.3

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Jane Furse Memorial Hospital is the regional hospital for southern Lebowa, South Africa, serving, with 3 other subsidiary hospitals, a population of about 400,000. The majority of the patients belong to the Transvaal Sotho group. 997 patients were admitted to the adult wards between November, 1982 and 31st October, 1983 (Table 2).

Table 2. Diagnosis recorded in patients admitted to the adult medical wards of Jane Furse Memorial Hospital, Lebowa, South Africa, from 1 November 1982 – 31 October 1983

Disease Category	Number of Patients	% Total No.
Respiratory	489	49.0
TB alone	273	27.4
Cardiovascular	147	14.8
Hepatic	24	2.4
Diabetes	43	4.3
Neurological	62	6.2
Malignant	46	4.6
Nutritional	13	1.3
Haematological	40	4.0
Other	133	13.4

Maiduguri is the Capital of Borno State in North East Nigeria with a population of about 300,000. There are 2 government hospitals; a fee paying University Teaching Hospital and the non-fee paying General Hospital which serves the majority of the population. 1,035 patients were discharged from the medical wards of Maiduguri General Hospital from January to April, 1983 (Table 3).

Discussion

Before comparing the disease patterns of Malawi with Nigeria and South Africa, it is important to note that the data from Lebowa, South Africa excludes admissions with certain infectious diseases – which form a major proportion of the admissions to Kamuzu Central Hospital and the Nigerian hospital. Patients with diarrhoea, hepatitis, typhoid, meningitis and tetanus were admitted to a separate unit. No cases of malaria were seen as the hospital is not a malarial area.

The diagnoses at Kamuzu Central Hospital and in Nigeria were recorded in patients admitted from January to April which leads to a seasonal bias, while the South African study was

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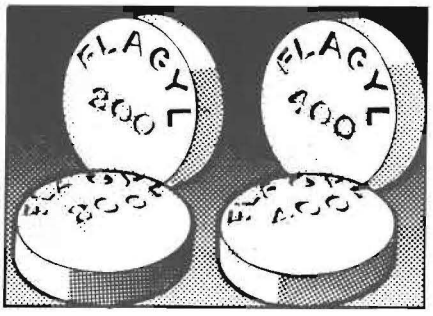

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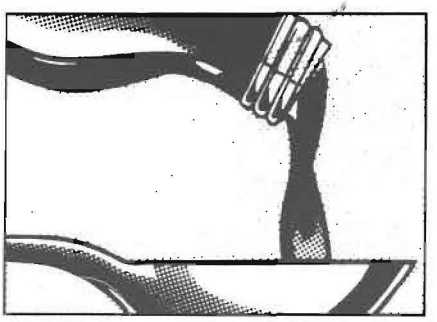
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carried out over a year long period. In Malawi January to April is a hot rainy period while in Nigeria January to February are cold months with the 'hammartan' (dust blown up from the Sahara desert); by April it is hot and dry; the rains come in July. There are seasonal variations in the incidence of certain diseases. In Nigeria meningitis and lobar pneumonia reach a peak in the dry season, while snake bites are commoner in the rainy season. In Malawi the peak transmission season for malaria is November to April, but in Nigeria malaria is prevalent throughout the year.

Nigeria and Malawi both lie within the tropics; the hospitals are at latitudes 12° N and 14 S, respectively, while Jane Furse Hospital in South Africa is outside the tropics at 24° S.

Table 3. diagnosis recorded in 1,035 patients discharged from the Medical Wards of Maiduguri General Hospital, Borno State, Nigeria, from January to April 1983.

Disease Category	Number of Patients	% Total No.
Respiratory	232	22.4
TB alone	137	13.2
Cardiovascular	176	17.0
Hepatic	64	6.2
Diabetes	13	1.2
Neurological	43	4.2
Malignant	13	1.2
Haematological	22	2.1
Joint	9	0.9
Renal	39	3.8
Gastrointestinal	83	8.0
Infections	248	24.0
– Malaria	94	9.1
– Typhoid	13	1.2
– Meningitis	18	1.7
– Diarrhoeal	74	7.1
Other	93	9.0

However, it is not in just the incidence of tropical diseases that there are similarities. When these are excluded, and the South African figures adjusted to take into account the number of patients with infectious diseases, there are similar patterns in all 3 hospitals. These differ markedly from problems now encountered on medical wards in Europe and America, where ischaemic heart disease, cerebrovascular disease, degenerative diseases, chronic bronchitis and malignancy are the major causes of admission. The average age of medical patients in developed countries is rising and increasingly social problems prolong a patient's stay. The commonest cause of admission of patients under the age of 40 years in the United Kingdom is now drug overdoses.

There is a striking general similarity between the disease patterns in Malawi and Nigeria. The two major differences are in the incidence of cardiovascular disease and anaemia. Hypertension is very common in parts of Nigeria; it has been suggested this is due to an inability to adapt to a high salt intake after adapting to years of a low salt diet in areas where salt was traditionally scarce.[4] Anaemia is more of a problem in Malawi; this is mainly iron deficient and the aetiology is multifactorial; hookworm infection and schistosomiasis with a low iron intake all contribute. There is abundant iron in the diet in Nigeria and iron deficiency is uncommon except with chronic severe blood loss.[5] In South Africa the drinking of local beer brewed in iron pots results in excessive ingestion of iron and haemosiderosis.

In all 3 countries, respiratory conditions were common. TB accounted for 10% of the admissions to Kamuzu Central Hospital, 13.2% of the Nigerian diagnoses and 27.4% of the South African patients. The cost of drugs and in-patient treatment must lead to a considerable drain on resources. Pneumonias other than due to TB were similarly prevalent with 9.5%, 53% and 11.1% of admissions, respectively. Asthmatic attacks led to 3.0% of admissions to Kamuzu Central Hospital, 2.3% in South Africa and 1.5% of admissions in Nigeria. Pneumoconiosis, often leading to cor pulmonale, was only seen in South Africa with its mining industries.

There was more variation in the incidence of cardiovascular disease but hypertension, once thought to be rare in Africa, was prevalent in all 3 countries. Congestive cardiomyopathy, a rare cause of heart failure in developed countries accounted for the majority of patients with heart failure in the South African homeland population, although it is now becoming less common in Southern Africa.[6] Rheumatic heart diseases remain depressingly common. In industrial countries the incidence of rheumatic fever has fallen dramatically but rheumatic heart disease is by far the most important form of acquired heart disease in Africa.[7] The disease is not typical in Africa : established valvular lessions develop in children as young as 6 years, and mitral stenosis and atrial fibrillation are both less common complications.

There was a similar incidence of cirrhosis but portal hypertension secondary to schistosomiasis was rare in South Africa although S. Haematobium was a common cause of out-patients presenting with haematuria. Hepatomas were the commonest malignancies in all 3 countries, and were responsible for 8 of 13 cases of malignancy in Malawi, 9 of 13 in Nigeria but only 7 of 46 patients with maglignant disease in South Africa. Carcinoma of the oesophagus was

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the next most common malignancy. The commoner neurological conditions were epilepsy, cerebrovascular accidents and paraplegia.

More cases of Nephrotic Syndrome were seen in Nigeria, (10) than Malawi (5) and South Africa (1). This may be related to the incidence of malaria, schistosomiasis and streptococcol skin infections. Abdominal pain and peptic ulceration were common in Nigeria and Malawi. Duodenal ulceration is now recognised to be a major problem in Africa.[8]

The number of cases of malaria will be an overdiagnosis as all cases were not proven by blood films, but one negative blood film does not exclude malaria, just as a positive film does not mean malaria is the cause of a patient's symptoms. Nearly a quarter of all patients had malaria as the primary diagnoses and a substantial number of patients with other infections will have received a "covering" course of anti-malarial treatment.

Conclusion

The conclusions that can be drawn from our findings are limited but the analysis does provide basic information regarding the pattern of disease in Malawi. Hospital admissions represent the more serious diseases of a population and need to be correlated with prevalence studies in the community. However, not only are our figures of general interest but they can also be used in helping determine needs in the planning of future hospital services.

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