Managing the gap between therapeutic impact and education: A partnership model to improve health outcomes by an educational reform programme

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Worldwide, there is an increasing activity of pharmacists in improving patient outcomes and most studies reveal such efforts as beneficial for the patient as well as the health care system, due to improved and cost-effective quality of care (1-4). However, in order to offer patient-oriented services, pharmacists need adequate education at both undergraduate and continuing post-registration levels. Globally, this is a challenging issue in view of the fact that the level of pharmacist' engagement in pharmaceutical care varies considerably among different countries, which is perhaps reflected in the country-level professional education curriculum. Therefore, the question arises what and how to teach students and practitioners, at all levels, to become competent pharmacists who are capable of taking responsibility for and accountability about individual drug therapy, together with the patient and other members of the health care team.

In the field of clinical pharmacy and pharmaceutical care, the United States, Canada, the United Kingdom, The Netherlands and Australia are among the leading nations with developed health care systems that promote the activity of clinical pharmacy in hospital settings and pharmaceutical care in the ambulatory setting. Their respective curricula have all more or less been adapted to new practice directions with more focus on teaching patient care skills: communication, patient assessment, and disease state management. Moreover, the emphasis has been placed on competency-based teaching and assessment to ensure that pharmacists have the clinical skills required to deliver these new pharmacy services. In this "communication" era, pharmacists need to possess skills to obtain and *evaluate* the growing body of medical information to help the patients who themselves are more and more informed, but usually need knowledgeable people to help them understand the information they retrieved (5).

It has been emphasised that "the development of the pharmaceutical field calls for further education and specialization beyond the initial master level and that the educational needs for pharmacists to be able to practice as specialists in various fields do not always fit into PhD programs (which is the only formal framework for postgraduate education [third cycle] in the Bologna framework) - we have a need for a more diversified tool-box" (6).

Changes to the curriculum and goals of pharmacists also require a change in teaching philosophy and a promotion of interdisciplinary teaching and learning. Innovations and advances in technology also require new methods of teaching such as the use of e-learning contents, digitized lectures, Web-

interfaces, audience response technology etc. and importantly, developing new workplace environments for learning throughout all levels of career progression.

The Tempus Project - PQPharm - which is being conducted in a collaborative partnership with the University of Belgrade and three other Serbian universities with the Higher Education Institutions from Ireland, Slovenia and United Kingdom - is aimed at modernising the post-registration continuing professional education in Serbia and represents a unique opportunity to implement significant reforms using a partnership model funded through the European Commission (7).

The need for postgraduate education has been recognized in the US by the Accreditation Council for Pharmacy Education (ACPE) and it is stated in their accreditation standards and guidelines that pharmacy should be committed to creating a culture that respects and supports postgraduate education, and should implement educational programs that expose students to postgraduate educational opportunities (8).

The importance of postgraduate training must also be supported by pharmacy faculty members, who have the responsibility of educating students on postgraduate training and encouraging them to seek such opportunities. Developed countries are going one step further. Since new practice directions also require better and closer relationship between pharmacists and other health care professionals, it has been recognized that pharmacists should have a similar education pathway as medical doctors. In the UK, for example, the trend for postgraduate pharmacy education is changing and resembling more the medical postgraduate education in terms of concepts (like workplace education) and outcomes orientation.

There is a significant incentive for pharmacy professionals to access these types of postgraduate education programs: the main objective of the recent graduates to enter some of the postgraduate qualification programs is to improve their employability, while more experienced professionals are looking for further professional development and/or to meet the specific job position requirements.

However, several major drawbacks have been identified and their improvement set out as the objectives of this current Tempus project: (i) introduction of the more flexible curricular structure with the defined core modules and the increased number of elective modules; (ii) improvement of the existing course contents with the emphasis on both vertical and horizontal association between the modules; (iii) staff development and support training programs; (iv) development of educational resources and establishment of the e-learning environment and (v) harmonization with other European developments.

In contrast to the aforementioned countries, in many parts of Europe the education of pharmacists is shifting more slowly from classical functions such as drug compounding and production, analysis and dispensing towards pharmaceutical care and clinical services (9). However, many pharmacy schools still have curricula substantially based on chemistry and other natural sciences and they are slowly shifting towards more knowledge of applied pharmacology, pharmacotherapy, clinical and social pharmacy.

In Serbia, the situation is similar to many European countries. The undergraduate curriculum was changed in 2006, to introduce pharmacy practice, pharmacotherapy, and clinical pharmacy as new subjects. The new curriculum is intended to provide content and training that will better qualify pharmacists to make therapeutic decisions and to prepare students for life-long learning. However, students are taught mainly basic skills at the Faculties and have insufficient clinical experience during their studies. In such conditions, the need for postgraduate education is more than evident.

However, in Europe we are often faced with the fact that pharmacists are reluctant to changing their way of practice. The reason for this may be the awareness of the lack of knowledge and the skills associated with clinical practice. Moreover, the academic staff whose role should be to promote changes have often never worked in the practise, are more focused on research, and thus lack awareness about practical knowledge and skills which students need.

Possibilities for solving this problem include mobility of academic staff who should have the opportunity to visit and take part in clinical activities in countries with developed clinical pharmacy, and teacher-practitioner models where pharmacists who work in hospital or ambulatory settings take part in academic teaching. The limitation to mobility is often lack of funding whereas teacher-practitioners may add limited value in societies with undeveloped clinical pharmacy services. Therefore, there is need for international projects which offer valuable possibilities for academic staff in health care systems with undeveloped clinical pharmacy.

In Serbia, significant efforts are being directed towards the modernization of postgraduate course in Pharmaceutical Care based on the experiential learning and introduction of the “needs-based” education model as proposed by FIP amongst others (10). Introducing Continuing Professional Development as a partnership and workplace model instead of the current, “hours-based” approach to CPD is seen as a way to improve the competence level of pharmacy practitioners.

The TEMPUS project granted to Serbian Pharmacy Faculties for improving postgraduate education is an example where teachers are working in partnership to access new ways of training in clinical pharmacy activities in pharmaceutical care settings in the UK and elsewhere, using an experiential model. This has enabled the partner faculties to gain valuable clinical experience, skills and knowledge but even more importantly has helped to broaden the awareness of clinical skills and knowledge that pharmacists need which should be reflected in changes of the undergraduate and postgraduate curriculum.

To respond to the changes in pharmacy practice, pharmacists have to focus on improving patient outcomes by improving patient care, medicines optimisation. They can do that only if they are able to access adequate educational experiences which include knowledge, skills, and attitudes to move the profession forward and assure high standards of professional competence. Academic exchange and collaboration is vital to achieving this.

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