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RURAL MEDICINE

Electives Objectives

LOCATION: TANZANIA, Rural Medicine.

OBJECTIVE 1

Describe the pattern of malaria in the population which you will be working and discuss this in the context of global health.

Malaria is a serious disease and the World Health Organization estimates that around 250 million malaria episodes occurred in 2006 leading to around 1 million deaths with 90% occurring in the sub-Saharan Africa. It is particularly prevalent in Tanzania where life expectancy is at 45.2 years. The village I had my rural medicine electives attachment serves a population of roughly under 5000 people both from within the village of Mkwaja and the surrounding villages in the district of Tanga. It is a seaside fishing village without access to piped water or a sewage system resulting in the use of pooled tanks around houses for water storage capturing rainwater and storing water carried from pumps located around the town. The following data shows the incidence of the top 10 diseases in the village in 2009:

Table 1: Showing the disease profile of the Village of Mkwaja from data generated in 2009.

Disease	**Under 5 years**	**Over 5 years**	**Total**
Malaria	968	1247	2215
URTI	559	592	1151
Diarrhoea	229	95	324
Skin Infection	165	98	263
Minor Surgical Condition	61	192	253
Pneumonia	96	55	151
Schistosomiasis	17	75	92
Epilepsy	6	66	72
Asthma	2	45	47
Fungal Infection	11	30	41

As we can see from table 1 there are a clear disease burden caused by Malaria within the local community. HIV is also a growing issue in Tanzania affecting around 8% of the population causing a mortality of around 160,000 individuals a year. However there no reliable methods in

diagnosing or treating HIV within the Mkwaja village and records of incidence are not kept. There has been some HIV testing kits being provided by the district health board however for the majority of the time they were out of stock. Funding for social health programs within the village was non-existent and while many of the staff was anxious and ambitions in wanting to change and educate the populace they get little to no support in doing so from the local health board and governments.

Many of the diseases seen on the list are also the result of poor sanitation, lack of easily accessible clean water and the lack of health education in disease prevention. Just walking around the village and talking the villagers there is a sense that the disease profile and burden may be far higher than recorded. Many villagers simply do not visit the clinic unless they feel extremely ill. There were many children walking around with rickets and if they are not insured by their parents they would likely not go to the clinic at all.

It appears the problems in Mkwaja village is not an isolated problem but shares many similarities with other communities in sub-saharan Africa. The need for improving infrastructure and public health goes hand in hand in trying to increase the general well being of the communities.

OBJECTIVE 2

Describe the equipment and medication available and how this reflects on the local disease burden and how it differs from the UK.

The Mkwaja Clinic has its own dispensary and is able to prescribe and hand out medications onsite. It obtains its medications through deliveries on a bi-weekly basis from the district health board. Medications can be requested via a text message service and are stored on a simple shelf. A fridge is present however due to a very unreliable power infrastructure system present in Tanzania it faces frequent power cuts, often lasting many hours. In the time we were there we witnessed a power cut that lasted more than 48 hours which caused the spoiling of all the vaccines and medications stored within the fridge.

The medications available were also very basic, coming from a small select list that the local health board provides covering the treatment of the most common few illnesses. There are no surgical equipment and any cases more advanced than simple colds and coughs would need to be seen in the local district hospital. However there is no referral system in place and the patients would need to make their own way towards the hospital which can take longer than half a day depending on the weather and road conditions. The dirt roads to the district capital is often completely inaccessible during the rainy seasons due to muddy conditions and overflowing rivers leading to potentially extremely dangerous conditions.

This is extremely different from the well stocked and equipped hospitals and clinics in the UK.

There are also no pharmacies in the village, which meant the dispensary at the clinic was their only source of medicines which can pose a problem as if the dispensary does not stock the medication the only other option would be to travel to the district capital. There is also no prescription system so many patients that have access to pharmacies often self medicate with many patients telling me they take diclofenac for simple fevers and colds as directed by a pharmacist and not a medical practitioner.

OBJECTIVE 3

Describe the difference in practise by medical staff under conditions with limited diagnostic equipments.

There is little to no diagnostic equipment available at the Mkwaja Clinic. There used to be Malaria detection equipment however 2 years ago there was a burglary at the clinic where all the equipment was taken and they have so far still not managed to provide a replacement. All fever and headaches are presumed to be Malaria which may be why there are such high numbers of Malaria cases in the incidence reports. All suspected cases are treated with the full course of antimalarials mainly consisting of Artemether/lumefantrine as well as amoxicillin as an antibiotic.

There was no concept of evidence based prescribing within the medical staff and they had no access to medical journals, textbooks or the internet for research. The idea of antibiotic resistance was also foreign to the medical staff resulting in the prescription of antibiotics for nearly all patients with suspected infections from diarrhoea to simple colds.

The largest difference between the practise in rural Tanzania and clinics in the UK was the lack of ability to monitor progression of illness. There are not any methods to do repeated blood tests (or any at all) and no equipment for peak flow or spirometry. The only medical equipment was a analogue sphygmomanometer and a stethoscope. Notes were poorly kept in small exercise books were are often lost or misplaced and little to no patient education and advice was given at the end of consultations.

OBJECTIVE 4

Develop a greater appreciation for resource poor areas and how it affects clinical decisions and outcomes

I felt this elective really allowed me to develop a greater appreciation in practising medicine in resource poor areas. Diagnostic tests become luxuries and there are far greater emphasis placed in experience and clinical judgement. The clinic only had one doctor with no ability to refer or to consult others. I felt this was very challenging and different from the UK where there are

multiple levels of escalation a GP may have at their disposal if a patient a complex medical problem.

The isolation and the restrictiveness of practising medicine in resource poor areas means that there a huge reliance on over prescribing with medicines hoping one of them may work. While I would like for greater patient communication and education especially when prescribing antibiotics and antimalarials this is rarely done.

Chronic illnesses such as high blood pressure, diabetes and asthma are not well followed up or controlled as many adults have to pay every time they visit the clinic, while the health care is heavily subsidized by the government even $1USD may be too much for the villagers of Mkwaja who mainly work as Fishermen on small wooden Dhows in the Indian Ocean.

Having an extremely small drug list to prescribe from also appeared to be very challenging and felt very restrictive. Instead of having the entire BNF at your disposal there was a list of less than 100 medications that the health board provided and an even smaller list that the dispensary provided. All medication provided except for antimalarials were generic drugs manufactured in neighbouring Kenya as it appeared logistically it was difficult obtaining medications from other countries.