

CHAPTER 1

INTRODUCTION

Drugstores are parts of the public health care services. They are a major contact point for people with mild illnesses. In developing countries including Thailand, they are staffed with pharmacists, whose jobs include diagnosis and drug dispensing. In many developing countries, the pharmacists are allowed by law to dispense antibiotics without prescription. However, a number of studies worldwide have reported that the practice of drugstore personnel is far from acceptable. For example, a study in the United States (US) showed that 70% of simulated cases with allergic rhinitis, diarrhea, cough, leg cramps and fatigue were inappropriately treated by pharmacists (Lamsam and Kropff, 1998). All studied drugstores in Vietnam provided an incorrect regimen for management of chlamydia (Chalker, et al., 2000). Furthermore, Mexican pharmacies accurately diagnosed in 0-12% of cases presenting sexually transmitted diseases and suggested an appropriate treatment in 12-16% of cases (Turner, et al., 2003). In Thailand, a minority of drugstore staff dispensed medications properly. Less than 20% of drugstores gave oral rehydration salt to patients with dysentery and watery diarrhea (Podhipak, et al., 1993). None of the pharmacists recommended appropriate treatment for chancroid (Rojpibulstit, 1998). In addition, drugstore personnel had limited knowledge on emergency contraceptive pills and their dispensing was rated as poor (Ratanajamit and Chongsuivatwong, 2001).

Upper respiratory infections (URI) are common diseases for individuals (Heikkinen and Jarvinen, 2003). Antibiotics are widely used by drugstores in the treatment of viral URI. For example, Thamlikitkul (1988) found that 50-72% of drugstores improperly dispensed medications for URI. The current study used URI as a case study for several reasons. Firstly, inappropriateness of URI management can worsen the patients' condition, potentially cause harm and increase drug resistance problems (Dancer, 2004). Secondly, because of its high incidence in Thailand, URI is also one of the most important health problems. Additionally, there are standard guidelines and clear criteria for assessing the appropriateness of URI treatment (Thai Ministry of Public Health, 1988; Tietze, 2004).

In the past, most attempts to change providers' behaviors have not been successful because the interventions focused only on knowledge enhancement. The investigators did not take into account the factors associating with providers' behaviors. For instance, Podhipak, et al. (1993) studied the impact of an educational package emphasizing knowledge on diarrhea treatment in pharmacists and non-pharmacist drug sellers. After intervention, the subjects did not significantly change their dispensing for this disease. A failure of intervention was also found in other studies (Rattanawijitrasin, et al. 2002, Sondergaard, et al., 2006).

Before a better intervention can be designed, a thorough understanding of factors affecting dispensing decision is needed. Studies on physician behaviors in antibiotic prescribing (Walker, et al., 2001, Lambert, et al., 1997) cannot be applied to pharmacy practice due to several reasons. For example, data of physician practice have been available from the research in developed countries. The current study investigated the pharmacist behaviors in a developing country, Thailand. There is a major difference in health care systems between developed and developing countries. Therefore, those data may not be applicable to the situation in Thailand. On the other hand, practice patterns of physicians are different from those of pharmacists. Physicians have the complete history of patients and they could request laboratory (hematology, throat and nasal swabs) or radiologic investigations for diagnosing the disease. Pharmacists, by contrast, cannot do so (Wat, 2004). In order to understand behaviors of community pharmacists and their rational of thinking, a questionnaire survey was employed in the first part of the thesis, based on the theory of planned behavior (Ajzen, 1991). This theory has been used to explain various behaviors in patients (Berglund, et al., 2005) and health providers, including physician prescribing (Legare, et al., 2005; Liabsuetrakul, et al., 2003).

To enrich our standing, in the second part of the thesis, a simulated client method (SCM) was employed. The use of SCM to assess quality of pharmacy practice has received much attention in recent years (Watson, et al., 2006). In SCM, a research assistant disguises himself or herself as a patient seeking health services while the providers are blind to the research objective. The SCM has the advantage in offering a chance to record actual practice of providers from the point of view of the clients, which cannot be assessed from the questionnaire survey.

In summary, the thesis employed two different methods, postal questionnaires and SCM, to determine factors associated with antibiotic dispensing for URI. The questionnaire

survey (study 1) evaluated perceptions of pharmacists to elicit the determinants of their decision making. The SCM study (study 2) evaluated quality of health care by gender and SES appearance of clients.

The content of the thesis is separated into four parts. Part one introduces the Thai health care systems and reviews literature related to URI and factors related to pharmacists' and other providers' practice. Finally, the theory of planned behavior and SCM are reviewed. Part two and part three provide details of study 1 and study 2. Lastly, part four presents general discussions and conclusions of the studies. Implication, advantages and drawbacks of these studies and recommendations for further research are also summarized in this part.