

# General Beliefs about Medicines among Pharmacy Clients, Healthcare Students and Professionals - Group Differences and Association with Adherence

Akademisk avhandling som för avläggande av medicine doktorsexamen vid Sahlgrenska akademien vid Göteborgs universitet kommer att offentligen försvaras i sal 2118, Hus 2, Arvid Wallgrens Backe, Sahlgrenska Akademien, Göteborg, fredagen 13 juni 2008, kl 13.00.

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Disputationen kommer att hållas på engelska

Avhandlingen baseras på följande delarbeten:

- I. Mårdby A-C, Åkerlind I and Hedenrud T. Does education in medicine, pharmacy or nursing change general beliefs about medicines? (submitted)
- II. Jörgensen T, Andersson K and Mårdby A-C. Beliefs about medicines among Swedish pharmacy employees. *Pharmacy World of Science* (2006) 28:233–238.
- III. Mårdby A-C, Åkerlind I and Hedenrud T. General beliefs about medicines among doctors and nurses: a cross-sectional study (submitted)
- IV. Mårdby A-C, Åkerlind I and Jörgensen T. Beliefs about medicines and self-reported adherence among pharmacy clients. *Patient Education and Counseling* 69 (2007) 158–164.



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# Abstract

**Background:** only about 50% of all medicines are used as the prescriber intended. If medicines are prescribed in an adequate way, an optimised adherence can decrease mortality and hospitalisation and improve health-related outcomes. Beliefs about medicines have been shown to be an important factor in adherence. Furthermore, beliefs can also bias the content of patient communication, which is central to patient-centred care. Research shows that it has been difficult to optimise adherence with existing knowledge. To increase the knowledge about pharmacy clients' and healthcare professionals' beliefs about medicines could be a new angle in adherence research.

**Aims:** to examine general beliefs about medicines among Swedish pharmacy clients, healthcare students and professionals. A further aim was to analyse the association between general beliefs about medicines and self-reported adherence in pharmacy clients.

**Methods:** the thesis is based on four quantitative, cross-sectional studies. Participants in the studies were pharmacy clients, healthcare students, doctors, nurses and pharmacy employees. The data collections were done through questionnaires including the general part of Beliefs about Medicines Questionnaire (BMQ), Medicine Adherence Report Scale (MARS) and background questions: sex, age, occupation, education, country of birth and own experience of medicines.

**Results:** differences in general beliefs about medicines were found between pharmacy clients and practising healthcare professionals. Pharmacy clients believed medicines to be more harmful than practising healthcare professionals did. Doctors, pharmacists and dispensing pharmacists had more beneficial and less harmful beliefs about medicines compared with nurses. Similar patterns were seen for medical, pharmacy and nursing students. Furthermore, third-year medical and pharmacy students were more positive about medicines than first-year students were in these educations. Education, origin and own medicine use were important factors in general beliefs about medicines. Furthermore, beliefs about medicines as something harmful were associated with self-reported non-adherence in pharmacy clients.

**Conclusions:** there were distinct differences in general beliefs about medicines between pharmacy clients and healthcare professionals. If these differences are not acknowledged there could be consequences for patient communication and the interrelationship between doctors, nurses and pharmacy employees. It is also important to increase knowledge about how general beliefs about medicines and adherence are associated. The results of this thesis can be used for future interventions and research aiming for improved adherence.

**Keywords:** general beliefs about medicines, BMQ, pharmacy clients, healthcare professionals, university students, adherence, patient communication, Sweden

**ISBN:** 978-91-628-7418-6