Evaluation of effectiveness and relevance of Safe Medication Practice Tutorials as a course for pharmacist prescribers in New Zealand

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Structured Abstract
Prescribing errors are associated with a significant risk of patient harm, and often caused by a lack of knowledge and skills on behalf of prescribers. The Safe Medication Practice Tutorials (SMPTs), which highlight error prone conditions and common errors within the healthcare system, were amended and presented in a one day workshop to experienced clinical pharmacists in New Zealand (n=14). Attendees were asked to provide feedback on the relevance of the tutorials as possible elements of a future course for pharmacist prescribing. There was an overwhelming agreement from attendees that all components of the course were relevant, with five sessions rated as essential; error awareness and prescribing safety; medication history taking; use of local medication charts and high risk scenarios; discharge prescribing; and feedback on errors.

The SMPTs should be considered as a component of future non-medical prescribing courses to increase the awareness of prescribing errors and improve safe prescribing practices.

Keywords: non-medical prescribing, pharmacy, prescribing training, evaluation

Introduction
In Australasia non-medical prescribing is currently very topical. Midwives, optometrists and nurse practitioners have been granted authority to prescribe within their scope of practice in New Zealand (Pharmaceutical Management Agency (Pharmac) 2009). In Australia, optometrists, podiatrists and nurse practitioners have been authorized to prescribe (Australian Government Medicare Australia 2009, My Sunshine Coast 2009); and pilot studies with pharmacists and underway (Nissen 2008, The Australian 2007, Hale et al. 2011).

Proposed training programmes for pharmacist prescribers in New Zealand will include a period of study (900 hours) and a practicum component (300 hours) where undertaking a consumer prescribing consultation will be learned under the supervision of a designated medical practitioner (Pharmacy Council of New Zealand 2010a). Proposed training programmes for pharmacist prescribers in New Zealand will include a period of study (900 hours) and a practicum component (300 hours) where undertaking a consumer prescribing consultation will be learned under the supervision of a designated medical practitioner (Pharmacy Council of New Zealand 2010a).

A four stage model of prescribing has been proposed following work investigating a series of prescribing errors by junior doctors in Australia and recommended as a framework for prescribing competencies (Morris and Coombes in press, Coombes et al. 2008) [Figure 2].

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Course description

The Safe Medication Practice Tutorials (SMPTs) were developed by the Safe Medication Practice Unit in Queensland, Australia to prepare medical students for prescribing. They consist of eight, interactive, problem-based tutorials lasting 90 minutes each (Coombes et al. 2007). The tutorials highlight error prone conditions within the healthcare system and common errors, particularly those associated with the use of high risk medications. At the end of the first year (2004) there was a significant improvement in final year medical students’ prescribing. Subsequently this multidisciplinary-led program is now a component of the medical curriculum and all medical students (University of Queensland) are expected to attend the course (Coombes et al. 2007).

The SMPTs were amended and presented in a one day workshop (7 hours) to a group of clinical pharmacists in New Zealand. Other attendees included representatives from academia, hospital pharmacy management and education and the NZ Pharmacy Council (n=14; 2 male, 12 female and all had more than 5 years clinical experience). The workshop objectives were to: share findings of medical and non-medical prescribing research; explore the cognitive and mechanical components of safe prescribing; increase awareness of medication risks and errors; confirm history and reconciliation techniques; gain skills of safe prescribing; and gain an understanding and practice effective communication (graded assertiveness). The workshop was facilitated by two pharmacists from the Centre for Safe and Effective Prescribing (University of Queensland). Box 1 outlines the topics covered and the methods and activities used in the workshop. The content was very similar to the modular tutorials however the focus on specific pharmacotherapy, such as venous thromboembolism (VTE) prophylaxis, was reduced.

At the end of the program, attendees were asked to provide feedback on the relevance of the different components as possible elements of a future course for pharmacist prescribing.

Figure 1: Basic Structure of the Competency Framework (Pharmacy Council of New Zealand 2010b)

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Evaluation

The post-training evaluation questionnaire was developed to investigate alignment of the training with the proposed Pharmacist Prescriber competency framework (Pharmacy Council of New Zealand 2010b); “The prescribing training increased my knowledge/ skills/ awareness or ability to...” in areas of gathering relevant information, making clinical decisions, communicating clinical decisions safely and effectively (Figure 2). Information on the impact and relevance of the tutorials and general feedback of tutorials and comments was also collected. The questionnaire used attitudinal 6-point Likert scale responses and open-ended questions (questionnaire available from correspondence author on request). Participants completed a short pre-training questionnaire which included demographics and their overall beliefs about their competency to prescribe. Thirteen participants completed both pre- and post-training questionnaires.

When asked about their overall impression of the SMPTs,
nearly all participants (12/13) agreed that the tutorials were relevant and 11/13 agreed that they were pitched at the correct level. All attendees agreed or strongly agreed that the facilitators were confident with material, utilised the appropriate mediums to convey clear messages and that they felt engaged and able to ask questions (Figure 3A).

**Figure 3: Prescribing Course Evaluation**

Figure 3B (pre and post competency beliefs) shows that participants perceived a raised level of understanding of the complexity and risk in prescribing at discharge and for simple complaints. Post intervention they had a heightened awareness of risks in the prescribing process. The raising of risk awareness as a key objective appears to have been achieved.

**Figure 3: Prescribing Course Evaluation**

With respect to the SMPTs as a process of enhancing the participants ability to gather appropriate information required for prescribing (medication history taking skills) 12/13 agreed positively. Almost all participants (11/13) agreed that they had an enhanced ability to assess a patient’s current clinical status after the workshop. Nearly all (10/13) agreed that the SMPT increased their ability to make more informed drug and dose selections whilst three disagreed (Figure 3C).

All attendees agreed that the SMPT would increase their ability to avoid common prescribing errors and 12 felt that...
Alternate suggestions for the future role of pharmacists in the hospital setting.

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**References**


