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Training needs of Thai community pharmacists for primary care pharmacy: Qualitative exploration

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ABSTRACT

Introduction: Primary care pharmacy is crucial for community pharmacists and requires special training for some services. **Objective:** This study aims to explore current training needs of community pharmacists for primary care pharmacy using the Organization-Task-Person (O-T-P) model. **Methods:** A qualitative study with a semi-structured interview was conducted in key informants who were purposively recruited using a snowball technique. All interviews using an interview guide and lasted 35–60 minutes. They were audiotaped, transcribed, translated and checked for accuracy. Data were coded with a thematic analysis and ratio presentation. **Results:** Ten key informants were interviewed, and mostly experienced community pharmacists or pharmaceutical regulators. Primary care pharmacy was expressed at the task, personal and organizational levels, i.e., 4, 3 and 2 themes, respectively. Primary care services were categorized as basic and advanced practices. Some barriers to advanced services, e.g., vaccination and no fees for services. Perceived knowledge and skills were focused on continuing professional education for lifelong learning, whereas perceived attitudes were negative for business-oriented services, ethics and responsibilities for professional practices. Special basic training was not needed, but some advances services were required (e.g., behavioral modifications and home visits). **Conclusion:** Professional development programs should be arranged to help pharmacists better provide advanced services.

Keywords: Community pharmacist, primary care pharmacy, qualitative study, training needs

INTRODUCTION

The profession of community pharmacy has gradually evolved over the past 60 years to focus on primary care or pharmaceutical care together with traditional dispensing and selling medicines. According to the World Health Organization (WHO), primary care, or primary health care is the first point of contact in the health-care system that provides people-centered rather than disease-specific care to meet people's health needs throughout their lives and to help individuals, families, and communities to manage their own health.[1] In general, primary care pharmacy may refer to a branch of pharmacy that provides primary care services to prevent diseases and promote health for local communities and includes relevant philosophy and medication management. Community pharmacies or drugstores are regarded as a primary care unit that offers various primary care services. In the UK, the primary care services are organized as part of the NHS community pharmacy contract for essential, advanced, or locally commissioned services.[2] Nevertheless, the accreditation of the particular pharmacies and special training for pharmacists are required before the implementation of a primary care service, e.g., smoking cessation or influenza vaccination.

The roles of community pharmacists in Australia have been involved in six types of services, i.e., the provision of drug information, provision of prescription-only and pharmacy medicines, clinical interventions, medication management service, preventive care service, and participation in therapeutic decisions. These services are provided for patients from hospitals and also diseased or healthy persons requiring primary care in the pharmacies.[3] As with the UK, the primary care pharmacy services are clearly specified and there is no need to find out the training needs. Continuing professional development and specialized training are nevertheless needed for the services. In Thailand, community pharmacists have just expanded their roles to cover some primary care activities such

as chronic disease screening and behavioral modifications. The National Health Security Office (NHSO)[4] initially proposed four primary care services that could be implemented in community pharmacies, i.e., medication therapy management (MTM), disease screening, health promotion and consumer health protection, and behavioral modifications. These services are also specified in the Standard of Pharmacy and Pharmaceutical Care outlined by the Pharmacy Council of Thailand.[5,6] However, most community pharmacists do not fully understand the proposed services. Aside from that, they probably need some training sessions to deliver the services effectively. Nevertheless, the training needs have remained unexplored.

A training needs analysis (TNA) is to review learning and needs development of individuals with or without an organization.[7] A model of TNA that was initially proposed by McGehee and Thayer[8] was presented as an organization-task-person (O-T-P) analysis. The model consists of organizational, task, and personal levels. The O-T-P model is generally applied in public services. For example, the state of Idaho in the US has adopted TNA to develop an inclusive development program for management.[9] The Louisiana state government has applied it in a large-scale performance training need assessment project designed to identify the training needs for improving their employees' performances.[7] Moreover, the model has also been applied in the Taiwanese public sector to provide managerial advice for Taiwan Coast Guard training.[10] Based on the extensive literature search, the O-T-P model has never been exploited to analyze pharmacists' training needs. Therefore, this study aimed to explore the current training needs of community pharmacists for primary care pharmacy, as part of professional development, using the O-T-P model.

METHODS

A qualitative study with a semi-structured interview was approved by the Research Ethics Review Committee for Research Involving Human Research Participants, Health Sciences Group, Chulalongkorn University (COA: 171/2561). The study was conducted in Bangkok from July 2018 to August 2018, and the results were reported according to the Consolidated Criteria for Reporting Qualitative Research checklist.[11] The research methodology was detailed below.

Informant Selection

Key informants were purposively selected from recognized community pharmacists or pharmacy executives with extensive experiences in community pharmacies in terms of quality assurance, professional development, and education planning and willing to participate in the study. All of the key informants had current or previous experiences in practicing community pharmacies. Therefore, they could provide appropriate points of view in community pharmacy training. The snowball technique was also employed to recruit more informants. The suitable number of key informants was achieved when their answers reached saturation with no new themes or concepts. Each informant was given an identification code, i.e., R01 – R10, for ease of data analysis and clarification of replies.

Study Tool

An interview guide was constructed based on the O-T-P model.[8] The model was exploited in this study, as it could embrace training needs not only from community pharmacists' points of view (or personal level) but also from organizational and task levels. The organizational level is to identify training needs concerned with a system used to review manpower requirements, resources, and organizational goals. In this study, the training needs at this level could be elicited from key stakeholders working at various pharmacy-related settings that supported the professional development of community pharmacists with appropriate strategies. The task-level identifies tasks for jobs with the quantity and quality of required performance, whereas the personal level refers to people within an organization who need to be trained.[12] The analysis of the task and personal levels in this study was focused on the core competency and four primary care pharmacy services recommended by the NHSO,[4] i.e., MTM, disease screening, health promotion and consumer health protection, and behavioral modifications.

Table 1 shows the interview guide with some probing questions. It consisted of two sections: Informants' characteristics (i.e., age, gender, years of pharmacy graduation, current position, and experiences in community pharmacy services) and questions about their views on O-T-P training needs. Since most informants were community pharmacists, the question sequence started with the task level first, followed by personal and organizational levels. The task-level questions reflected the ideal tasks in community pharmacies, especially for the job description of primary care services, whereas those about the personal levels signified the current performance

Table 1: Interview guide used in the study

Category	Question/description
Informants' characteristics	Personal information, i.e., age, gender, year of graduation, current position, and experiences in community pharmacy service
Task level	1. From your opinion, what are the standard roles of primary care pharmacy? Please give the examples and reasons
	2. What are pharmacy services in community pharmacies, e.g., basic or advanced services?
	3. What are barriers to service development?
Personal level	4. What do you think about the knowledge of community pharmacists? Please give the example of good knowledge
	5. How do you perceive community pharmacists' skills? Please give an example of good skills
	6. How do you feel about the attitudes of community pharmacists?
	7. What are the future careers and views on professional development?
Organizational level	8. What are your expectations of or requirements for pharmacists to work in community pharmacies?
	9. Do pharmacy organizations support for community pharmacists' professional development? If yes, to what extent?
Closing question	10. Is there anything you would like to add regarding professional development?

in terms of knowledge, skills, and attitudes. In addition, the organization-level queries mirrored the performance and strategies for supporting professional development. The guide was checked for its face validity by three experts, i.e., from a Pharmacy School, Office of Pharmacy Accreditation (Thailand), and community pharmacy, in terms of accuracy, wordings, and interviewee's understanding.

Data Collection

All eligible informants were confirmed by e-mail or telephone at least 1 month before the interview date. The study information sheet, together with the interview guide, was sent to them beforehand. One of the researchers (SP) interviewed the informants using the interview guide in the private rooms at their workplace so that they could provide the free-flow information with confidentiality. The interview that took approximately 35–60 min was audiotaped with informed consent. As expected, the point of data saturation was established with the ten informants, i.e., no new information being yielded. After that, the conversations recorded in Thai were transcribed and translated. The transcripts were checked twice with the audio files for their accuracy. All data were entered into Microsoft Word. An inter-coder agreement was carried out to assess the trustworthiness of the study and establish the reliability of responses. The agreement of the coding for the passages was greater than 80% of coding, denoting the answers were reliable.[13]

Data Analysis

A thematic analysis was performed for all data to ensure that all different issues were raised by the coded extracts. The themes were agreed by two coders to summarize the training needs for primary care pharmacy. In addition, the informants' characteristics were presented as individual data and percentages.

RESULTS

A total of 10 key informants were interviewed with saturated answers. Their characteristics are presented in Table 2. The informants were mostly experienced pharmacists with the age of 51–60 years. Males were slightly more than females (60%; data did not present in the table). Most of them were pharmaceutical regulators (50%) with some experiences in community pharmacy services, i.e., more than 15 years (60%). Based on the O-T-P training needs analysis, informants' opinions could be extracted and categorized into nine main themes at the task, personal, and organizational levels, i.e., four, three, and two themes, respectively. The main themes, together with some sub-themes or responses, are shown in Table 3. Details of the themes are elaborated below.

Overview of Primary Care Pharmacy

All informants expressed various views on primary care pharmacy. Most felt that primary care pharmacy was simply involved in drug dispensing and pharmaceutical care for patients and the public. In addition, community pharmacy services, including consumer protection, were part of primary care pharmacy linked with the health-care system. Some responses included:

> "The role of primary care pharmacists should serve patients with dispensing medication and other pharmaceutical care."[R10]
>
> "Primary care pharmacy should be defined by a healthcare aspect but not a personal aspect and be linked with the healthcare system." [R09]
>
> "Consumer protection in primary care includes individual, family, and the community." [R06]

Basic Primary Care Services

The basic or core services specified by most informants were dispensing and counseling for patients. Other services consisted of MTM, disease screening, health promotion and prevention, and patient education on drug and food supplements. A referral system was also noted. Some interesting quotes are listed below.

> "The standard service is patient care and rational drug use for safety." [R08]
>
> "Health prevention and providing knowledge of diseases and drugs, including disease screening, are core services." [R06]
>
> "Core services are prevention of disease in community and patient education." [R08]

Table 2: Characteristics of key informants (n=10)

Informant code	Age	Gender	Year of graduation	Current position	Experience in community pharmacy service (years)[a]
R01	38	Male	2003	Pharmacist, Bureau of Drug Control	10
R02	50	Female	1991	President, Community Pharmacy Association of Thailand	18
R03	67	Male	1974	President, Pharmacy Council of Thailand	3
R04	59	Female	1982	Director, Office of Pharmacy Accreditation (Thailand)	36
R05	62	Male	1979	Ex-president, Pharmacy Council of Thailand	>15
R06	58	Male	1983	Community pharmacist, independent pharmacy	27
R07	41	Male	2000	Community pharmacist, chained pharmacy	15
R08	59	Female	1982	Community pharmacist, university and independent pharmacy	17
R09	57	Female	1984	Dean, Faculty of Pharmaceutical Sciences	>5
R10	52	Male	1989	Associate Professor, Faculty of Pharmacy	>10

[a]Working as a full-time or part-time pharmacist

Table 3: Major themes of training needs for primary care pharmacy service

Category	Theme
Task level	Global views on primary care pharmacy
	• Dispensing and pharmaceutical care in terms of drugs and patient education (4/10)
	• Community pharmacy as part of primary care pharmacy linked with the health-care system (4/10)
	• Roles of primary care for the individual, family, and community (1/10), including consumer protection (1/10)
	Basic primary care services
	• Dispensing and counseling (5/10)
	• Medication therapy management, disease screening, health promotion and prevention (3/10)
	• Basic healthcare and education of drug and food supplement (3/10)
	• Referral system (2/10)
	Advanced primary care services
	• Behavioral modification with a recommendation for food, drug, or other health products (4/10)
	• Home visit (2/10)
	• Application of technology for communication and linkage (3/10)
	Barriers to advanced services
	• No laws permitting pharmacists to vaccinate patients or access their data (7/10)
	• Need for trust in pharmacists (4/10)
	• No regulations on pharmacist fees for advanced services (2/10)
	• No specific education program arranged for community pharmacists (2/10)
Personal level	Perceived knowledge and skills
	• Continuing professional education for up-dating knowledge (4/10)
	• Pharmaceutical care, products, and medical devices to advise patients (3/10)
	• Pharmacists with pharmacy license having basic knowledge (2/10)
	• Data mining (2/10)
	• Prescription medicines used in hospitals in addition to common medicines in drugstores (2/10)
	• Communication and counseling skill (4/10)
	• Skills varying with pharmacists' experiences or years of services (4/10)
	• Searching skills with appropriate search engines (3/10)
	Perceived attitudes
	• More focus on business and profits than professional practice (4/10)
	• Less ethical and responsible for professional practices (3/10)
	Professional development
	• Application of information technology for pharmaceutical care and connection with other health-care professionals (5/10)
	• As consultants or advisors to provide information and record patient profiles for monitoring (4/10)
	• Arrangement of community pharmacy curricula for both short and long courses with more practical sessions (2/10) to exchanged information, ideas, and best practices (3/10)
	• Collaboration with other health professionals, government units, and community pharmacies (2/10)
Organizational level	Requirements for primary care services
	• Knowledge of common diseases in community pharmacy (4/10)
	• Training course and assessments afterward (4/10)
	• Good communication skill to provide patients with good services (2/10)
	• On-job training or more practice experiences (2/10)
	Strategies for supporting primary care services
	• Promoting roles in primary care (4/10)
	• Separating pharmacy license between pharmaceutical care and pharmaceutical sciences (2/10)
	• Getting competent pharmacists certified by qualified institutes (2/10)

"A core service includes a new case referral into suitable healthcare system or cooperation with healthcare providers." [R01]

Advanced Primary Care Services

The advanced services, unlike the basic, were deemed more complex practices dealing with behavioral modification with recommendations for health products or drugs, home visits, and the use of technology for communication and linkage with governmental organizations, e.g., the police or Food and Drug Administration. These services required specific training as some informants elaborated the following:

"Behavioral modification is an in-depth service which needs training." [R05]

"A family pharmacist should follow-up progression of disease and provide guidance of recommended food for behavioral modifications." [R09]

"Home visit is the first level of primary care to solve patients' problems." [R10]

"Technology is applied for patients' payment and provides convenient services." [R07]

Barriers to Advance Services

Some obstacles were elucidated by informants. For example, pharmacists were not allowed by pharmacy laws to offer vaccination or gain access to patients' data. In addition, patients and the public's trust and good perceptions of pharmacists needed to be enhanced. Most importantly, there were no pharmacist fees for services as an incentive or no specific educational program.

"It is not allowed by Pharmaceutical Profession Act to access patients' data and monitoring; the glucose blood test is still not officially approved for pharmacy practice." [R07]

"A practitioner's program should be provided for community pharmacists, i.e., how to manage 10 common diseases (e.g., common cold, indigestion, oral contraceptive use, etc.) in patients attending the drugstore." [R05]

"There is no regulation on pharmacist fees for services and specialized community pharmacies." [R04]

Perceived Knowledge and Skills

Most informants reckoned that pharmacists who already got their licenses had enough knowledge and know how to find more information. Nevertheless, continuing professional education (CPE) was stated as being crucial for the career. Important knowledge cited as pharmaceutical care, drug and health products, and medical devices used to advise patients. Skills in primary care pharmacy mainly cited included communication, counseling, and searching for information, and these skills depended on individual's experiences. Some interesting responses embraced:

"When time passes, knowledge will be out of date. CPE is the best tool in present time." [R03]

"Community pharmacists should acquire knowledge of prescription medicines used in hospitals in addition to common medicines in drugstores." [R01]

"The key success of community pharmacy is communication skills that can find out customer's needs and serve their needs." [R01]

Perceived Attitudes

Some informants felt that pharmacists tended to focus on business and profits than professional practices, especially for primary care. In addition, pharmacists were concerned about ethics and responsibilities. Few examples were:

"New generation focuses on profits more than professional practices; working depends on incomes and benefits." [R06]

"Our pharmacists are less ethical and lack responsibilities for themselves and other people to provide professional services." [R04]

Professional Development

Primary care pharmacy was mentioned as part of the professional development of which all community pharmacists needed to be aware. Most informants suggested the use of information technology for pharmaceutical care and connection with other health-care professionals. Pharmacists should also practice as consultants or advisors to make use of patient profile information for providing specific monitoring. Moreover, a couple of informants preferred to have ample short and long courses with more emphasis on practical sessions and a special community pharmacy group was to set up to exchange information and share best practice. To facilitate the professional development, collaborations with other health-care practitioners, government organizations, and community pharmacies were recommended. Some interesting responses included:

"Pharmacists need to be trained to manage medical devices, e.g., NG tube feeding, with a guidance for recommendation and supporting information." [R02]

"Connection with other people not only pharmacists but also doctors, nurses, and social units should be implemented." [R02]

"There should be sharing cases for the topics of medicines, patients, and internal and external training within small groups." [R07]

Requirements for Primary Care Services

At the organization level, some informants pointed out that pharmacists should have knowledge of common diseases and medicines used in community pharmacies and attended appropriate training courses with assessments. They should also acquire good communication skills to provide patients with good services. On-the-job training and more practice experiences were also mentioned. Apart from that, an arrangement of 1-year short courses was also suggested. Some informant added that:

"The knowledge of common diseases and medicines which can be dispensed in community pharmacy should receive more training." [R10]

"Pharmacists should have more communication skills to understand and approach patients." [R06]

"For learning, time to practice should be increased rather than reviews of diseases and medicines." [R08]

Strategies for Supporting Primary Care Services

Some strategies were suggested for pharmacy organizations to support the primary care services, as part of professional development, in terms of career opportunities, the separation of pharmacy license, and pharmacists' certification. With respect to the pharmacy license, the Doctor of Pharmacy Program in Thailand was divided into two tracts, i.e., pharmaceutical care and pharmaceutical sciences (or industrial pharmacy), with their own expertise. Students with pharmaceutical sciences background usually lacked knowledge and skills in patient care and pharmacy practice; they might not be competent enough to work as primary care pharmacists. Therefore, most informants recommended to split the pharmacy license between the two tracks to ensure the competencies. In addition, some informants addressed some issues in training needs for primary care and professional development, i.e., management in accounting, income tax, relevant laws, non-life insurance, use of information technology, professional ethics enforcement, communication skills to improve services, and support for behavioral modification services. Examples of responses were as follows:

> "The organization should promote the role of pharmacists in primary care, e.g., screening." [R02]
>
> "In the future, the Pharmacy Council of Thailand should separate the pharmacy license between pharmaceutical care and sciences." [R01]
>
> "Pharmacists who work in community pharmacies should have competencies and should be certified by qualified institutes." [R01]

Training Needs for Primary Care Pharmacy

On the whole, the informants suggested that there was no special training need for basic services, such as dispensing and counseling, as all community pharmacists had pharmacy licenses and basic competencies. However, for advanced services, pharmacists should be properly trained with short or long courses, e.g., behavioral modifications, home visit, and disease screening. In addition, information technology should be applied for the pharmacists' training, communication with patients and health-care professionals, management, patient profiles, and patient care and referral. The training needs derived from the O-T-P model are shown in Figure 1.

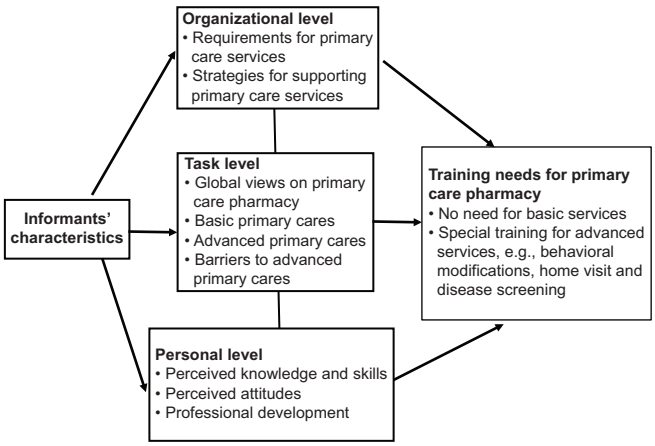

Figure 1: Training needs of community pharmacists for primary care pharmacy

DISCUSSION

The training needs for primary care pharmacy were reflected by the key informants who were experienced community pharmacists or pharmaceutical regulators. The needs could be presented as nine main themes based on the O-T-P model. Based on the informants' overall views, primary care services were slightly different from those proposed by the NHSO in that the services could be divided into basic and advanced practices and required some training, esp. for behavioral modification and home visit. Behavioral modification programs in the US,[14] i.e., weight management and home visit are also categorized as advanced services that require specific training. Regarding advanced services, vaccination and all intrusive interventions, e.g., blood drawing and injection, were not permitted by Pharmaceutical Profession Act and Laws in Thailand. Apart from that, other advanced services have been encouraged to implement by pharmaceutical organizations and pharmacy council, but the support in terms of specific training or continuing follow-up has not been introduced. However, the advanced services in western countries, such as Australia and the UK, are fully supported by all parties involved with fees for cognitive services.[3,15]

In Australia, Home Medicines Reviews service with patients' consent is an advanced service that a hospital doctor supplies clinical information of referred patients to a community pharmacist. The medicine review includes interviewing the patients, assessing their current medication use, examining the medicines stored by the patients, and reporting back to the doctor. The pharmacist can claim the fee of A$140 for each review from the Health Insurance Commission;[3] this service grouped as MTM is provided for patients without payment in Thailand. Since a drug store is a type of business, some key informants suggested fees for basic services, such as disease screening, health promotion and prevention, and advanced services, i.e., home visits and referral cases. The service fees should be taken into consideration, together with the issue of creating trust in pharmacists among patients and the public. As Thai pharmacists are mostly concerned about profits rather than pharmacy ethics, social responsibility, and professional practice,[16] it is quite a challenge to encourage them to change their attitudes, but this might be achieved by a practical training session.

With respect to perceived knowledge and skills, CPE and skills in communication and counseling are crucial to provide services to meet the needs of patients and customers.[17] CPE plays a major role in improving pharmacists' competencies and facilitating lifelong learning. This is in the same direction as the guidance set out by the International Pharmaceutical Federation suggests all pharmacists to do CPE for professional self-development.[18] Moore *et al.*[19] developed a CPE program based on the original Miller's Pyramid of learning outcomes, esp. the "does" level, to enhance medical on-the-job training with effective feedback. However, CPE for pharmacy has been regulated by the Pharmacy Council of Thailand since 2015.[20,21] The CPE program is usually content-oriented or

focused on facts or knowledge with few practice sessions. The hands-on experiences are, in fact, a matter of great concern to the informants and comparable to the emphasis of Moore *et al*. In addition, CPE from the informants' perspectives is also a good indicator of a quality assurance system to ensure the public of pharmacists' current knowledge and skills with quality services.

To deliver effective primary care services, pharmacists should complete appropriate training programs, i.e., short- or long-term courses, with more practical sessions. This is supported by the study of Parinyarux and Kitikannakorn[22] that suggested pharmacy schools should develop a specialized course or clerkship, such as behavioral modifications and home visits, to enable pharmacy graduates to be more competent. Ideally, there should be a specialized residency program for community pharmacists like in the US – Postgraduate Years 1–2 Community Pharmacy Residency Program (PGY1 and PGY2).[23] The separation of pharmacy license for two tracks (Pharmaceutical Care and Industrial Pharmacy) was discussed by the informants to assure the specialized area and further training to change the tracks. This separation is one of the issues, as reported by the study of Teeraporn *et al*.[24] Moreover, the certification of community pharmacists by accredited institutes is an essential strategy to confirm their specialized areas of practice, e.g., smoking cessation or chronic disease management. The professional development program requires the collaboration of pharmacy schools and pharmaceutical organizations, e.g., the Community Pharmacy Association of Thailand and the Office of Pharmacy Accreditation.

Limitations of the Study

The key informants in this study were purposively selected from high-performing community pharmacists or regulators working in Bangkok and its vicinity. Their responses might not mirror the entire training needs of community pharmacists across the country. Moreover, their views seemed to be theoretical and above average. For example, Medication Therapy Management to them was a basic service without any training, but to pharmacists, in the up-country, this service was probably more advanced and needed some training. Another limitation was that the key informants were mostly at the age of 51–60 years. Although they were very experiences, their views might be different from the younger generation and training preferences. The last limitation was the results obtained from the in-depth interview were not triangulated with data from other research methods, e.g., focus groups or Delphi methods.

CONCLUSION

This study could explore the community pharmacists' training needs for primary care pharmacy with nine main themes based on the O-T-P model. The global views on primary care pharmacy signify drug dispensing services and pharmaceutical care for patients and the public. Basic primary care services, e.g., dispensing and counseling, are suggested without training requirements, whereas the advanced services need some special training sessions, such as behavioral modifications (e.g., advice regarding exercise or sodium limitation), home visit, and disease screening. Perceived knowledge, skills, and attitudes are elaborated with professional development issues. Requirements for primary care services, together with relevant strategies for supporting the services, are proposed. Some concerns are raised over the current pharmacy curriculum, pharmacy graduates' competency to work in the community pharmacies, ethics, accountability, and license separation. The findings are useful to use as a starting point to investigate the actual training needs of community pharmacists and how to help them improve their performances for primary care services. Further studies are required to explore the training needs of community pharmacists throughout the country and develop a professional development program for primary care pharmacy.

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