

patients (48.5% male; 46.5 (SD 16.0), CI 95%: 44.8–48.1 years). Statistical analysis revealed that both groups disagree with the DTPI: average scores of 3.03 (SD 14), CI 95%: 2.64–3.42 for physicians and 3.95 (SD 3.28), CI 95%: 3.61–4.29 for patients were obtained. Doctors [68% (281)] and patients [53% (193)] agree that DTPI would increase the price of prescription drugs. The vast majority of physicians (92%) and patients (73%) consider that consumption would increase. Most doctors (56%), but not patients (37%), believe that DTPI wouldn't modify doctor-patient relationship.

Both groups disagree with DTPI and believe that it would increase both consumption and price of medicines, being these statements more evident in case of physicians.

C051 POSTER PRESENTATION AS AN EFFICIENT GROUP ACTIVITY IN LEARNING PHARMACOLOGY

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The work presented here is part of the 'Innovation in Teaching' project of the Medical Chemistry and Pharmacology Educational Motivation Group (QUIMIFAR; a GIE 'Grupo de Innovación Educativa') at the Universitat Jaume I in Castellón, Spain. General Pharmacology (3rd year; 7 credits) is one of the core subjects of the Medicine Degree taught at this university. It covers all major drug classes and their relevant features such as mechanisms of action and clinical applications. In order to familiarize the students with these concepts, as part of the practical classes of this subject, we designed a group activity in which they presented posters (2–4 students/poster; A1 paper size) describing a specific drug. A total of 28 posters were exhibited (14 posters/group) in two working sessions (3 h each) designed to resemble a mini-congress. Each poster contained the most important information regarding the drug in question, under the following headings: 1. General knowledge, 2. Pharmacokinetics, 3. Pharmacodynamics, 4. Clinical use, Indications, administration routes and treatments, 5. Drug interactions, 6. Adverse reactions, 7. Bibliography.

C053 PHYSIOTHERAPY STUDENTS FEEDBACK ON PHARMACOLOGY

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Pharmacology is an ever-changing subject whose knowledge is continuously updating. Feedback from students could serve as an effective tool to assess how the subject is developing in class. The objective of this study was to get feedback from second-year physiotherapy students enrolled on Pharmacology.

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A total of 28 students (75% female and 25% male) participated voluntarily and returned the questionnaire (63.6%). Some of them (25%) had previous knowledge on Pharmacology before entering the second course. 57.2% agreed that Pharmacology of analgesia and inflammation is the most interesting topic for Physiotherapy students, followed by cardiovascular Pharmacology (17.8%) and general concepts on this subject (10.7%). They considered that teaching methodologies used

made easier to understand concepts. Most of them (93%) mentioned that they studied Pharmacology only by teachers' class notes to prepare for their exams. 57.1% recognised that the primary motivation to study the subject was to pass their examinations, and only 17.8% have studied regularly to gain more knowledge. Most of them believe that the best evaluation systems are multi-choice questions (50%) or a combination of multi-choice questions and short answers (46.4%). For them, Pharmacology shows an intermediate level of difficulty, mainly due to the wide range of contents (89.3%). Finally, they found this subject useful and interesting for physical therapists (60.7%) or useful, interesting and important from a practical point of view (28.6%).

Feedback surveys provide important additional information on subjects taken by students. From our results we can conclude that our students from the Degree in Physiotherapy have positive attitudes towards Pharmacology, although some approaches should be explored to improve motivation to study regularly.

C055 A PROPOSAL FOR SKILL EVALUATION IN A PRACTICE OF VETERINARY PHARMACOLOGY

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Educational proposals made by the European Higher Education Area (EHEA) require new evaluation approaches. Scoring rubrics are considered an innovation tool to collect evidences of skill acquisition, as they provide a good approach of the students' work in a wide range of subjects. Thus, the aim of this study was to implement a competence evaluation method by rubrics as a way for documenting skill improvement in a practice developed in the subject Veterinary Pharmacology.

An outcome-based assessment rubric containing several performance indicators was specifically designed to evaluate abilities related to update their knowledge, synthesize and communicate information, read and interpret scientific data in English, and work in team.

A total of 132 students (74.2% females and 28.8% males) have been evaluated according to this method. Students acquired all the skills defined for the practice, reaching $86.6 \pm 9.7\%$ of those competencies previously defined. Female students demonstrated to have acquired a significantly higher level of skills (87.3%) than male students (85.0%; Mann-Whitney *U*-test, $P < 0.05$). The highest score was reached for the competences related to teamworking and the ability to interpret information in English, whereas the lowest values corresponded to that competence related to their capacity to keep knowledge updated and to synthesize information.

Standardized rubrics become helpful tools for the teaching staff to assess competencies, and to improve the outcomes of the learning process, although it is necessary the active involvement of all the teachers who collaborate in the subject.

C057 INTERDISCIPLINARY COLLABORATION IN THE PRACTICAL TEACHING OF PHARMACOLOGY: USE OF EXPERIMENTAL ANIMALS AND APPLIED ROBOTICS

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The use of experimental animals in practical teaching of pharmacology in Spain has dropped considerably over the past two decades and has been replaced by alternative proposals, mainly using computer programs. This methodological change came undoubtedly marked by European Directives published regarding the protection of animals

used for experimental and other scientific purposes (Directive 86609/EEC, Directive 2010/63/EU).

A practical lesson for Veterinary, Nursing and Biotechnology students has been designed to be held in two sessions. In the first session, the first three chapters of the Directive 2010/63/EU and its transposition into RD 53/2010 on animals used in experimentation ... including teaching, will be analyzed.

In the second part, students will evaluate the action of a neuroleptic, promazine, using mice, a maze and RCX Mindstorms robots programmed to navigate the maze by students of Computer Architecture.

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The development of this practice demonstrated the importance of interdisciplinary collaboration in teaching, as well as the great degree of involvement of students of different courses when shared a practical class.

C060

DESIGN SERVICE-LEARNING PROJECTS IN THE PHARMACY DEGREE OF THE UNIVERSITY OF VALENCIA

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In the service-learning methodology, students provide service in their community that is directly connected to their academic coursework, and the community provides an educational experience for the student. The intention is to develop teaching skills with strategies that will lead our students to be sensitive to the social problems of their environment and experience citizen participation linked to their future professional and community service.

Teams of 4–5 students from the Clinical Pharmacy and Pharmaceutical Care course, a subject of the 5th year, as a part of the seminar sessions. The students, supervised by the teacher, selected the context of the service and defined both the service and the learning objectives, stressing how important it was that paid attention to the real needs of their environment. In seminar sessions, each group of students presented the designed project, and answered to the questions that may arise. The evaluation of each project was performed both by students and by teachers.

A total of 190 students participated. They presented about 38 projects, generally related to problems of drugs and nutrition in elderly or in young pregnant women at risk of exclusion. 83% of students thought that the development of the project would reinforce the learnings of Pharmaceutical Care.

This activity was very attractive to students because they can develop related training such as the rational use of medicines and health education activities.

C062

INNOVATION IN DRUG TRAINING WITHIN NURSING DEGREE AT UNIVERSITAT ROVIRA I VIRGILI (URV)

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A 'medication error' is commonly defined as any preventable event that may cause or lead to inappropriate medication use or patient harm

while the medication is in the control of the health care professional, patient, or consumer. Such events may be related to professional practice, health care products, procedures, and systems, including compounding, dispensing, distribution, administration, education, monitoring, and use. Nurses spend 40% of their working time on tasks related to medication. Therefore, it is important to ensure comprehensive drug training within nursing degree.

The objective was to measure the efficacy of a continuous evaluation model based on competences.

Pharmacology curriculum is divided into the four Miller stages: (i) 'know' through lectures, (ii) 'know how' through discussions (topics not developed before), (iii) 'show how' through workshops (information sources, administration and dispensing) and (iv) 'do' by a clinical case (includes all of the above). We evaluated 231 URV students of nursing degree during 2014–2015.

Results are shown as mean score/% presentality (maximum 100 points) for each Miller stage: (i) 'Lectures': 53.3/97.4; (ii) 'Discussions' 76.6/89.1; (iii) 'Workshops' 78/92.2; (iv) 'Clinical case': 79.4/93.5. Overall, 81.6% of the students obtained a score above 50 in Pharmacology.

The mean score of students improves throughout the different Miller stages of competences acquired ($53.3 < 76.6 < 78 < 79.4$). 'Discussions' have less presentality, maybe because they need oral communication skills (11% not attending). Almost all students conduct the 'Clinical case', which is the highest stage, and, as said, scores are the highest compared to the other stages.

In conclusion, a continuous evaluation model based on competences may be effective. However, almost 20% of students take fewer than 50 points in total, so we need to improve the teaching-learning methodology to optimize not only the efficacy but also the efficiency of the curriculum.

C088

THE CASE METHOD TEACHING IN PHARMACOTHERAPY

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The case method is a teaching approach that uses decision-forcing cases to put students in the role of professionals faced with decisions. It is based on the active and cooperative participation of students and the dialogue in real pharmacotherapeutic situations. This method was developed for students of five degree course of Pharmacy in the subject of Pharmacotherapy during the course 2014–2015. From the approach of the case method, the students should be able to comprehend, understand and analyze a given pharmacotherapeutic context and the variables involved in it.

The objectives of the case method were:

- To compare the real case presented with a theoretical model, identifying the peculiarities of the case and its ambiguities.
- To work with a professional approach, analyzing a real problem, with its elements of confusion, sometimes contradictories, as occurs in reality.
- To propose strategies for solving the case, implementing and evaluating the results.
- To develop interpersonal skills, self-directed learning and team work.

The method developed consists of two phases:

1. Individual work: each student selected a patient from his personal or professional environment, conducted an interview with this patient and analyzed their situation.
2. Teamwork (5–6 students). The results of the interviews were analyzed. Some cases were selected by consensus of the team, in basis of their interest to the general discussion.

The evaluation was performed using headings, known in advance by students. It was developed in three levels: self-assessment, peer assessment and teacher assessment.