MEDICAL EDUCATION

Teaching paediatrics for the developing world

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Many paediatricians have had the good fortune to spend some of their careers in the developing world. My own overseas experiences have convinced me that the most important contribution to health that can be made by expatriate workers is not by cure, but through education.

Doctors have been criticised over the years for withholding their knowledge and skills from others, perhaps to maintain their own status and earning potential.¹ However, as the global population increases and the state of the world's poor deteriorates, this must change urgently. There are currently estimated to be 800 million people globally who have no significant access to health care facilities.² Poor health and poor education are significant blocks to development in many parts of the world.

Through this paper I hope to encourage all paediatricians to teach for the benefit of the developing world. Such teaching can take place at home or abroad and can be undertaken by health professionals at all levels of training. In particular, I hope that it will highlight some of the advantages to paediatricians in training of spending some time working and sharing health knowledge in the developing world.

To teach or to learn?

The emphasis of this paper is on teaching. The teacher is, however, nothing more than a facilitator of the learning process. It is easy to forget that teaching that does not result in learning is useless. Teachers must always remember this simple, but important, fact.

Who should we teach?

Doctors have only a limited impact on the health of populations, especially in the developing world. In the case of children it is parents whose decisions and actions have the most impact on their health. In developing countries, if a parent decides a health "professional" is to be consulted, then it is more than likely to be somebody far more accessible than a doctor. It could be another family member, a local traditional healer, some form of village health worker (VHW), or a local dispensary nurse. It is to all these people that much of our teaching must ultimately be directly or indirectly targeted.

PARENTS

Teaching of parents should be considered in all consultations. Transferring information to parents demands great skill, requiring that you are

understood and are culturally appropriate and sensitive. A willingness to learn other languages is also important and aids all teaching. Remember that body language is not universal—nodding the head may not just mean yes! Parents should be given the chance and be encouraged to ask questions as this makes their learning experience more active and more effective. Written and visual information passed to parents can be useful as information given verbally during consultations may not be remembered. Such information should be carefully prepared and field tested as it is easy for it to be misunderstood.³ The impact of all information transfer should be evaluated for its impact on knowledge, attitudes, and practices.

Parents can be taught through health education programmes, which can make use of the power of modern telecommunications. Even some of the most remote and poorest of villages may have access to radio, television, or even satellite television, and through these systems there is the potential for the transmission of important health messages. Tobacco and alcohol advertising must be fought against with the same vigour used successfully by paediatricians and others against inappropriate infant formula feeding.

TRADITIONAL HEALERS

Paediatricians working in the developing world may come across traditional local healers or the results of their work. Traditional healers are often highly secretive of their own skills, but it is important to recognise that their knowledge could complement our own and that many people consult them in preference to "western" trained health workers. If some of our knowledge is shared with them they have been shown to make excellent village health workers⁴; there is value, therefore, in attempting to integrate them into the health system.

VILLAGE HEALTH WORKERS AND NURSES

Doctors, especially those from other countries, may not be the most appropriate people for teaching in VHW training programmes where the workers may have minimal formal education.⁴ Doctors with local and appropriate clinical experience should, however, have an advisory role in the curriculum of VHW training courses and in the production of standardised treatment guidelines flexible enough for use at all levels, including by the

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doctors themselves. The quality of VHW skills should be assessed before and re-evaluated after training courses.⁵ Bailey and Coombs have assessed aspects of VHW training in diarrhoea management and shown it to be effective. The more interactive and tiered (that is—where trainees rapidly go on to become trainers themselves) “Kader” methods developed in Indonesia may be more effective than more traditional didactic teaching methods.⁶

It would not be appropriate for doctors to be wholly responsible for teaching nurses or vice versa. Margins of clinical responsibility tend, however, to be much more flexible in the developing world where it is either VHWs or nurses who will be making most diagnostic and therapeutic decisions. Participation by doctors in nursing schools and nurse led dispensaries is important. Teaching with nurses and other professions allied to medicine should be from a position of equality, with a two way flow of information.

DOCTORS AND MEDICAL STUDENTS

Many doctors travelling to developing countries may assume that their main role is to teach doctors and medical students in the local medical schools. This may be the easiest way to teach with limited time, funding, or language skills. Other health workers can be reached indirectly through these doctors. Many highly trained western doctors may, however, not have the necessary knowledge to teach appropriately in a different setting. The local disease spectrum might be very different and time will be needed for would be teachers to master new diseases and treatments. Some medical schools in developing countries have been slow to accept some newer ideas such as the primary health care approach to health.⁷ Teaching must be planned in such a way to encourage progress, with care being taken to avoid the “ivory tower syndrome” where a disproportionate amount of health funding is spent in centralised, high technology hospitals.⁸

Doctors and medical students can also be taught in western countries. They may be from developing countries on electives or working as doctors in training. UK graduates and medical students can also be encouraged to spend a period overseas with suitable teaching from more experienced colleagues. The educational needs of all of these groups are distinct and merit individual consideration with a strong emphasis on epidemiology and public health training.

What to teach?

The ideal core knowledge for different cadres of health worker will vary from one setting to another. To discover the local health needs and prioritise them will require local knowledge best gained by working in that setting before teaching. Teaching that is not locally appropriate, especially if it includes exposure to unavailable or high technology resources, may damage meagre resources by encouraging the purchase of unsustainable equipment.

In planning a curriculum, local health policy objectives must be considered. These are likely

to include a strong emphasis on the primary health care approach to health that has emerged from and before the Alma Ata conference and declarations of 1978.⁹ The main thrusts of this are: equity of resource distribution; community participation and involvement; intersectoral cooperation in health; and the use of appropriate technology.

When teaching about diagnosis and treatment it is advisable to follow standardised local protocols, which will hopefully exist. The protocols devised by the World Health Organisation (WHO) are in use in many developing countries for common disorders such as acute respiratory infection and oral rehydration treatment. These protocols are carefully thought out, evidence based, and field tested. They may also be different from protocols in use in developed countries. Where possible such protocols should be evidence based and learnt as well as practised by the teacher before being taught to others.

The WHO division of Child Health and Development has, in conjunction with Unicef, introduced a global Integrated Management of Childhood Illness (IMCI) initiative.¹⁰ This aims to improve health worker case management skills through locally adaptable international guidelines and protocols as well as activities to promote their use. They also plan to improve health systems management as well as family and community health related practices. Some guidelines and some standardised in-service training courses are in operation and have been evaluated. The IMCI extends beyond just control of diarrhoeal diseases and acute respiratory infection to include other significant areas such as malaria control, nutrition, an extended programme of immunisation, and the essential drugs programme. An information pack is available from the WHO Child Health and Development division.

The individual teacher may question some aspects of the local health policy or of existing protocols. To ignore local policy during a teaching programme, especially as an overseas national, however, is likely to be ineffective and lead to accusations of an imperialist outlook. In some cultures controversial views may not be directly challenged, but they may be ignored, with a loss of respect for the teacher. A diplomatic, tactful, and non-prejudiced approach is needed.

Sometimes the teacher may be invited to teach in a programme, the aims of which seem inappropriate. Before accepting a teaching assignment, make sure that you agree with its objectives and that it is relevant to the needs of that country. You can always say no, even if it does mean turning down a trip to an interesting and sunny corner of the world!

Traditionally, teaching for the MRCP (paeds) examination has been an important aim of senior UK paediatricians overseas. The first part of the examination can be taken in several centres in Commonwealth countries, where it is still popular. Although there may be some useful elements in the curriculum, the examination in its current form is only minimally relevant to the needs of doctors in

the developing world. The Royal College of Paediatrics and Child Health (RCPCH) should consider the differing needs of overseas candidates as it modernises British paediatric postgraduate examinations.

How to teach?

Planning individual sessions and entire teaching programmes is important. Werner and Bower⁴ have many valuable ideas, which, although aimed at VHW level, are adaptable to many situations. They also spend much time examining alternative approaches to the traditional lecture method. This is the main method of teaching known to many doctors, who are most comfortable standing at the front of a class giving a talk. Many of us have minimal experience of such techniques as the use of small groups to encourage critical thinking, the use of role play, or the use of the problem orientated approach to learning. Whichever techniques are used, enthusiasm and energy are always needed for good teaching.

Good teachers also need to learn their trade. Much literature is available¹¹ for home study and some excellent courses are available in teaching techniques. Many regional postgraduate centres in Britain are running courses in teaching theory and practice—for example, the University of Wolverhampton runs an excellent two week “Training of trainers” course for development workers of all backgrounds.

Suitable teaching aids and equipment should be carefully considered and tested before use. Slides, video recorders, and overhead projectors can all be useful substitutes for clinical material, but remember that equipment may not be available or in good repair. Electricity supplies may not be reliable and spare bulbs for projectors are sometimes not obtainable. The Teaching Aids at Low Cost (TALC) series of teaching aids and slide sets can be useful, and cheap text books were obtainable through the English Language Book Service from which, sadly, British government funding has now been withdrawn. The increasing availability of computers and the internet has the potential for a great impact on teaching and health information dissemination. In Indonesia, Yogyakarta University is organising a distance learning curriculum for district health officers based on weekly internet connections.

The Wellcome Trust Tropical Medicine Resource is a computer based educational product for health professionals and students. It consists of a CD-ROM electronic library of images and text as a visual archive, as well as a series of interactive tutorials on various subjects of tropical and international health. It is easy to use in any setting where personal computers are available and will be even easier when translated into Windows format in 1998. The tutorials are targeted at undergraduate and postgraduate health science students studying in an English language medium.

An opening exists for the RCPCH to develop a resource centre of teaching materials such as books, slides, video cassettes, computer programs, and suitable lightweight, robust hard-

ware. The College could also be involved in organising, coordinating, and funding suitable teaching visits by UK paediatricians.

Effective teaching does not end with the last session of the programme as evaluation must be considered to improve future courses. At the beginning of a course testing can help to define the baseline knowledge and allow the participants to define learning objectives. Subsequent evaluation can assess how far these and other objectives have been met. The effectiveness of a programme could also be considered from the impact it may have on mortality and morbidity statistics.

Where to teach?

THE DEVELOPING WORLD

Teaching is most effective when undertaken as near as possible to its point of application. Doctors with a set geographical area of responsibility should be frequently travelling where possible, with teaching as a main objective. An approach to visiting health centres and dispensaries is well laid out by Gibson and McClelland.¹²

To visit and teach at grass roots level can be difficult for reasons of time and geography. Distance learning techniques, computer assisted where possible, may have much to offer. Much teaching will also take place in local, regional, and national teaching centres, usually hospitals. We must remember that these places may be very different from the usual place of work of the trainee. Some trainees may rarely venture to large towns and may have conflicting interests when there. It is often more expensive to live in the town than the village and incentive payments often made to health workers may have negative implications and are difficult to administer.

The workshop approach is understandably attractive as such discrete, time limited activities are relatively easy to fund and can move through a region teaching several health workers on each occasion. A useful and now well field tested approach to the use of workshops in strengthening health management at a district level derives from the work of Cassels and Janovsky¹³ in Ghana, which has been successfully applied with WHO support in other countries. Unfortunately, workshops have too often been an end in themselves as far as some outside funding bodies are concerned. Too often the “expert” has arrived in a gleaming four wheel drive vehicle and moved on after a week or two without the workshop being a part of an ongoing training and supervision programme. “Workshopping” must be carefully planned, integrated, and followed up where possible.¹⁴

WESTERN COUNTRIES

Many people reading this paper will have been involved with the training of overseas doctors in Britain and some carefully thought out approaches have been applied.¹⁵ I believe, however, that much of the current training of overseas doctors in the UK will have little impact on health in the developing world.

The main objective of some doctors travelling from developing to developed countries is emigration with an (often vast) improvement in salary, living standards, and perhaps educational opportunities for their children. Economically motivated migration has occurred throughout history, but can become a problem if it is only available to the more educated classes as this can contribute to brain drain in their own countries. Some doctors may be fleeing persecution or intolerance. Others may be coming for training and perhaps a postgraduate degree/diploma that can enhance private earning power in their own country. Many doctors in developing countries must spend at least some time in the private sector because of poor work conditions in the public sector.

The motives of the British medical registering and immigration authorities may conflict with those of the medical teacher. There has for many years been a shortage in the UK of doctors in many specialties, and home grown doctors are expensive and slow to train. There are many questions that can be raised about the current system of training overseas doctors in this country, which leaves many such trainees in positions difficult to fill because of poor career prospects (for example, staff grade posts) or geographical location. Given the pending crisis of medical staffing in this country there is an urgent need to be more honest about our approach to the training and employment of medical graduates from developing countries.

The long tradition of training doctors from developing country in the UK should continue, but with more careful thought about their likely future training needs where they are different from those of local trainees. The guide *Paediatric training in the UK*, available through the RCPCH, contains useful information for overseas graduates.

Conclusions

Werner quotes the following old Chinese saying as a motto for good teachers:

“Go in search of your people: love them, learn from them, plan with them, serve them; begin with what they have, build on what they know. But of the best teachers when their task is accomplished, their work is done, the people all remark: ‘We have done it ourselves’”.

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