

Pathology in West Africa: problems of training and practice

Here is the second in our short series on Pathology in Africa.

Introduction

Medical education in West Africa, both at undergraduate and postgraduate levels, is facing many problems. This is particularly true in the case of training of pathologists and the delivery of pathological services in the hospitals in the West African sub-region. Only at the tertiary hospital level do we have a reasonable degree of provision of pathological services in West Africa. Most other hospitals at the secondary and primary level of care do not investigate their patients to confirm diagnoses.

This article highlights the various problems encountered in the provision of training in pathology and pathological services in West Africa. These include: problems of personnel, infrastructure and equipment, and service delivery. These problems are influenced by political, social and cultural factors.

Background

At his inaugural lecture delivered at the University of Lagos in Nigeria on 17 January 1968, the late Professor Heratio Orishejolomi Thomas, who was a surgeon, said: 'Our West African universities have done their work well in the area of undergraduate education. In the postgraduate area we are beginning to find our feet'.¹ This statement made four decades ago is still valid to some degree today. This is because both undergraduate and postgraduate medical education in the West African sub-region still leave much to be desired. As early as 1970, the National Postgraduate Medical College was established in Nigeria. Concurrently, teaching hospitals were created for medical schools, both for the training of medical students and to provide an opportu-

nity for training various cadres of health workers including pathologists and tertiary healthcare workers. In 1976, the West African College of Physicians (WACP) was established as another college for training health workers in the sub-region. These two colleges, apart from relying on the training of residents in the accredited teaching hospitals, also offer annual revision courses and update courses for residents. Each of these colleges visits institutions (teaching hospitals) from time to time, to assess their facilities and determine whether or not they are suitable for the training of residents.

The Francophone countries have a different approach to postgraduate training because most of their training programmes are faculty based and lead to a PhD instead of the fellowship that Anglophone countries adopt. In 2008, the West African Health Organization (WAHO) organised a workshop to address the equivalent of postgraduate medical degrees in Anglophone countries compared with Francophone. Participants were drawn from all the faculties countries in WACP and the Dean of Faculties of Medicine that award postgraduate medical degrees, and specialists were invited from various institutions in Francophone countries.

I will address three important challenges:

- human resources
- infrastructure and equipment
- service delivery by the laboratories.

These three issues are all influenced by political, socio-economic and cultural factors.

Human resource challenges of laboratories in West Africa

Most developing nations have extreme shortages of trained medical personnel, and pathology is no exception. Although pathology staffing in North America and Europe varies from a minimum of 14 to as high as 40 per million population, many developing countries are served by a small fraction of this, varying from 0 to low single digits. For example, Uganda has 18 practising pathologists for a population of 28 million, and Tanzania has 15 pathologists serving 38 million people. In West Africa, the story is very similar: Sierra Leone has three pathologists for five million people, Ghana has about 20 pathologists for 22 million.²

Table 1:
Human resource
challenges

Limited number of skilled personnel
Lack or inadequate training programme
Lack or inadequate training facilities
Trainees who go abroad do not return
Trainees who return lack facilities to apply what they learnt
Poor pay means no job satisfaction (brain drain)

The distribution here in Nigeria varies widely from state to state. The pathologists are concentrated mainly in the teaching hospitals and a few are in federal medical centres. In Osun state, with the presence of Obafemi Awolowo University Teaching Hospital (OAUTH) and Ladoke Akintola University of Technology Teaching Hospital (LAUTECHTH), there are 28 pathologists serving a population of 3.4 million. The distribution is 16 in OAUTH (a federal teaching hospital); 11 in LAUTECHTH (a state-owned teaching hospital) and one in the State Health Management Board. The latter has nine general hospitals located in different districts within the state.

In Kwara state, there are about 15 pathologists (all in the University of Ilorin Teaching Hospital) for a population of 2.4 million; in Oyo state, there are about 30 pathologists (24 are in the University College Hospital) for a population of 5.6 million, and Kaduna state in the Northern part has 15 pathologists for a population of 6.1 million.² There are 36 states in Nigeria and these three examples are highly privileged because they have one or two teaching hospitals attached to universities.

However, in many states there are no pathologists at all. This lack of adequate number of personnel has an effect not only on training but also on the provision of services to the population. Trainees who are fortunate enough to go abroad and attend programmes in Western institutes of learning usually encounter difficulties in applying their new skills on their return home. Such exposure, which was meant to contribute to human resource needs of the developing countries, sometimes becomes an avenue for 'brain drain' because a good number of such trainees refuse to come back after training. This may not be unrelated to economic incentives and the realities of the job market. Western countries have long relied on foreign-trained physicians for the provision of their own healthcare needs.^{3,4}

In addition to the direct emigration, there is

an indirect effect when countries with a relatively high level of training, such as South Africa, lose their qualified staff to the West and then in turn attract medical personnel from other African countries. Compounding this problem are recruiting efforts by Western non-governmental organisations (NGOs) and programmes, such as those supported by the Organization for Economic Cooperation and Development, which tend to divert health professionals from frontline practice into their own projects by offering them higher salaries and benefits.⁵ In Nigeria, examples of NGOs which drain heavily on our work force into their projects include AIDS Prevention Initiative in Nigeria (APIN), the President's Emergency Plan for AIDS Relief (PEPFAR), Global AIDS Initiative in Nigeria (GAIN), etc.

Infrastructural and equipment challenges

Lack of infrastructural facilities is another of the problems confronting the provision of laboratory services and training in developing countries. Laboratory space is often inadequate. Basic equipment is usually not available. Donation of equipment from developed countries often compounds the problem it is meant to solve. Many times, such donations – in the form of used equipment or books – are made without serious consideration as to how well these gifts fit the needs of the developing countries. Sometimes, donated equipment is non-functional and outmoded.

The situation is made worse because such equipment is kept in the limited space that could have been used for active equipment. Equipment that has never been used is often seen during accreditation visits in the passages and corridors of limited laboratory space several years after their donation or purchase. Complex equipment designed for operation in temperate climate is sometimes donated to countries with a tropical climate, where things break down even more easily and where there may be no local expertise for fixing problems that may arise. Occasionally, when an expert technician is available, the lack of spare parts becomes a problem.

Western laboratory suppliers have developed a system of equipment lease in which the laboratory will partner with the manufacturers so that equipment is supplied free and the laboratory only pays for the reagents. Such an arrangement often includes the replacement of the old equipment by a new model after a period of about four years. In developed countries, equipment is not installed before arrangements for its maintenance are concluded, but unfortunately this is not so in developing countries.

Power supply is usually erratic and laboratories have to spend huge amounts of money daily on diesel to maintain services. Another reason for an electrical generator is for the provision of refrigeration

Table 2: Infrastructure and equipment challenges

Inadequate laboratory space
Lack of basic equipment
<ul style="list-style-type: none"> • Donated equipment not useful • Many are non-functional and outmoded • No expert technical support • No spare parts
Lack of consumables
<ul style="list-style-type: none"> • May be expensive • Manufactured abroad and delay in procurement • Storage problem because of lack of power or refrigeration
Lack of or erratic supply of pipe borne water
Lack of or erratic supply of electricity

Table 3: Challenges related to the provision of laboratory services

Non-availability of laboratory testing
Client/patient dissatisfaction
Turnaround time not usually defined
Absence of good quality assurance
Sample collection and transportation
Cost of laboratory testing
Delivery of result
Patients' attitude to testing
Physicians' attitude and behaviour
Lack of autopsy services

storage facilities for samples and reagents. Water supply to the laboratory is another major barrier to the smooth provision of laboratory services in developing countries.

Challenges related to the provision of laboratory services

In Nigeria there is usually no provision of laboratory services at the primary healthcare level. However, at most secondary care level settings there is a laboratory which is often just a small room or cubicle housing a non-functioning microscope and some staining facilities. It therefore means that only teaching hospitals, which serve as tertiary institutions, provide a reasonable laboratory service. Even these services need to be improved upon. One of the simplest methods of performance assessment is client/patient satisfaction. National quality control programmes are not readily available in developing countries to ensure accuracy of results. Ghana recently introduced a national quality assurance (QA)

programme and participates in external (international) QA as well.⁶

The supply of reagents and kits is another major problem affecting laboratory services in developing countries. The kits are usually manufactured abroad and thus are not always readily available. Erratic power supply also creates problem for the storage of reagents.

Autopsies are not widely practised in developing countries for several reasons, including cost, cultural barriers and lack of both facilities and trained personnel. Lack of or an inadequate number of autopsies is having a serious effect on the training of laboratory physicians. Also, reliable data that might impact significantly on healthcare policy, and which can only be acquired through autopsies, are not available. There is also a lack of forensic pathology expertise and practice in most developing countries. Therefore the cause and manner of death may often not be as thoroughly investigated as expected.

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