



CHAPTER I

INTRODUCTION

This chapter introduces the general ideas of situations and problems related to the objectives of this study, research questions, conceptual framework, operational definition, study approach, and expected outcomes.

SITUATION AND PROBLEMS

Upper respiratory tract infections (URIs) are the most common infections worldwide (Bamberger & Jackson, 1995). In Thailand, nearly half of the respondents to a 2002 National Health & Welfare Survey (NSO, 2003b) reported having had a respiratory disease during the two preceding weeks, the most frequently reported acute health problem. From two previous researches in the study community, URIs represented the greatest health problem found among adolescents visiting the local health center (Ratana Somrongthong & Chitr Sitthi-amorn, 2000) as well as among respondents who got sick during the past three months of household survey (Alli, 2000).

The International Conference on Acute Respiratory Tract Infection (ARI) (Douglas, 1997) approximates that 75% of antibiotics are prescribed for acute respiratory infections. In Thailand, data from the Drug Control Division (2003) showed that antibiotics are the most frequently used drugs, and their use increases every year. Although viruses cause most URIs (Therapeutic Guidelines, 1998), antimicrobial agents are still among the most commonly utilized drugs for URI, both at health facilities and in the community (Grand et al., 1999). On the consumer side, self-prescribing with antibiotics, non-adherence with treatment procedure, and

misconception about URIs and antibiotics were commonly found (ARIC Section, 1997; Charupatanapong & Rascati, 1992). At the same time, health providers practice problems range from lack of proper patient assessment, uncertainty in diagnosis between viral and bacterial URIs, to over-dispensing and prescribing of unrecommended drugs and antibiotics without suitable advice for the patient (Okeke et al., 1999; Wellbery, 1997).

The consequences of unnecessary antibiotics use for viral URIs are particularly dismal in developing countries (Kunin, 1993). Since most patients pay out-of-pocket for their medicines, they are wasting scarce household incomes. Moreover, inappropriate use of antibiotics increases drug resistance in the community (Dowell & Schwartz; 1997; Craig, 1997; Goossens and Sprenger, 1998; Grand et al., 1999; Steinke & Davey, 2001), and requires the use of more expensive and potentially toxic alternative drugs when antibiotic treatment is needed (Institute of Medicine, cited in McCaig & Hughes, 1995). These more expensive antibiotics are likely not affordable in resource-poor settings. In addition, according to the WHO Strategy for the Containment of Antimicrobial Resistance (WHO, 2001), developing countries play an important role in the emergence of antimicrobial resistance. In congested urban communities with poor sanitation, high incidences of HIV/AIDS, multi-drug resistant tuberculosis (MDRTB), and drug addiction, resistance is likely to spread easily.

Studies in developed countries suggest that both clinical and socio-cultural factors influence antibiotic prescribing (Avorn & Solomon, 2000; Murray et al., 2000; Pechere, 2001). However, a recent review by Radyowijati and Haak (2003) highlights the lack of data for developing countries. There are only few studies on antibiotic use for URIs in developing countries. Antibiotic use in low-income countries may differ from those in industrialized countries, and complex relationships likely exist between antibiotic use and local cultures, socioeconomic characteristics, and poor health care infrastructure (Radyowijati & Haak, 2003). Moreover, despite the fact that two-thirds to three-fourths of drug use in Thailand occurs at the household and community levels (Komatra Chuengsatiansup, Leuchai Sri-ngernyuang & Wichit Paonil, 2000) and that the household is a major source of health care spending with a 62.5% proportion in 1998 (Suwit Wibulpolprasert, ed., 2000), inappropriate drug use at the community level

is often overlooked, and few interventions address drug use from a consumer's perspective (Komatra Chuengsatiansup et al., 2000; Grand et al., 1999). Therefore, there is an urgent need for a better understanding of how people make decisions for taking antibiotics and how these modern pharmaceuticals are distributed and utilized in the contexts of local communities. This knowledge is a prerequisite for designing effective strategies to improve rational use of drugs for URI treatment in adults.

Effectiveness of disease management guidelines has been shown to improve medical practice and patient outcome. In Thailand, the standard treatment for URIs was first addressed in the standard treatment guideline for respiratory tract infection disease developed by an expert committee from the Ministry of Public Health in 1990. The latest version was launched in 1996 (Sayomporn Sirinawin, ed., 1996). However, the guideline has not been regularly used, especially in drug stores and at the community level, both of which were not included on the list of guideline dissemination. In addition, the studies suggested that only disseminating an evidence-based guidelines would not guarantee the adherence of the user. Rather, a guideline developed by a consensus of end users and incorporated local experience is preferred and would be very useful for patients with respiratory infection (Niederman, 1996).

The growing evidence suggests that empowering patients through implementation of patient-centered strategies, combined with educational initiatives, help change attitudes and behavior, and improve appropriate antibiotic treatment. At the same time, the concept of a 'Civil Society', an autonomous sphere of social interactions in which active citizen and groups from voluntary associations and informal networks engage in activities with public consequences, has been on the rise in Thai society and shown to be useful in solving many of the country's social problems (Komatra Chuengsatiansup, 2000).

This dissertation assessed patterns of antibiotics and other drug treatment for adults with URIs in two large and at risk slum communities in Bangkok, Thailand to understand, from both the patients and health providers perspectives at the household and community levels, how and why antibiotics are being used. The results were used as input to design multifaceted intervention methods (Gross & Pujat, 2001; Laing,

Hogerzeil & Ross-Degnan, 2001) for encouraging the appropriate use of drugs for adult URI treatment in three target groups: community members, drug sellers, and health center physicians. The involvement of the civil society, the end users of the guidelines, in the guideline development process, as well as in the steps of intervention and dissemination planning, should help increase acceptance and adherence to the guidelines. The implication of this study to the health system, in turn, may help to modify drug use behavior of consumers, dispensers, and prescribers at the community level and control the development and spreading of resistant bacteria in the community.

OBJECTIVES

General Objective

To explore and understand the patterns of drug (including antibiotics) and non-drug treatment for adults with URIs and to develop local URI management guidelines to reduce unnecessary antibiotic treatment in adults at household and community levels.

Specific Objectives

1. To measure the knowledge, attitudes and patterns of health care seeking behavior and antibiotic use for URI treatment of community members.
2. To measure the knowledge, attitudes and practices of physicians at health centers and drug sellers regarding the use of antibiotics in the treatment of adult URIs.
3. To develop a local viral URI management guideline for adult patients by involving civil society and the use of evidence-based references.
4. To evaluate the process of guideline development.

RESEARCH QUESTIONS

Primary Research Questions

1. What is the knowledge, attitude and practice related to drug (including antibiotics) and non-drug treatment for URIs of community members, physicians and drug sellers in study community?
2. What proportion of adult consumers, physicians and drug sellers include antibiotics into a treatment of viral URIs?
3. What would be accepted among community members, physicians and drug sellers as criteria to identify viral URI cases, criteria for antibiotic use, and appropriate treatment for viral URIs?

Secondary Research Question

1. What factors contribute to the use of antibiotics in URI treatment of adult patients by community members, physicians, and drug sellers?

CONCEPTUAL FRAMEWORK

The concept of a “Triangle That Moves the Mountain” by a well-known Thai thinker, Dr. Prawase Wasi (2000), the ‘Four Pillar’ concept by Dr. Peter Tugwell and the modified version from Prof. Chitr Sitthi-amorn were applied to frame this study.

The three angles that could help move the society include i) the research and development, ii) the social process, and iii) the policy process. The intervention that works as a lubricant for the interaction between these three angles is the knowledge management.

In this study, Phase I study (a Formative Study and a baseline survey) was the angle of research and monitoring that created knowledge about the pattern of antibiotic use in community. The knowledge gained was used to empower the community members in the social angle and lead to the establishment of the Klong Toey Health and

Drug Use Network, a network of individuals and local organizations who show concern and willingness to solve health and drug use problems in the community. The health providers, the existing services, and policy makers at different levels are in the corner of the policy process. The URI management guideline was seen as the knowledge management tool to promote proper interaction between the three angles and to promote rational drug use in community.

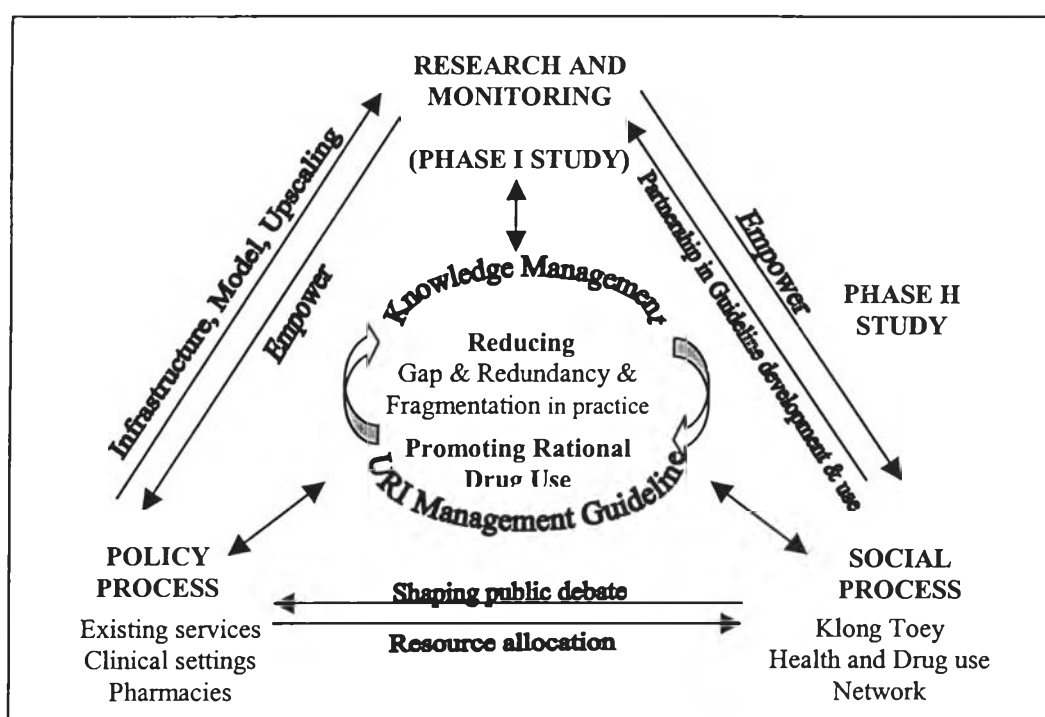


Figure 1. Conceptual Framework

The development of an URI guideline by involving the three partners together will create an open discussion between the health providers who take care of the existing health services and the consumers and other stakeholders. When they become a partnership in guideline development, gaps between existing health services and expectation of the consumers, redundancy, and fragmentation of services from different providers could be identified and solved together. They may reach an agreement on the role of each partner in managing URI treatment.

It was hoped that this triangle and the knowledge management part could strengthen people in community to be knowledgeable, self-reliant, able to take care of their own health at a certain level, and able to take part in shaping the health policy for

themselves; or at least able to balance the power of the health providers. On the policy process, the triangle should shape their role in allocating the services to the community. The model testing by the research section that works should be supported and upscaled by the policy process too.

OPERATIONAL DEFINITION

Adult means community member at the age of 18 years or over. In this study, the terms ‘adult’, ‘community member’, ‘people’, ‘patient’ were used interchangeably.

Antibiotics include any oral, intramuscular, intravenous or eardrop containing antibiotics used by community members, prescribed by physicians, or dispensed by pharmacy personnel. Antituberculosis, antileprosy, antifungal, antiamoebic, antimalarial and antidiarrhoeal drugs do not count as antibiotics.

Upper Respiratory Infections (URIs) include both viral and bacterial infections in the upper airway. These are common cold, rhinitis, pharyngitis, otitis media, tonsillitis, and sinusitis as diagnosed by health center physicians. The symptom-based definition of URIs during the household survey was the presence of at least one of the following symptoms for more than two days in patients within the previous 2 weeks: sore throat, cough, sneezing, tonsillar abscess, sputum, ear ache, nasal congestion, rhinitis, with or without fever.

Viral URIs include symptoms diagnosed by health center physicians as URI or common cold, unspecified URI, or symptoms like cough, rhinitis and headache. In the household survey, patients were classified as having viral URIs if their GAS score and number of signs and symptoms for sinusitis were less than 2.

Bacterial URIs include symptoms diagnosed by health center physicians as pharyngitis or sore throat, tonsillitis, acute otitis media, and sinusitis. In the household survey, patients were classified as having bacterial URIs if their GAS score or number of signs and symptoms for sinusitis was 2 or 3.

Pattern of antibiotic use is the nature and extent of a repeated behavior or an arrangement or sequence regularly found in community members, drug sellers, and physicians on how they approach and make use of antibiotics. Patterns of antibiotic use by community members includes where people get antibiotics for their treatment, what kind of antibiotic in which amount, and how they take it. Patterns of antibiotic prescribing by physicians focused on type and amount of antibiotic prescribing for the patient regarding their diagnosis. Patterns of antibiotic dispensing by drug sellers include the usual questions that drug sellers ask to assess their patient, type and amount of medicine they regularly dispense, and advice given to the patients.

Rational drug use has the same definition as defined at the conference convened by the WHO in Nairobi in 1985 (Quick, eds., 1997), as “patients receive medications appropriate to their clinical needs, in doses that meet their own individual requirements, for an adequate period of time, and at the lowest cost to them and their community”.

Unnecessary or overuse of antibiotics means taking, prescribing, or dispensing of antibiotics that are not recommended by the National Standard Treatment Guideline or clinical evidences for the treatment of viral URL’s.

Appropriateness of antibiotic treatment is based on the recommendation in the National Standard Treatment Guideline for Respiratory Tract Infections (Sayomporn Sirinawin, ed., 1996).

URIs management guideline is a statement package developed systematically by health providers, community members, and potential local organizations in the community to help them make rational decisions about treatment for URIs. Contents of the guidelines mainly include common complaints of URIs, a guide on clinical scores for differential diagnosis of possible viral and bacterial infection, treatment of choice, and selected drugs for each condition as agreed by the working group. The terms ‘guideline’, ‘management guideline’, ‘practice guideline’, and ‘recommendation’ were used interchangeably in this study.

Civil Society or **civic group** is a group of people who are concerned about the public problem and take responsibility to work together to solve that specific problem. Components of a strong civil society include civic consciousness, civic organization, and civic network.

Slum or **congested community** includes any condensed community defined by the Bangkok Metropolitan Administration (BMA) as a community having more than 15 households per Rai (1 Rai = 1,600 square meters) or as the local community organizations and people in that area classify it as a slum community although it might not included in the list of BMA slum community.

THE STUDY APPROACH

The study approach consists of two phases. The first phase, Phase I Study, was to gather information about drug use in the community by reviewing literature from an electronic database and other available sources; semi-structured interviews of target groups; household survey; simulated client method in drugstores; and prescription review in health centers. Problems found and evidence-based reviewed literature from the first phase were used as an input for development of local URI management guidelines and for planning the guideline implementation in the second phase, Phase II study. The guidelines were seen as systematically developed statements to help community members and practitioners make decisions about appropriate treatment for specific symptoms of URI conditions, and encourage adherence to treatment among them as well (Quick, eds., 1997). To strengthen the guideline, increase ownership, acceptance, and adherence in guideline, the “Civil Society” which is composed of active community members, community organizations and health providers- all of whom are the end-users of the guidelines, were involved in the process of guideline development.

EXPECTED OUTCOMES

1. Patterns of drugs (including antibiotics) and non-drug treatment for URIs of adult patients by community members themselves, physicians and drug sellers in congested urban community

2. Factors contributing to the practice in URI treatment by community members, physicians and drug sellers

3. The general guideline for URI treatment developed by the local community which offer potential to assist more rational drug use of community members, physicians, and drug sellers