



Short communication

# Introducing basic principles of medication safety: Development of a three-day continuing education course for health care professionals

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## Abstract

**Objective:** To develop innovative educational approaches for introducing medication safety principles for health care professionals as a three-day interdisciplinary course.

**Educational activity:** The data for developing the educational activity were collected at a workshop at the 2009 International Life-Long Learning in Pharmacy Conference. A total of 19 higher education and adult learning experts in pharmacy brainstormed four syllabi using teaching and assessment methods. Qualitative content analysis was used to develop a combined syllabus. All four syllabi involved constructive, problem-based learning with personal learning objectives and reflection, and methods for facilitating interactive learning and learning at the workplace. This focused on understanding a systems approach in managing medication safety. The phases of learning covered pre- and post-course learning and learning during the course. One month's period between training days was suggested.

**Conclusions:** Our work suggests that constructive problem-based learning linked to learners' practice through assignments is the key in a continuing education course on medication safety for health care professionals. A significant amount of learning occurs outside the training days through assignments.

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**Keywords:** Patient safety; Medication safety; Interdisciplinary; Continuing education; Course development

## Background

Medication errors are one of the most common incidents leading to adverse events in health care.<sup>1</sup> Prevention of these incidents during medication use is called medication safety, which is one of the main fields of patient safety.<sup>2</sup> In promotion of medication safety, risk management using a systems approach is the key. Medication errors should be managed proactively by concentrating on the conditions under which health care professionals (HCPs) work and

trying to build strategies to avert errors or mitigate their effects.<sup>3</sup> Proactive risk management includes activities such as identification of medication process-related hazards, their analysis, risk assessment, and design and execution of activities to manage the identified risks. In these activities, HCPs, including pharmacists, have a central role, because they may observe unsafe medication processes in their daily practice. Through this role, HCPs are able to contribute to enhancing medication safety by participating in developing, designing, and implementing activities that promote medication safety in health care organizations.

Efficient medication safety promotion requires core knowledge and skills in risk management in medication use. A key question is how to train practitioners to acquire the culture of safety that arises from systems thinking and

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values openness when dealing with errors.<sup>1,4</sup> Continuing education for HCPs in patient and medication safety is currently lacking.<sup>5</sup> Also, methods of existing education have been reported to be relatively inadequate.<sup>6</sup> As medication safety is a multi-professional and multi-stage process,<sup>7</sup> there is an urgent need to find new innovative ways to teach the basic principles of medication safety to HCPs with an emphasis on interdisciplinary learning.<sup>5,7–10</sup>

Practicing HCPs form a challenging group to train as they are numerous, and resources that can be allocated for their continuing education are often limited. Therefore, innovative educational strategies are needed to reach as many HCPs as possible, and to achieve desired learning outcomes and enhanced medication safety taking into account limited time and financial resources.<sup>6,11</sup> The challenge is how to build a learning package that introduces the basic principles of medication safety in a short time and in a form that is easy for a learner to adopt required competencies.

The aim of the current work was to consult international higher education experts in pharmacy to develop a syllabus for a three-day interdisciplinary course in medication safety. The goal of the course was to introduce the basic principles of medication safety for practicing pharmacists and other HCPs.

## Educational activity

### *Development of the syllabus*

A brainstorming workshop was used to consult international higher education and adult learning experts in pharmacy in order to develop a syllabus for a three-day interdisciplinary course in medication safety. This approach was chosen to foster innovation through interaction among participants to share experience.

The workshop was conducted during the International Life-Long Learning in Pharmacy Conference in 2009 in Helsinki, Finland. Overall, 124 participants participated in the conference from Africa ( $n = 11$ ), Australasia ( $n = 15$ ), Europe ( $n = 73$ ), and North America ( $n = 25$ ). The workshop outline was reviewed and approved prior to the Conference by the expert committee of the Conference.

The workshop lasted 45 minutes and comprised three parts (Fig. 1). Four groups of participants were asked to brainstorm a syllabus comprising teaching and assessment methods for a three-day interdisciplinary course in medication safety. To support brainstorming, sample contents for such a course were provided in the form of a leaflet (Appendix A) based on one of the leading handbooks in the field.<sup>12</sup>

The brainstorming was facilitated by the researchers. Each group drafted its syllabus proposal on a flip chart. The workshop concluded with a collective discussion on the syllabi and how the participants could use the proposed methods in planning short courses in their own institutions (Fig. 1).

The data were collected in the form of proposals for teaching and assessment methods by each group ( $n = 4$ ).

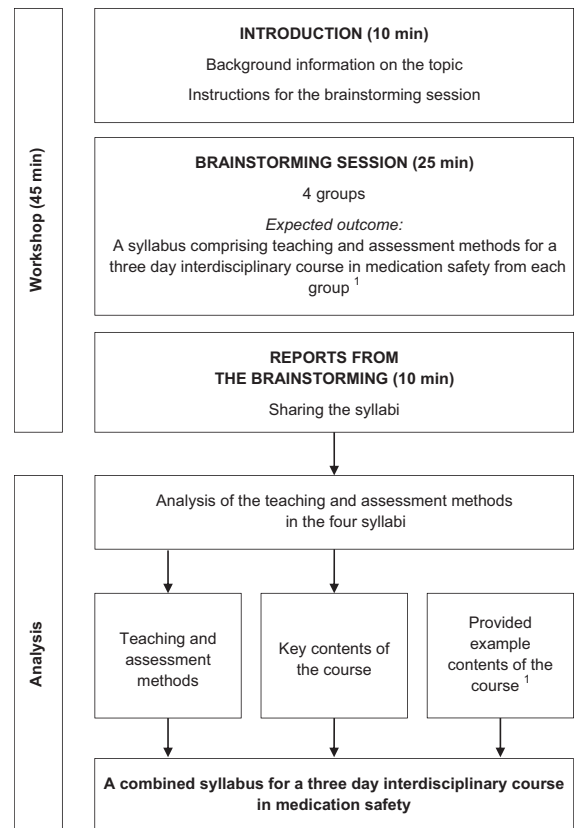


Fig. 1. Outline of the workshop to innovate teaching and assessment methods for a syllabus of a three-day interdisciplinary course in medication safety, and the subsequent analysis.<sup>1</sup> The groups were provided with a leaflet on the sample content of the course to support the brainstorming (Appendix A).

After the workshop the data was transferred to a Word™ document for a qualitative content analysis to explore their contents.<sup>13</sup> The credibility of the coding was checked by another researcher.<sup>14</sup>

Finally, the identified teaching and assessment methods and the core contents of the course suggested in the four syllabi and sample contents of the course (Appendix A) were synthesized by the researchers to form a combined syllabus (Appendix B). The synthesis was based on the teaching and assessment methods occurring most frequently in the plans, i.e., the agreement between the groups. The innovation and applicability of the methods from medication safety education perspective were also considered when forming the combined syllabus.

### *Suggested methods for learning and core contents of the course*

A total of 19 higher education and adult learning experts from Africa ( $n = 2$ ), Europe ( $n = 16$ ), and North America ( $n = 1$ ) participated in the workshop. All the developed

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