INVITED ARTICLE

Preparing pharmacists through pharmacy education and training for a professional role serving their communities

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Abstract

Experiences of designing and implementing courses for the teaching and training of pharmacists competent in working with patients in the hospital and community situation are related. Four courses in three countries and continents, over a period spanning 38 years, are briefly discussed. All were in pioneering situations where no precedent for such courses existed and established career patterns for graduates were weak or non existent. Observations by academics and practicing pharmacists of course outcomes on both the practice of pharmacy and the acceptance of course graduate by other health care professionals and patients indicated that the courses had achieved their initial objectives. The courses have been widely followed by other schools of pharmacy. Initial and subsequent editions of a textbook based on aspects taught on the courses have been well received throughout many parts of the world.

Introduction

This is a very wide ranging subject and in this paper only brief coverage can be attempted. The examples given are based on first-hand and experience over many years preparing pharmacists to professionally serve their communities in Thailand, Zimbabwe (when it was Rhodesia) and the United

Kingdom. It is a slow process and may take 5-10 years after a concerted effort is made by some pioneering individuals before any changes in practice begin to emerge. A change of attitude and an agreement on what is seen to be needed of pharmacists in practising their profession has to be the first important step to be taken. That is to agree that most pharmacists will be involved with patients in the course of their duties and will need the appropriate attitudes, knowledge and skills to equip them to meet their patients' needs. My own change of attitude took place during my time working as a missionary pharmacist at Manorom Christian Hospital (1959-1962), situated among the paddy fields in rural Central Thailand, 100 or so miles North of Bangkok. This hospital sought to provide first class medical care and during my time had a minimum of six doctors, 20 plus nurses and two pharmacists. It became obvious that hospital pharmacists could be much more involved in patient care and contribute their special expertise by greater cooperation with physicians, surgeons, nurses and other medical staff. This was done by forming a pharmacist led Pharmacy and Therapeutics Committee for regular review of the Hospital Formulary and having a greater participation in providing Drug Information, especially to physicians. It also involved direct involvement with patients in a variety of ways. More unusual examples were having a personal input in snake bite treatment, together with a physician, and having responsibility for deciding and issuing the correct medication for various intestinal infestations identified by the pathology laboratory.

Outpatients often commented with satisfaction that our medicines actually worked. This was because the diagnosis was correct, the medicines were the genuine article and the dosage instructions and length of treatment were clear and correct. Most patients usually bought the wrong medicine for their condition from unqualified traders in the market place and took the medicine for just a day or two in order to save money. The result was not surprisingly no improvement in their condition.

Course models

Zimbabwe 1973-1977

In Zimbabwe, I had the opportunity to initiate a three year B.Pharm. (Honours) degree. This was followed by one year of practical experience, leading to registration as a pharmacist. Six weeks of full-time clinical experience was introduced between the second and third years of the course. Thus we were not faced with the sometimes divisive process of having to remove material in order to make space for clinical material. The six weeks was taken from what would traditionally have been long vacation. A lecturer with a Pharm.D. from a Californian university had day to day responsibility for the course. There were only 25 students in the first few intakes, which was an advantage when arranging placements for hospital ward experience. Once qualified these graduates made an immediate beneficial contribution to patients' welfare and received a great reception from practising pharmacists.

Zimbabwe then had a relatively small population and so the impact was felt countrywide.

Another innovation which was introduced in some pharmacies in Zimbabwe was the keeping of Patient Medication Records. Although these had to be kept manually in those days the pharmacists who kept these records reported a much greater involvement with patient care as a result. This was appreciated by patients and resulted in an increased number of patients seeking this service. The records can now be kept by computer and are much simpler to maintain so that this facility can be offered quite easily.

Glasgow 1978-1983

In Glasgow, as one of my responsibilities, I was the Course Director of the first MSc in Clinical Pharmacy in the UK. This was established in 1976 at the University of Strathclyde. I gained experience of the difficulties in teaching and training postgraduate pharmacists for a role that did not officially exist and was not universally accepted

The M.Sc. Clinical Pharmacy at Strathclyde was established in a pioneering situation. Initially there were no clinical pharmacy role models who could teach on the course and a selective use of supportive physicians had to be used, with varying success, to teach much of the clinically related material. Professor David Lawson, a physician at Glasgow Royal Infirmary, was an important advocate for and teacher on the course. David and I co-edited a textbook to help support the course (Lawson and Richards, 1982).

Another difficulty faced was that initially there were no clinical pharmacy posts available for the graduates when they completed the MSc and they had to pioneer the practice of their clinical skills in less than ideal situations. Their much appreciated contribution led to a gradual change in this situation and to the establishment of recognised clinical posts in hospitals. The government soon recognised the contribution made by clinical pharmacists and backed the expansion of clinical posts. It can be seen from this that the first MSc graduates went into hospital practice. Community practice was colonised later when undergraduates had the opportunity to study more patient oriented and clinically related material.

At the University of Strathclyde undergraduates requested that more clinically related material was introduced to the degree course. In the first instance 10 of the final year were selected for an introductory experience. They then shared their experience with the rest of the final year. This was because it was only possible to provide for small numbers at that stage. Later undergraduates were able to benefit from being taught by practising clinical pharmacists.

Aberdeen 1986-1997

In 1986, I was appointed Head of the School of Pharmacy at The Robert Gordon University (RGU, in those days called the Robert Gordon Institute of Technology). In Scotland, the pharmacy degrees were of four years duration, followed by one year of structured practical experience, before taking the examination to be

registered as a pharmacist. In England, Wales and Northern Ireland, the degree courses were three years in duration. When I went to Aberdeen, the pharmacy curriculum was in need of revision and this gave the opportunity to introduce new patient oriented material from year one of the course and have students participate in patient ward rounds in their final year. We also used teacher/practitioners to provide teaching in the clinical situation. The teacher/practitioner spent a percentage of their time in a teaching post, supported by the university, and the rest of their time in a hospital post. They were very valuable in getting the clinical teaching established but it proved to be very demanding for the teacher/practitioner to fulfil both commitments. Later community based teachers/ practitioners were appointed.

In a similar way that the Zimbabwean pharmacy graduates had made an immediate impact on the practice of pharmacy in Zimbabwe in the 1970s so the RGU graduates made an immediate impact on the practice of pharmacy and their professional colleagues in the late 1980s and 1990s. One influential Edinburgh community pharmacist said to me, "I don't know what you have done to the course in Aberdeen but I have never seen such confident and competent young pharmacists as the ones who are now graduating from RGU."

In 1977 in order to comply with a European Union directive all pharmacy degree courses in the UK became four years in duration. It was decided at that time that the four year course should lead to a master degree (M.Pharm.). This was a wise decision and gave added status to the pharmacy profession The four year course gave the opportunity to all universities to incorporate much more patient related material and clinical experience into their courses.

Maha Sarakham 1998-2002 full-time and visiting for four weeks or more per year 2004-2011

Before retiring from RGU, I was asked by the President of a new Thai University in a poorer part of Thailand (Isaan, or Northeastern Thailand) if I would initiate a new Faculty of Pharmacy, as a Thai member of staff, in his University. After completing my responsibilities at RGU, my wife and I set out for Thailand in January 1998 to develop a six year Pharm.D. course at Mahasarakham University (MSU). This time the course structure was somewhat different but the patient oriented material and clinical experience through clinical placements was the same.

The Pharm.D. curriculum was accepted in 1999 and the first intake of students were received onto a two year part-time 'top up' course for qualified pharmacists. They studied the fifth and sixth years of the Pharm.D. curriculum. The advantages were that only around six students were on the courses at one time. Consequently, clinical teaching and practice placements could be developed without too much pressure. We also established a University Community Pharmacy to provide teaching in the community situation and to act as a model community pharmacy. Thai lecturers from other

Thai universities who held a Pharm. D. qualification from a North American university helped teach certain aspects of the course. The MSU course benefits from having the practical training in patient situations taught in an integrated manner with theoretical teaching. Thus the relevance of the theory is impressed on the students.

The first few years of MSU Pharm.D. graduates have scored well in the National Comprehensive Examination taken by all new graduates from Thai Faculties of Pharmacy and were placed in the top half of the overall league table of results. MSU is only the second Thai university to award the Pharm. D. It has now been decided that all Thai faculties of pharmacy should move to the Pharm.D. curriculum. This is a big encouragement. It is disappointing, however, that the Thai authorities only give the same status to the Pharm. D. as to the BSc in Pharmacy. In future, the Pharm.D. should be awarded at least the same status as a master degree.

It can be seen from the brief account of degree courses at each of the four universities in three different continents where I have been involved establishing new pharmacy course curricula, which have placed an emphasis on patient oriented teaching and provided clinical pharmacy teaching and experience, the new graduates have made an immediate and noticeable contribution to the professional role of pharmacists. Therefore it may be concluded that pharmacists can be prepared for a professional role in serving their communities through pharmacy education.

The material taught on all patient oriented courses have a similar basis and this will be considered briefly.

Attitudes

It is important to let students develop a professional attitude so that by the time they graduate they will be well acquainted with the high ethical standard required of them in practising their chosen profession. They should dress appropriately and seek to keep their workplace clean and well organised. People make assump-tions about other people based on initial impressions and it is important that the initial impression a pharmacist makes with a patient gives confidence. This overlaps with communication. Just how the right attitudes are instilled into students will vary from institution to institution. We still have much to learn as to which methods are the most effective.

A caring attitude should also be encouraged in students as pharmacy is a caring profession where the needs of the patient should be given priority over other considerations such as making money.

Medicines are potent substances with inherent dangers attached to their use and an attitude of attention to detail and accuracy must also be a part of all pharmacists' attitude to their work.

Skills

Communication has been mentioned above. It is a skill that is very important for pharmacists, whether it

is written, verbal or non-verbal communication. Pharmacists need to be able to communicate accurately, clearly and acceptably with patients, colleagues and other health care professionals. For example if there is inappropriate or inaccurate advice given on medi-cation usage the results may be catastrophic for the patient.

The importance of non-verbal communication may come as a surprise to many students. They will need to be aware of the influence of body language such as gestures, facial expression, eye contact, physical contact, body posture and personal space.

Written communication may be developed throughout the course with reports and assignments. However, it is expected students in general will enter university with good written communication skills. Students having fundamental difficulties in written communication will need special help or may be advised that they are better suited to a course where communication skills are not as critical. The final year project is quite a test of written communication and clear instruction on the accepted style for scientific writing will need to be given before the student write-up is attempted.

The project may also be presented as a Poster presentation which gives practice in another form of communication.

Practice in oral communication may be given in a variety of ways. Students should practice making presentations to other students and a staff member and have their presentation criticised. Practice in taking patient medication histories where another student is the patient; patient counselling on the best way to take medications – again where another student takes the role of the patient, should also be undertaken. Before these exer-cises take place students should have the various communication skills explained to them and the pitfalls to be avoided. Practice is essential. This subject cannot be taught in isolation from active participation.

Students should be computer literate as this is a valuable means of communication via the internet near and far. They will also need to use computers as part of their daily studies and activities and later in the pursuance of their duties as a pharmacists.

Knowledge

The knowledge content of each course is basically a matter for each university to decide as to what is appropriate in order to achieve the outcome desired. Common disease states and treatments must be included to provide the knowledge for rational drug use. Effective drug management must also be under-stood in order to be able to deliver clinical pharmacy in its various aspects.

The methods of course delivery and assessment must be appropriate. They too are a matter for the institution concerned to decide and be able to defend against scrutiny and criticism by external bodies. These may be National Councils and/or professional bodies. The outcomes

expected from each aspect of the course should be clearly stated in the course documentation together with the methods used to determine whether these outcomes have been met.

The whole course should be designed so that as far as possible the material taught is relevant to patient treatment and the connection should be made clear. Students should have some teaching directly in the patient situation early in the course and increasingly throughout the course. Clinical placements may be included towards the end of the course. A substantial student project may also be undertaken in the patient situation or as a laboratory based investigation. All material taught should have the aim of preparing students to work effectively with patients either in the community or in hospital. Teaching in the patient situation seems to be most beneficial when integrated with relevant theoretical teaching.

It is essential that students successfully completing the course are able to work with confidence and competence in responding to the health needs of patients. In addition, they should be able to provide reliable public health information and advice to the community in which they are located in a proactive as well as a reactive manner.

Books which contain relevant information for the knowledge base of courses discussed in this paper are titled "Pharmaceutical Practice" (Winfield and Richards, 1998, Winfield and Richards, 2004, Winfield et al, 2009). The material covered in each edition is not identical and it is really necessary to be able to consult all editions.

References

Lawson D and Richards RME, Editors. Clinical Pharmacy and Hospital Drug Management. London: Chapman and Hall; 1982.

Winfield A and Richards RME, Editors. Pharmaceutical Practice, 2nd ed. Edinburgh: Churchill Livingstone; 1998.

Winfield AJ and Richards RME, Editors. Pharmaceutical Practice, 3rd ed. London: Churchill Livingstone; 2004.

Winfield AJ, Rees JA and Smith I, Editors. Pharmaceutical Practice, 4th ed. China: Churchill Livingstone Elsevier; 2009.