Seven years' experience of P-drug selection

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BRIEF REPORT

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Abstract

Personal or P-drug selection teaches students to use impartial, objective information to make prescribing decisions. It is an important exercise recommended to reduce irrational prescribing and improve the prescribing behaviour of healthcare professionals. The exercise of P-drug selection has not been widely implemented in health professions schools in South Asia. This article describes the author's personal experiences of P-drug selection teaching, learning and assessment in two Nepalese medical schools, Manipal College of Medical Sciences, Pokhara and KIST Medical College, Lalitpur.

Key Words
Healthcare professionals, Nepal, Personal drugs, Pharmacology

Irrational prescribing is a common, worldwide problem. Traditional pharmacology teaching and learning in medical schools does not adequately prepare students for making proper prescribing decisions. The World Health Organization (WHO) action programme on essential drugs developed a manual on the principles of rational prescribing called the *Guide to Good Prescribing*. Students are taught to develop a set of standard treatments for common disease conditions and first-choice drugs or medicines called 'Personal' or 'P-drugs'. P-drugs are selected using the criteria of efficacy, safety, cost and suitability. First, the group of drugs is selected, and then, a particular drug within that group. A P-drug is a drug ready for action and thus also includes the dose, frequency and duration of treatment. After selecting a P-drug the next step includes verifying its suitability in a particular patient and writing the prescription.

Initial steps at the Manipal College of Medical Sciences

The exercise on P-drug selection for second year undergraduate medical (MBBS) students at Manipal College of Medical Sciences (MCOMS), Pokhara, Nepal began in February 2004. The cohort of students was, at that time, in the second year of the MBBS course. The college is affiliated to Kathmandu University (KU) and the six basic science subjects of anatomy, physiology, biochemistry, pathology, microbiology and pharmacology are taught in an integrated organ system-based manner along with community medicine. Students have both a theory and a practical exam at the end of the first year and second year conducted by KU.

A leading Nepalese clinical pharmacologist from the Institute of Medicine (IOM), Kathmandu, Prof. KK Kafle who used to be a frequent external examiner at MCOMS encouraged the author and his colleagues to start the exercise of P-drug selection in MCOMS. At the time the department was already teaching students to communicate non-drug and drug information regarding management of common diseases/conditions to a simulated patient, to critically analyse drug advertisements and other promotional material, and to solve simple problems in therapeutics among others. We had access to two key WHO Books, the *Guide to Good Prescribing* and the companion volume for teachers, *Teacher's Guide to Good Prescribing*. To implement the recommendations contained within the guides in practice was a challenge. The guide was not always clear about the exact procedure to be followed.

A relevant article by Joshi and colleagues described a 'numerical' method of P-drug selection.[1] In this article the authors described a system of giving fractional weights between zero and one for the four P-drug selection criteria of efficacy, safety, cost and suitability. The weight depended on their importance in the disease condition. The total of the four values should be one. Scores between one and 10 were given for each drug group or drug on the four criteria (efficacy, safety, cost and suitability) and these are multiplied with the weight allotted to the four criteria. The scores are added together and the drug/drug group with the highest scores is the P-drug or P-group. This article thus also informed our teaching.

Second-choice drug group

The P-drug selection exercise was first carried out for the gastrointestinal system and was then extended to other body systems. Initially, the primary emphasis was on the P-drug selection exercise and not enough time was devoted to verifying the suitability of the selected P-drug for a particular patient. Also the dose, frequency and duration of prescribing of the selected P-drug were not emphasized. Further, inadequate time was spent on considering the second-choice drug group (the drug group with the second highest score) during the selection process. The second-choice group is required if the first-choice group is not suitable for a particular patient.

The exercise was gradually introduced for other cohorts of second year students. At the time, the college was admitting students twice a year in February and August.

Assessing P-drug selection

For approximately three years the exercise was not assessed during practical examinations. There were differences of opinion about how to assess the exercise and whether students should have access to textbooks and other resources during the process.

In January and July 2006 the exercise was introduced to internal assessment for third and fourth semester students. Following the philosophy of the *Guide to Good Prescribing,* emphasizing concepts and knowing where to search for particular information, an open-book examination format was used, where students could select P-drugs using textbooks, sources such as the *Current Index of Medical Specialties* (CIMS) and the *Nepal Drug Review* (NDR) for the cost of medicines.

In December 2006, the exercise was introduced to the second year university practical examination. The exercise accounted for 15 out of 40 marks in the university pharmacology practical examination. Concern was raised by the external examiner about the use of books during the exercise but he was satisfied with this situation after discussion about the learning and assessment philosophy of the department. P-drug selection was later assessed during the July 2007 university exam.

Postgraduate students and P-drugs

By 2006, the department had MSc Pharmacology students in the department who joined the course after completing their BPharm. The postgraduate students (PGs) were actively involved in teaching the MBBS students about P-drug selection and guiding them through the process. The MSc course is of two years duration and there are formative assessments at regular intervals and a summative assessment at the end of the second year. Thirty marks were allocated for the P-drug selection process out of the 240 marks allotted for the practical examination.[2] The same process was carried out as during the MBBS examination, with students having access to textbooks and other literature.

Feedback on P-drug selection

To obtain feedback from students about the process, to understand and improve on the weaknesses noted and to popularise the P-drug concept, a study using focus group discussion among selected students was conducted.[3] Problems noted included confusion about whether a P-drug was for a disease or a patient, problems in calculating the cost of different medicines considering the large number of brands available and difficulty in giving scores for different drug groups as sometimes the constituent members of the drug group were diverse.

P-drug selection at KIST Medical College

In November 2007 the author joined a new medical school, KIST Medical College (KISTMC) in Lalitpur. The first cohort of students joined the MBBS course in November 2008. At MCOMS the exercise of P-drug selection was conducted only during the second year. In KISTMC the exercise was introduced in year one. The department had access to more resources including various formularies, textbooks, AHFS Drug Information and computer sources including *Martindale's Complete Drug Reference* on CD-ROM.

The major challenge for the author was to educate other staff members in the department about the P-drug selection process and facilitating sessions for students. Luckily the author had about six months to educate the department faculty about small group dynamics, the problem solving process, use of various resources related to medicine information and conducting P-drug sessions. The author also considered the feedback obtained from students at MCOMS.

At KISTMC the author and his department colleagues conducted a session for students on the P-drug selection process and its clinical importance. Students are required to have a copy of the *Guide to Good Prescribing*, which simplifies the process. The various steps of the P-drug selection process, especially defining the diagnosis, specifying the therapeutic objective, making an inventory

of effective groups of drugs, identifying the second choice drug group, choosing an active substance, dosage form, dosage schedule and duration of treatment were emphasized. From experience, the author had come to know that these steps were often neglected. The process of verifying the suitability of the selected P-drug for a particular patient also came in for special attention. The process consists of verifying whether the active substance and the dosage form are suitable, and whether the standard dosage schedule and duration of treatment is suitable for the patient as stated in the *Guide to Good Prescribing*.

P-drug selection is an important exercise during the pharmacology learning sessions carried out in small groups. Students at KISTMC were of the opinion that P-drug selection is an important skill for a future doctor and that they plan to make a list of P-drugs for diseases they are likely to encounter in practice.[4] Students are also taught about communicating non-drug and drug-related information to a simulated patient, a skill that is assessed during an objective structured practical examination (OSPE) station, and to monitor and stop treatment after they have prescribed their selected P-drug.

Assessment of the process at KISTMC

The P-drug selection process has been assessed during two practical exams. P-drug selection accounts for 20 of the 60 marks allotted to the pharmacology practical exam.[5] The college follows the curriculum of the IOM and there are no university practical examinations in pharmacology at the end of the first year. Students are given one hour to complete the exercise and allowed access to textbooks and other material. The P-drug selection process is assessed by the examiner during a viva and emphasis is placed on the different steps involved in the selection process, the reasons for the different scores given and for selecting a particular P-drug.

Examiner at MCOMS and P-drug selection

In August 2010 and January 2011 the author was an examiner at MCOMS. The PG student, now a faculty member, Mr. Gyawali, and an undergraduate medical student now pursuing his MD in Pharmacology, Dr. Indrajit, are mainly involved in teaching students about P-drug selection. Students are given an hour for the P-drug selection process. The marks allotted are still 15 of the 40 marks set aside for the pharmacology practical. Students usually select P-drugs properly and are able to answer most questions during the viva but there are often problems in defining the therapeutic objective, understanding the concept that a P-drug is a drug ready for action and verifying the suitability of the selected P-drug.

The exercise in other medical schools in Nepal

The faculty members originally present with the author at MCOMS have now dispersed and are at different institutions in Nepal, India and Netherlands Antilles. The PG students are also working at different institutions in Nepal. Currently, the author understands the exercise of P-drug selection to be carried out at MCOMS, KISTMC and IOM in Nepal. One of the author's colleagues, Dr. P. Subish is in the process of starting the exercise at the College of Medical Sciences (CMS), Bharatpur and another colleague is interested in starting the process in India.

The exercise of P-drug selection is not thought to be performed in other medical schools in Nepal. Also there are certain areas of confusion especially regarding giving scores to drug groups and individual drugs with regard to efficacy and cost. There have been no workshops at a national or a regional level about how to carry the exercise of P-drug selection forward and how spread it to different medical and pharmacy schools in the country. It is unclear whether pharmacy schools in Nepal are conducting the exercise of P-drug selection as part of their undergraduate and postgraduate pharmacy programmes. Information about the exercise in nursing and healthcare professional schools is also lacking. The exercise has the potential to teach healthcare students (as future professionals) to select medicines on the basis of objective and well-defined criteria and should be strongly encouraged and expanded.

Suggestions for replicating the exercise in other developing countries

The exercise on P-drug selection can be replicated in health profession schools in other developing countries. The two books, the *Guide to Good Prescribing* (http://apps.who.int/medicinedocs/pdf/whozip23e/whozip23e.pdf) and the *Teacher's Guide to Good Prescribing* (http://apps.who.int/medicinedocs/pdf/s2292e/s2292e.pdf) are freely available from the Internet Links should be established with institutions that have already been developing skills and resources for P-drug selection. We found medicine and pharmacology textbooks and books detailing the cost of medicines, such as CIMS and institution drug lists, to be useful. The numerical method of P-drug selection described by Joshi and colleagues has been useful.

Teaching P-drug selection is best carried out in small groups using easily available resources. Flip charts can be an excellent method to present findings to the larger group of students and obtain suggestions.

The support of the head of the department is required and the departmental faculty should be trained in facilitating small group sessions. Assessment of the exercise requires time during the practical examination but can be easily carried out. Closer interaction between faculty members conducting P-drug selection exercises in different institutions will be helpful.

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CONFLICTS OF INTEREST

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