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Abstract

Background
Self-management is one of the key approaches to manage non-communicable diseases. A pharmacist-led approach is a collaborative care between pharmacists and patients, however, the development of both self-management and role of pharmacists are limited in Hong Kong. Roles of pharmacists in are primarily responsible for dispensing drugs. Physicians are dominant and many of them have hesitation in delegating tasks to pharmacists. The objectives of this study were to understand the perspectives of physicians, pharmacists, traditional Chinese medicine (TCM) practitioners and dispensers on self-management of patients with chronic conditions and the possibilities in developing pharmacist-led patient self-management in Hong Kong.

Methods
Fifty-one participants comprised of physicians, pharmacists, TCM practitioners and dispensers participated in homogenous focus group discussions. Perspectives in patients’ self-management and pharmacist-led self-management were discussed. The discussions were audio recorded and transcribed accordingly.

Results
The majority of the participants supported patients with stable chronic diseases to engage with self-management. Medication compliance, monitoring of disease parameters and complications, lifestyle modification and identifying situations to seek help from health professionals were generally agreed to be covered in patient self-management. Pharmacists believed that they had extended roles in addition to drug management but the other three professionals believed that pharmacists were drug experts only and could
only play an assisting role. Because of lack of familiarity of pharmacy profession, the perception of insufficient training in disease management and lack of trust of patients, physicians, TCM practitioners and dispensers were worried that pharmacist-led self-management could be hindered.

Conclusions

Self management is beneficial to both patients and the health care system. As the population grows older, we will have more chronic illnesses to deal with, and these will inevitably cause increases in health spending. Patients with stable chronic conditions should participate in self management in order to prevent deterioration of health and to save health care cost. Pharmacist-led patient self-management needs to be developed gradually with the support of government, including extending pharmacist role, enhancing their responsibilities in health services, and developing facilitating measures to enhance the implementation of pharmacist-led self-management.

Keywords: Self-management, pharmacist role, chronic disease
Background
Chronic disease is the major cause of disability. People with chronic conditions have been found significantly more likely to visit physicians, to be admitted as an inpatient, and have longer length of stay in hospitals which lead to increase in health care expenditure [1-2]. Self-care or self-management is one of the key approaches to managing chronic disease [3]. It allows patients to take an active part in the management of their own condition [4].

Self-management does not mean that patients would get less help from health professionals. A health professional would have a partnership with patients to provide collaborative care to monitor their health conditions regularly and to solve patients’ problems. Studies have shown that pharmacists are the most accessible health care professional to many chronically ill patients [5] and therefore, they are desirable to lead patients’ self-management. Self-management programs usually cover techniques to deal with emotion, fatigue, pain and isolation; encourage appropriate exercise, nutrition and appropriate use of medications; communicating effectively with family, friends and health professionals; and evaluation of new treatments [6-8]. Previous studies have shown that many of these self-management programs can improve patients’ self-efficacy, self-rated health, cognitive symptom management, exercise behaviors and communication with physicians [4, 6-7]. In pharmacist-led self-management programs, pharmacists emphasize disease knowledge, medication counseling, symptoms self-management and monitoring, lifestyle advice and barriers to care [8-13]. They have been found clinically and statistically effective in improving disease parameters and quality of life of patients and reducing mortality. However, self-management in Hong Kong is still developing and targeted on patients with specific chronic conditions, such as diabetes mellitus.
The traditional role of pharmacists is to manufacture and supply medicines [14]. More recently, however, pharmacist’s role has been evolved into a patient-centered approach of which some doctors may concern about the threat of their medical professional status. A study found that physicians were most comfortable with pharmacists’ responsibilities of catching prescription errors, providing patient education, suggesting nonprescription medications and suggesting prescription medications to physicians [15]. Another study showed that doctors were happy to delegate tasks to pharmacists that they found difficult or mundane such as, monitoring of drug adherence and repeat dispensing [16]. The doctors were more skeptical about pharmacists carrying out clinically orientated activities and were not giving up control. Compared to the western countries, pharmacists’ roles like prescribing, monitoring of disease parameters, health education, lifestyle modification and smoking cessation counseling, are limited in Hong Kong. The role of pharmacists in Hong Kong is primarily dispensing drugs.

In Hong Kong, patients with stable chronic conditions follow-up less frequent with their physicians, usually every four to six months. Patients may encounter health problems before their next follow-up appointment. Pharmacists may be suitable to lead patient self-management. Pharmacist-led is a collaborative care between pharmacists and patients and they make health care decision together [17]. Pharmacists could take some of the responsibilities from physicians like monitoring patients’ disease parameter, and assisting patients in solving health problems and developing self-management skills, however, the perspectives of physicians and other health care professionals on this issue should not be neglected. As using traditional Chinese medicines is common in our chronically ill patients, the aims of this study were to understand the perspectives of
physicians, pharmacists, traditional Chinese medicine (TCM) practitioners and dispensers on the role of pharmacists in self-management of patients with chronic conditions and the possibility in developing pharmacist-led patient self-management in Hong Kong.

Methods

Study Design
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. The purpose and procedures of the focus group were explained and informed consent was obtained from each of the participants. Before the discussion, a preamble introducing patient self-management with a case on diabetes mellitus was provided to facilitate the discussion. The moderators led the discussion based on a semi-structured discussion guide. The participants were encouraged to express their views freely. The duration of discussion was approximately 60-90 minutes and proceedings were audio-recorded and transcribed verbatim. A token of HK$200 was given to each participant as an appreciation. A pilot of four homogeneous focus groups involving 11 medical and 12 pharmacy students was carried out before conducting the main focus groups.

Subjects
A total of 13 physicians, 10 pharmacists, 10 TCM practitioners and 18 TCM dispensers participated in the study. They were academic or front-line workers, working in clinical or community setting. The demographic characteristics of the participants were shown in Table 1.
**Instruments**

A preamble introducing patient self-management and a case on diabetes mellitus were provided to the participants to facilitate their discussion. The moderators led the focus group discussions based on a semi-structured discussion guide which was derived from an in-depth literature review and expert opinion. It consisted of open ended questions emphasizing (1) Attitudes towards patient self-management; (2) Attitudes towards pharmacist-led self-management of patients with chronic conditions; (3) Roles of pharmacists on pharmacist-led patient self-management and (4) Collaboration between physicians, pharmacists and other health care professionals.

**Data Analysis**

The transcripts were analyzed independently by two investigators using the NVivo 7 software (QSR International Pty. Ltd. ©1999-2006). Broad themes were first identified. Emergent themes which occurred repeatedly across and within focus groups were noted as recurrent themes. Each theme was placed in a topic category based on its content. Large categories were further divided into sub-categories creating a tree-diagram. The two investigators discussed and examined the transcripts for connections among these themes until consensus was achieved. Interpretations of the themes were illustrated by extracts from the transcripts.

**Results**

**Attitudes towards patient self-management**

Most of the physicians, pharmacists, TCM practitioners and dispensers agreed that patients had the responsibility to manage their own health. Some of them stated that
only patients whose health conditions were stable should be allowed to self manage their own health.

“...In the clinic, we cannot see the patients until a few months later when they come back for follow-up. What happened in these few months? We don’t know. Patients can help themselves if they know how to manage their illnesses.” (Physician)

“If the disease is in a stable condition, patients should be able to self manage their own health...But if the condition is unstable or they have complications, they may not be able to take care of themselves…” (TCM practitioner)

**Scope covered in patient self-management**
The four professions identified similar scope which should be covered in patient self-management. They believed that patients should have an understanding of their own disease including symptoms and potential complications, be able to perform disease parameter monitoring like blood pressure and blood glucose, drug management, side-effect monitoring and lifestyle modification if necessary. Most importantly, patients needed to know in what situations they should seek help from health professionals. Support to caregivers was also identified as an important component in patient self-management.

“It’s a good idea to do self-management but many patients only know that they are sick but they don’t understand the diseases they have... They don’t know what they can do…” (TCM dispenser)
“For diabetic patients, for example, they need to know how to self monitor their blood sugar level...understand their disease and complications...need to know about diet control and other life style modification including smoking and alcohol.” (Physician)

“...They need to know how to handle their medications, such as the functions, adverse effects and side effects,... adjust their living habits to minimize the risk of complications and able to identify situations which need help from doctors…” (Pharmacist)

TCM practitioners and dispensers focused more on quality of life, including sleeping quality and emotional support.

“...Especially those with diabetes, they need to have diet control otherwise medication doesn’t help much. Besides, they need to have regular exercise and adequate sleep to maintain good health....” (TCM practitioner)

“...Patients’ emotional status can influence their health. I think family support is important, especially for elderly patients…” (TCM dispenser)

**Attitudes towards pharmacist-led self-management and role of pharmacists**

When the focus group participants were asked whether a pharmacist-led approach could be incorporated in patient self-management, physicians and TCM practitioners and dispensers believed that pharmacists were drug experts only and could only play an assisting role.
The medical doctors were opposed to a greater role being played by community pharmacists. They believed that doctors were competent and more experienced. Their perception was that pharmacists did not have sufficient knowledge to handle patients’ clinical problems and not as efficient as physicians to perform tasks other than handling drugs. Even if pharmacists were allowed to lead patient self-management, they still needed to develop trust with patients first.

“Pharmacists can be part of the team but I don’t think they can play a leading role. Physicians are still the leaders in disease management…Pharmacists have an important role in managing drug issues but they are not capable to give advice on other aspects.” (Physician)

The majority of TCM practitioners believed that medical doctors should play the leading role. Community pharmacists could be responsible for drug management only.

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

TCM dispensers stated that community pharmacists were experts of drugs only and they could not make clinical diagnosis. In community pharmacy setting, pharmacists might have difficulties in counseling patients as patients’ privacy and their information confidentiality had to be considered. Besides, as pharmacies are profit-making business, they worried that when patients have health concerns, community pharmacists
would sell over-the-counter or health products for self treatment rather than referring patients back to physicians.

“…They are running a business. I doubt whether pharmacists would ask patients to go back to consult doctors. They need to sell their products.” (TCM dispensers)

Community pharmacists believed that they had extended roles and they were capable to lead patient self-management. They could be the first point of contact since pharmacists were accessible and their counseling services were free. Similar to physicians and TCM dispensers, the pharmacists also agreed that a good relationship and trust had to be developed with patients first as many patients had the perception that pharmacists were only responsible for selling drugs. Support from government, including funding and adjustment of regulations, was necessary to extend their roles and facilitate pharmacist-led self-management.

“Some patients don’t know much about lifestyle modification…I can advise them what kinds of high cholesterol foods they should avoid… When they come over to buy blood pressure meters, I can teach them how to monitor their BP. All these services are free…” (Pharmacist)

“I agree with the pharmacist-led approach. Pharmacists can be the first point of contact and make appropriate referrals for patients… We can have other roles in addition to drug management but the problem is what kinds of support we can get.” (Pharmacist)
“The government should shift the focus back to primary health care... We, pharmacists have a main role in primary health care and we can play an important role in disease prevention.” (Pharmacist)

Collaboration between physicians, pharmacists and other health care professionals

Physicians were willing to collaborate with pharmacists but only on medication issues. Physicians would still be the one who prescribe medications while pharmacists could suggest the most desirable medications and assist in monitoring patients’ drug interaction and side-effects. Some facilitating factors like electronic patient record system, relevant training and supervision on pharmacies were necessary if pharmacists had to be involved well in patient self-management.

“Physicians can provide feedback to the patients’ physicians and suggest which medications are more appropriate, rather than asking the patients to change the prescriptions directly. Usually there are some clinical reasons why the medication is prescribed.” (Physician)

“Each patient should have a list or we need to have a system to record what kinds of drugs the patient is taking... Some patients see numbers of doctors and take many medications...” (Physician)

The pharmacists stated that it was necessary to collaborate with physicians, TCM practitioners, nurses, diabetic nurses, dietitians and social workers in handling chronic cases. A more comprehensive management plan could be developed if such a team could be formed. A centralized database is also needed to facilitate access of patients’
The pharmacists also anticipated difficulties in working with TCM practitioners and dispensers because of the dissimilarities in western and Chinese medicines and treatments.

“We can share tasks like education and lifestyle modifications with physicians. And if we noticed that the patient has some problems, we could refer him back to his doctor … We can ask the TCM practitioners or dispensers what Chinese medicines and treatments the patients are using, but as there are still no concrete evidence to show the interactions between western and Chinese medicines, this would inhibit our collaboration …”

(Pharmacists)

The TCM practitioners believed that collaboration with the western medicine profession was necessary. Many patients with chronic illness would consult TCM practitioners for long-term health maintenance. Sometimes, TCM practitioners needed to contact the physicians and suggest lowering the drug dosage as the patients’ condition had improved. Both TCM practitioners and dispensers believed that it would be difficult to collaborate with western medical professionals because the medical concepts of western and Chinese varied. It was important to break the wall between the two professions before communication and cooperation could be facilitated. Physicians and pharmacists needed to understand more about the concept and theory behind Chinese medicine while TCM practitioners and dispensers also needed to learn how to read patients’ medical records and understand the interactions between western and Chinese drugs.

“In medical and Chinese medicine trainings, students of both disciplines need to have some basic understanding about each other...Now I would give my opinions on Chinese
medicine to patients, but if they have questions on western medicines and treatments, I would encourage patients to ask his physicians. As divergence of views between western and Chinese medicines exists, we better focus on our own area.” (TCM dispensers)

Discussion
Generally, the four professions agreed that patients with chronic diseases should self manage their own illness provided that their health conditions were stable and they had sufficient knowledge on their diseases. Like many patients’ self-management program conducted in western countries, they suggested that patients should obtain some basic disease information including symptoms, complications and treatments first, followed by drug and follow-up compliance and healthy lifestyle establishment [4, 8-11].

Though pharmacists believed that they were capable to lead self-management of patients with chronic conditions, and could monitor patients’ disease condition and parameters, provide health education and assist patients in lifestyle modification in addition to managing patients’ drug issues, the other three professions believed that pharmacists could only play an assisting role, primarily in drug management. Pharmacists, therefore, could not lead patient self-management and the TCM practitioners suggested physicians to take the lead. Similar to the opinions of the overall pharmacists in Hong Kong, the pharmacists participated in the focus group believed that they should play extended roles in health care [5]. They can be an educator on self-care, an advisor to implement self-care and assist patients in disease monitoring and lifestyle modification, a specialist in follow-up of a patient’s prescription, provision of drug counseling and formulating pharmaceutical care plans. For minor ailments like stomach ache, motion
sickness or cold, pharmacists can also act as drug advisors. Pharmacists think that they can be a collaborator with patients and other health professionals to work out the management of health problems. The physicians, TCM practitioners and dispensers in our study admitted that pharmacists could perform drug related tasks better than physicians, however, they did not think delegating other tasks to pharmacists was appropriate. This finding was in agreement with other studies investigating opinions of physicians on the role of pharmacist [15, 18-20]. They worried that pharmacists did not have the relevant training and skills to perform self-management. In our healthcare system, pharmacists play a significant role in handling drugs and they seldom involved in other duties. This explains why many health care professionals had reservation on the pharmacist-led approach. The three health professionals could be lack of familiarity of the pharmacy profession. They were not sure whether pharmacists were competent in roles other than handling drugs as pharmacists would be required to have extensive roles in pharmacist-led self-management.

The four health professions also identified other barriers which inhibited the development of pharmacist-led self-management such as lack of a centralized patient record system for sharing and assessing patients’ medical information, limited facilitating measures from the government and the image of profit making business in pharmacy industry. Based on the views of physicians, pharmacists, TCM practitioners and dispensers, without further work to change their views and minimize the barriers, it will not be possible to implement pharmacist-led patient self-management. The pharmacist-led approach is not ready at the moment. It has to be developed gradually provided that the barriers which inhibit the roles of pharmacists are minimized and more facilitating measures are developed.
The current health care system and structure of the service in Hong Kong are not conducive for the pharmacists to make their contributions, therefore, it is not surprising that the focus group participants were concerned about their relations with patients. Hong Kong has a dual system of registration of western and Chinese medicine. The western medicine is a public-private divide of which primary care is mainly provided by private sector and the majority of inpatient services are run by public sector. However, patients receive health services from either private or public sectors seldom have the opportunity to see community pharmacists as patients usually receive prescribed medications from private doctors directly or from government hospital / clinic pharmacies. Primarily community pharmacists would only have the chance to provide consultation when patients visited pharmacies to buy drugs over the counter. It is difficult for them to follow-up with chronically ill patients. Patients, therefore, are unsure about the role of pharmacists besides dispensing drugs and not very supportive on pharmacist-led self-management.

The pharmacists in the focus group claimed that the community pharmacy profession lacks support from the government. To promote the role of pharmacists, in the reform to the health care delivery system, the government needs to reconsider enhancing the participation of pharmacists in health care service, especially in primary care. Traditionally, health care and treatment are provided by individual professional discipline, however, studies have supported the effectiveness of multidisciplinary approach [21-22]. In Hong Kong, multidisciplinary patient care needs to be widely developed in the healthcare system. This would not only improve the quality of health services to patients but also ensure that our health professions are not underutilized.
Both the health professionals and people in the community would have more exposure to other health care professionals rather than doctors and nurses alone. A private public partnership (PPP) can also be developed to encourage patients to consult community pharmacist for drug problems and to monitor drug compliance. By incorporating the PPP approach, the roles of community pharmacists can be promoted to the public, health care costs can be saved in long term and drug incidents can also be minimized. In the long run, the government has to facilitate the reform of healthcare by considering promotion of self-medication for minor ailments and deregulation of more prescription only medicines to pharmacy only medicine [23].

To facilitate pharmacist-led self-management, the government needs developing an electronic patient record system which can be accessed and updated by both medical doctors and community pharmacists to enable effective communication between the two professions and to improve effectiveness of case management. To ensure quality of care of pharmacists which has been raised by many participants in our study, continuing pharmacy education has to be advocated. Pharmacists could be encouraged to obtain a certain knowledge level on Chinese medicine and patient self-management if credit transfer could be granted for previous learning in universities. Similarly, TCM practitioners and dispensers who are interested in taking courses related to western medicines or pharmacy, may also allowed for credit transfer. Equipment subsidized by the government for screening and monitoring of patients’ disease parameters in community pharmacies, and for patients to monitor their disease conditions at home are also needed.
Conclusions

Our study was the first one to explore the views of physicians, pharmacists, TCM practitioners and dispensers on patient self-management and the pharmacist-led approach. Self-management is beneficial to both patients and the health care system. As the Hong Kong population grows older, we will have more chronic illnesses to deal with, and these will inevitably cause increases in health spending. Patients with stable chronic conditions should participate in self-management in order to prevent deterioration of health and to save health care cost. Self-management does not mean that patients would get less help. A health care professional will still be responsible to monitor their health and disease condition. With the consideration of insufficient medical and nursing staff and their heavy workloads, pharmacists who are well trained to manage minor ailments, are considered to take the role in patient self-management. However, because of unfamiliar of pharmacist role and the unfavorable situations which inhibit pharmacists to lead, physicians, pharmacists, TCM practitioners and dispensers suggested pharmacists to play an assisting role. Pharmacist-led patient self-management needs to be developed gradually with the support of government, including developing facilitating measures to extend their roles and enhance their responsibilities.

Competing interests

The authors declare that they have no competing interests.

Authors’ contributions

FYW drafted the manuscripts, performed qualitative data analysis and interpreted the data and results. FWC was a moderator of the focus groups, participated in data
interpretation and manuscript editing. JHY and ELW were moderators of the focus groups. EKY performed manuscript editing. All authors were involved in the concept and designing the study and approved the final manuscript.

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References


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Additional files provided with this submission:

Additional file 1: OTC MFG_Title Page_BMC.doc, 26K
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