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# Patient self-management and the role of pharmacists: developing a consensus-based policy framework

## Key Messages

1. This first consensus-based policy framework on self-management and role of pharmacists comprises views of physicians, pharmacists, traditional Chinese medicine practitioners and dispensers, and the general public in Hong Kong.
2. Patients with stable chronic conditions have the responsibility to manage their own health.
3. Pharmacists are suggested playing a role in patient self-management and responsible to manage medication problems.

## Introduction

Chronic diseases can have a significant impact on health and quality of life. The long duration of such diseases leads to increased health care expenditure.<sup>1</sup> Self-management is one of the main approaches to managing chronic disease.<sup>2</sup> It improves patient self-efficacy, disease outcomes, communication with physicians, and cognitive symptom management.<sup>3,4</sup> Hence, days in hospitals, number of outpatient visits, and hospitalisation are also reduced.<sup>4</sup> Besides, some patients use over-the-counter (OTC) medications without consulting health professionals whenever they experience mild discomfort. It is, therefore, necessary to involve a health professional to oversee patients during self-management, and pharmacists have the potential to fulfil that role.<sup>5</sup>

In Hong Kong, research on both self-medication and self-management is limited. Little is known about the acceptability and attitudes of local physicians, pharmacists, and traditional Chinese medicine (TCM) practitioners and dispensers towards self-management and pharmacist-led self-management. We therefore examined the perspectives of these four groups of professionals and the local population, and developed a consensus-based policy framework on patient self-management and the role of pharmacists in self-management.

## Methods

This study was conducted from June 2007 to January 2010 and comprised four stages: thematic household survey (THS) analysis, focus group discussion, a telephone survey, and the Delphi process.

The THS dataset was conducted during November 2005 to March 2006 by the Census and Statistics Department, Hong Kong SAR. It was used to study patterns of consultations with western medicine doctors and TCM practitioners, and utilisation of western and Chinese OTC medications in the past 12 months. The THS covered the entire land-based population in Hong Kong. Respondents were aged 14 years or above. Univariate and logistic regression analyses were used to identify factors associated with different utilisation patterns.

Nine homogeneous focus groups with 13 physicians (2 groups), 10 pharmacists (2 groups), 10 TCM practitioners (2 groups), and 18 TCM dispensers (3 groups) were formed to understand their attitudes towards patient self-management and roles of pharmacists in self-management. The participants were working in academic and/or clinical units. A preamble introducing patient self-management and a case on diabetes mellitus were provided to facilitate discussion. The moderators led the focus group discussions based on a semi-structured discussion guide, which consisted of questions emphasising attitudes towards patient self-management and pharmacist-led self-management of patients with chronic conditions, roles of pharmacists in patient self-management, and collaboration between health care professionals. The discussions lasted approximately 60 to 90 minutes, and the proceedings were audio-recorded and transcribed verbatim. Themes were identified independently by two investigators using the NVivo 7 software. Interpretations of the themes were illustrated by extracts from the transcripts.

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Telephone survey was used to measure views and practice of the Hong Kong population on self-medication and self-management. Telephone numbers were randomly selected from residential phone directories. Trained interviewers invited eligible persons to participate in the survey after briefing them about the purpose of the study. A household member at least 18 years of age, whose birthday was closest to the date of the interview, was invited to complete the survey. Persons not able to communicate in Cantonese and Mandarin were excluded. The 68-item Chinese questionnaire was composed based on the THS, findings from the focus group discussions, and the literature. It covered practice, attitude, and knowledge towards self-medication, attitude, and acceptability on management of long-term chronic conditions, views on pharmacist-led self-management, self-reported health status, and demographic characteristics. Descriptive statistics were reported. Univariate and multivariate analyses were used to identify factors associated with their practices and attitudes.

The Delphi process was used to develop an expert consensus-based policy framework on self-management. Physicians, pharmacists, and TCM practitioners and dispensers working in academic and/or clinical units, and/or administration were invited to participate. Self-administered questionnaires written in Chinese and English were sent to the participants by post or email. It contained 53 statements on the scope of self-management, roles of community pharmacists in self-management, and barriers that might hinder pharmacist-led self-management (extracted from focus group discussions and findings from telephone survey). At round one, participants were asked to rate the validity and clarity of the statements on a 9-point scale (1 being lowest). A statement was retained if  $\geq 85\%$  of the respondents rated 7 to 9 on both validity and clarity; otherwise, the statements were disregarded at round one or revised for reassessment in round two. At round two, each participant received a Delphi questionnaire showing his/her responses, the median and distribution of rating of each statement obtained in round one. Participants were asked to re-rate the validity and clarity of the revised statements on a 9-point scale again.

## Results

### *Stage 1: thematic household survey analysis*

A total of 33 263 individuals participated in the THS interview; the response rate was 79%. Around 41% of the respondents consulted western medical doctors and used western OTC products in the past 12 months. They tended to be aged 30 to 39 years, have attended primary school education, have fair to very good self-reported health, have no chronic diseases, and have higher individual monthly income. About 7% of the respondents consulted TCM practitioners and used Chinese OTC products. They were more likely to be aged  $\geq 40$  years, have chronic illnesses, and have no insurance coverage for western medicinal services. People who used western and Chinese OTC products only

tended to be male, have a low education level, and have low monthly income. By contrast, those who used Chinese OTC products only were more likely to be aged  $\geq 60$  years, whereas those who used western OTC products only tended to be aged 30 to 49 years.

### *Stage 2: focus group discussion*

Most of the physicians, pharmacists, and TCM practitioners and dispensers agreed that patients have the responsibility to manage their own health. They identified a similar scope that patients should involve in the process of self-management. These included understanding of the disease symptoms and complications, disease parameter monitoring, drug management, lifestyle modifications, obtaining carer support, and seeking help from health professionals when necessary.

*“For diabetic patients, for example, they need to know how to self-monitor their blood sugar level... they need to understand their disease and its complications... they also need to know about diet control and other life style modification including smoking and alcohol.”* (physician)

For the role of pharmacists in self-management, physicians and TCM practitioners and dispensers admitted that pharmacists were drug experts and should manage patients' medications, and thus play an assisting role in patient self-management. However, physicians were more competent and more experienced in disease management. The three professional groups suggested that physicians lead self-management instead.

*“I think both diagnosis and medications are important. Pharmacists are drug specialists but they are not as capable as physicians in disease diagnosis and treatment...”* (TCM practitioner)

Pharmacists believed that they had extended roles in health care. Their services were free and accessible. Therefore, they could be the first point of contact in patient self-management. To facilitate their relationship with patients with respect to the pharmacist-led approach, they needed to develop the trust with patients and receive government support, including funding and adjustment of regulations.

Physicians were willing to collaborate with pharmacists but primarily on medication issues, for example, suggesting desirable medications and assisting in monitoring patients for drug interactions and side-effects. Pharmacists suggested having a multi-disciplinary team involving physicians, TCM practitioners, nurses, dietitians, and social workers to provide more comprehensive treatment to patients with chronic conditions. Pharmacists, TCM practitioners and dispensers believed that collaboration between the western and Chinese medicine professionals was necessary, but that the dissimilarities between western and Chinese medicines made communication and cooperation difficult.

*“We can share tasks like education and lifestyle modifications with physicians.... We can ask the TCM practitioners or dispensers what Chinese medicines and treatments the patients are using, but as there is still no concrete evidence to show the interactions between western and Chinese medicines, this would inhibit our collaboration ...”* (Pharmacists)

### **Stage 3: telephone survey**

A total of 1104 surveys were completed; the response rate was 71%. Among participating subjects, 571 (52%) respondents were female, 656 (60%) were aged 18 to 49 years, and 386 (35%) had completed Form 5 education. Approximately 52% had monthly household income of HK\$10 000 to 29 999; 59% reported good or very good health in the past 3 months, and 53% had private and/or company paid health insurance coverage. Approximately 14% paid no medical fee, including Comprehensive Social Security Assistance recipients and civil servants.

To assess their knowledge in self-management, the respondents knew that they needed to consult physicians if problems persisted, a possible food-drug interaction, and risks of medication sharing. A total of 359 (33%) respondents reported that they had purchased Chinese and/or western OTC medications, vitamins, and/or minerals in the past 3 months; 76% of them never consulted pharmacists before purchasing these products.

About 95% of respondents agreed that patients were responsible to care for their own chronic illnesses. Those who agreed to self-management were significantly more likely to have purchased OTC medications in the past 3 months (odds ratio [OR], 7.35; 95% confidence interval [CI], 1.30-41.58;  $P=0.024$ ). A total of 215 (20%) reported that they had at least one chronic illness, and most of whom were engaged in self-management activities, including medication compliance (90%), follow-up compliance (90%), and monitoring of disease progress (85%). However, lack of disease knowledge (43%), inadequate equipment for disease monitoring (42%), and unstable health conditions (41%) could interfere with their health management.

Regarding pharmacist-led patient self-management, the proportions agreed (45%) and disagreed (44%) with this concept were comparable. Those who agreed believed that they could obtain assistance efficiently when they have problems (42%) and that pharmacists could frequently monitor their disease condition (35%). Those who had tried to manage their own discomfort without consulting a health professional in the past 3 months (OR, 2.22; 95% CI, 1.08-4.55;  $P=0.030$ ) and those who maintained that patients should consult a pharmacist before using OTC medications (OR, 3.65; 95% CI, 1.85-7.19;  $P>0.001$ ) were significantly more likely to agree with pharmacist-led self-management.

### **Stage 4: Delphi process**

A total of 19 participants comprising five physicians, five pharmacists, five TCM practitioners, and four TCM dispensers completed the Delphi process. It took two rounds to achieve a consensus on the policy framework. Basically, the four professions agreed that patients with stable chronic illnesses should be involved in self-management. The scope of self-management included medication and follow-up compliance, maintaining a healthy lifestyle, using proper channels to obtain disease information, and knowing when to seek help from health care providers. Community pharmacists could play an assisting role in self-management. Handling drug-related problems would be the major responsibility of community pharmacists. Other roles like health promotion, lifestyle modification with the collaboration of physicians and nurses, and referring patients to physicians were also be involved. Actions needed to resolve barriers and facilitate patient self-management and the role of pharmacists were suggested.

## **Discussion**

To develop a consensus-based policy framework on pharmacist roles in patient self-management, we conducted focus group discussions and a telephone survey to collect perspectives and views of physicians, pharmacists, TCM practitioners and dispensers, and the general public. They generally agreed that patients with chronic diseases should self-manage their own illness provided that their health conditions were stable and they had sufficient knowledge about their diseases. The consensus-based policy framework suggested that patients should obtain some basic disease information including symptoms, complications and treatments through proper channels, followed by drug and follow-up compliance and establishment of a healthy lifestyle. However, we should note that self-monitoring of disease parameters, such as blood pressure and blood glucose, awareness of our own treatment plan, family and emotional support (all usually covered in self-management programmes) were not included in our consensus-based framework. This indicated that the concept and scope of patient self-management in this study was quite different from the practice reported in the literature.

Although pharmacists believed that they were able to monitor patients' diseases and parameters, provide health education, and assist patients in lifestyle modification, the other three professions believed that pharmacists could only play an assisting role in self-management, primarily in drug management. They worried that pharmacists did not have the relevant training and skills to lead patient self-management.

Based on the views of physicians, pharmacists, TCM practitioners and dispensers, without further work to change their views, it would not be possible to implement

pharmacist-led patient self-management. To promote the role of pharmacists, the government can consider developing multidisciplinary patient care with involvement of pharmacists and public-private partnership programmes, so as to encourage patients to consult community pharmacists for drug-related problems and drug compliance monitoring. To enable effective communication, an electronic patient record system which can be accessed and updated by both medical doctors and community pharmacists should be established. To ensure quality of care by pharmacists, continuing pharmacy education is needed. Pharmacist-led patient self-management needs to be developed gradually, with the support of the government, so as to extend their roles and enhance their responsibilities.

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