COMMUNITY PHARMACY SERVICES IN MALAYSIA : PERSPECTIVES FROM GENERAL PRACTITIONERS, COMMUNITY PHARMACY PRACTITIONERS, CONSUMERS AND HEALTH POLICY STAKEHOLDERS

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COMMUNITY PHARMACY SERVICES IN MALAYSIA : PERSPECTIVES FROM GENERAL PRACTITIONERS, COMMUNITY PHARMACY PRACTITIONERS, CONSUMERS AND HEALTH POLICY STAKEHOLDERS

by

OOI GUAT SEE

Thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy

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STATEMENT OF ORIGINALITY

I hereby certify that the work presented in this thesis contains no material which has been accepted for the award of any other degree or diploma in any university or other institution. To the best of my knowledge, the thesis contains no material previously published or written by another person, except where due reference is made in the text of the thesis.

Ooi Guat See

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PERKHIDMATAN FARMASI KOMUNITI DI MALAYSIA : PERSPEKTIF DARI PENGAMAL PERUBATAN, AHLI FARMASI KOMUNITI, PENGGUNA DAN PIHAK BERKEPENTINGAN DALAM POLISI KESIHATAN

ABSTRAK

Peranan ahli farmasi komuniti telah berkembang di seluruh dunia. Dalam negara sedang membangun seperti Malaysia, peranan ahli farmasi komuniti dalam sistem kesihatan masih tidak jelas. Pada masa kini, penyelidikan dan data berkenaan perkhidmatan farmasi lanjutan seperti pengurusan terapi ubat, pengurusan penyakit kronik dan lain lain masih belum mencukupi. Untuk memajukan dan mempertingkatkan peranan ahli farmasi komuniti, pendapat-pendapat dari pihak berkepentingan perlu diambilkira. Tesis ini telah menyelidik pendapat orang yang terlibat (pengamal perubatan, ahli farmasi komuniti, pengguna dan pemegang kepentiangan dasar kesihatan) terhadap peranan farmasi komuniti dalam sistem kesihatan. Kaedah kualitatif dan kuantitatif telah digunakan dalam kajian ini. Untuk empat kajian kualitatif, tiga belas ahli farmasi komuniti, tiga belas pengamal perubatan, dua puluh satu pengguna dan tujuh pemegang kepentingan dasar kesihatan telah ditemubual. Analisis kandungan tematik digunakan untuk menganalisa data dan tema-tema utama termasuk: halangan untuk mempertingkatkan peranan profesional, trend amalan farmasi komuniti di Malaysia, pelaksanaan pengasingan pendispensan, kemudahan dan halangan untuk pengguna menerima peranan-peranan ahli farmasi komuniti sebagai pendidik kesihatan awam, pandangan

pengamal-pengamal perubatan terhapadap amalan farmasi komuniti masa kini, pengetahuan dan kemampuan ahli farmasi komuniti dalam penyediaan perkhidmatan farmasi lanjutan, strategi untuk mengatasi halangan dan masa depan amalan farmasi komuniti di Malaysia. Berdasarkan hasil daripada kaedah kuantitatif, dua kaji selidik melalui pos telah dijalankan untuk menjelajah pengetahuan dan penyediaan ahli farmasi komuniti (n=395) dan pandangan pengamal-pengamal perubatan (n=205) terhadap perubahan amalan farmasi komuniti dalam Malaysia. Majoriti ahli farmasi komuniti (>70%) masih memberi tumpuan kepada kaunselling terhadap makanana tambahan, batuk dan selesema, dan kencing manis, menyediakan ujian tahap darah tinggi dan kencing manis. Halangan kepada penghantaran perkhidmtan farmasi komuniti yang dikenal-pastikan termasuk kekurangan masa, kekurangan tenaga kerja, kekurangan kerjasama di antara ahli professional penjagaan kesihatan, kekangan undang-undang dan peraturan dan kekurangan keupayaan diri. Kajian ini juga mendapati secara umum, pengamal-pengamal perubatan menyokong penglibatan ahli farmasi komuniti dalam perkhidmatan farmasi lanjutan tetapi mereka tidak pasti tentang pengetahuan dan kemahiran ahli farmasi komuniti. Kebanyakan pengamal-pengamal perubatan menunjukkan mereka ingin berkerjasama dengan ahli farmasi komuniti untuk meningkatkan hasil terapeutik pesakit (~55%) dan rujikan pesakit daripada farmasi-farmasi komuniti untuk penilauian perubatan lanjut adalah dialu-alukan (~70%). Secara keseluruhan, tesis ini telah mengenalpasti penglibatan ahli farmasi komuniti dalam perkhidmatan farmasi komuniti, dari sudut pandangan pengamal perubatan, ahli farmasi komuniti, pengguna dan pemegang kepentingan dasar kesihatan. Halangan semasa terhadap transfomasi amalan farmasi komuniti dalam Malaysia telah dikenal-pastikan. Tindakan-tindakan termasuk perancangan, pembangunan dan pelaksanaan polisi baru

adalah diperlukan Berdasarkan setiap faktor yang didapatkan dalam kajian ini, cadangan-cadangan telah diberikan untuk semua pihak berkepentingan utama termasuk ahli farmasi komuniti, penggubal-penggubal dasar kesihatan dan pihak berkuasa kerajaan bagi kemajuan and peningkatan profesion ini.

COMMUNITY PHARMACY SERVICES IN MALAYSIA : PERSPECTIVES FROM GENERAL PRACTITIONERS, COMMUNITY PHARMACY PRACTITIONERS, CONSUMERS AND HEALTH POLICY STAKEHOLDERS

ABSTRACT

Roles of community pharmacists (CPs) have evolved in many parts of the world. In developing countries such as Malaysia, little is known about the CPs' role in the broader context of the healthcare system. At present, research on extended pharmacy services (e.g. medication therapy management, chronic disease management, etc) provided by CPs in Malaysia remains scant. To effectively develop and implement strategies to enhance the role of CPs in Malaysia, it is important that the views of all the key stakeholders are explored. Accordingly, this thesis has explored the views of the general practitioners (GPs), community pharmacy practitioners (CPs), consumers and health policy stakeholders towards CPs' extended roles in the Malaysian healthcare system. A triangulation of qualitative and quantitative methods was used in this study. For the four qualitative studies, thirteen CPs, thirteen GPs, twenty-one consumers and seven health policy stakeholders were interviewed. Thematic content analysis was used to analyse the data and the major themes identified included: barriers to enhancing professional roles, trends of community pharmacy practice in Malaysia, implementation of dispensing separation, facilitators and barriers for consumers to accept the roles of CPs as public health educators, perspectives of GPs on the

current community pharmacy practice, knowledge and ability of CPs towards the provision of extended pharmacy services, strategies to overcome the barriers, and future direction of community pharmacy practice in Malaysia. Based on the findings from the quantitative studies, two postal surveys were conducted to explore the knowledge and preparedness of CPs (n=395) and the perception of GPs (n=205) towards community pharmacy practice change in Malaysia. Majority of the CPs (>70%) were still focusing on counselling for nutritional supplement, cough and cold and diabetic, providing screening tests for blood pressure and blood sugar level. The identified barriers to the delivery of pharmacy services included lack of time, shortage of man power, lack of collaboration between healthcare professionals, legal and regulatory constraints and lack of self-efficacy. The study also found that in general, GPs were generally supportive towards the involvement of CPs in extended pharmacy services but they were uncertain about the knowledge and skills of CPs. Most of the GPs indicated that they would like to collaborate with community pharmacists on improving patient therapeutic outcomes (~55%) and welcome patient referral from community pharmacies for further medical evaluation (~70%). In conclusion, this thesis has investigated the involvement of Malaysian community pharmacists in community pharmacy services, from the perspectives of GPs, CPs, consumers and health policy stakeholders. The current barriers towards the transformation of community pharmacy practice in Malaysia were identified. Future actions including planning, developing and implementing new policies are much needed. Based on the work of this thesis, sets of recommendations have been made for all the key stakeholders including CPs, policy makers and government authorities in order to bring re-professionalism and improvement to this profession.

CHAPTER 1

GENERAL INTRODUCTION

1.1 Background of the study

Generally, community pharmacists are one of the most accessible, most available and frequently contactable healthcare providers (Claire, 1998). The roles of community pharmacists have evolved in many parts of the world. Over the last decade, globally, the pharmacy profession is moving from product-focused to a patient-oriented practice (Hassali et al., 2009b, Hasan et al., 2012). Internationally, community pharmacists are recognised as healthcare professionals who have the knowledge and potential to deliver healthcare services beyond what they have traditionally provided such as medicine preparations and dispensing (Hasan et al., 2012, Saramunee et al., 2014). Therefore, in comparison to the typical pharmacy services, extended pharmacy services within the community pharmacy setting in Malaysia 11are referred to services which are not associated with a pharmacist's traditional roles, such as dispensing and providing consultations on prescription and over-the-counter medications, but include new services such as, home medicines review (HMR), medication therapy management (MTM) and chronic disease management (CDM) (Cruthirds et al., 2013, Australian Pharmacy Council, 2013, Berbatis et al., 2007, Van et al., 2007). Whilst developed countries have readily embraced this change, the progress has been much slower in developing countries.

In Malaysia, general practitioners (GPs) can prescribe and dispense medication from their clinics. The absence of dispensing separation has limited the community pharmacist's professional roles especially in the delivery of pharmaceutical care via

the dispensing process (Tarn et al., 2008, Che Awang, 2008). Under the Malaysian Poison Act 1952 (Section 7) and Poison Regulation 1952 (Regulation 3), private GPs' clinics are given the right to dispense medication (Johnson and Bootman, 1996). Accordingly, pharmacists' limited opportunity to dispense prescription medicines has driven community pharmacists in Malaysia to diverse their role into supplying health supplements and food, homecare, personal hygiene products and beauty products (Che Awang, 2008, George et al., 2010a, Wong, 2001). Consequently, community pharmacies could be perceived more as a "store for personal products" with community pharmacists as the drug suppliers or typical "store assistants" providing advice on the medication (Emily, 2006a). These pharmacists face challenges associated with acceptance or recognition of their professional services and the economics of providing pharmaceutical care (Hadida et al., 2001, Hassali et al., 2009b).

As a developing and middle income country (The World Bank, 2014), Malaysia has established a vision of becoming a fully developed country by year 2020 (Vision 2020) (Prime Minster's Office of Malaysia, 2014). To achieve this vision, significant changes in the practice of community pharmacy are needed. In the recent 10th Malaysia Plan, the government has planned to reform the healthcare delivery system in the country (Ministry of Health Malaysia, 2013b). It is important to transform community pharmacy practice to be more professional and patient-oriented, in order to bring recognition and improvement to this industry. However, baseline data to guide this change is scant. Indeed, existing legal requirements such as the absence of dispensing separation, have also impeded the speed of change in community pharmacy practice in Malaysia (Shafie et al., 2012).

1.2 Healthcare system in Malaysia

Malaysia is a developing and middle income country with the updated population of 30,093,412 on June 2014 (Department of Statistics Malaysia, 2014, The World Bank, 2014). Malaysia's healthcare system is basically operated in a two-tier system consisting of the public and private sector. The public healthcare system established in the early 1960s is funded by the government and financed mainly from taxes on earned income and provided services to everyone through a network of general hospitals, district hospitals & health clinics (Chee and Barraclaugh, 2007, Healy, 2012). As of 2013, there were 140 public hospitals, 1025 health clinics including maternal and child health clinics, and 1831 rural/community clinics nationwide (Ministry of Health Malaysia, 2013b).

The privatisation of healthcare services was implemented in the 1980s as an effort to reduce the government's financial burden and has resulted an increase of private hospitals and clinics. The private sector provides health services on a non-subsidized, fee-for-service basis through a large network of private clinics and hospitals. As of 2013, there were 209 private hospitals and 6675 registered private clinics nationwide (Ministry of Health Malaysia, 2013b). The private healthcare sector mainly caters for the urban population or those who can afford to pay. Private sector health expenditure is funded by private health insurance, managed care organizations, out of pocket spending by people, private corporations and non-profit institutions (Chee and Barraclaugh, 2007).

1.2.1 Vision and mission of Ministry of Health Malaysia

Healthcare in Malaysia is mainly under the responsibility of the Malaysian government's Ministry of Health. The vision of the Ministry of Health is for Malaysia to be a nation working together for better health. Meanwhile, the Ministry of Health has a mission to lead and work in partnership for the people to fully attain their potential in health and to appreciate health as a valuable asset, to ensure a high quality health system, to emphasis on professionalism, caring, teamwork value, respect for human dignity and to promote community participation (Ministry of Health Malaysia, 2013a, Minitry of Health Malaysia, 2012).

The focus of the ministry is now more extensive especially in providing equitable, accessible and quality healthcare facilities. This development is consistent with the shift of pattern in environmental health, health technology development globally and liberally pursuant to the changes of diseases, health, environment and technological development in the world (Ministry of Health Malaysia, 2013a).

1.2.2 Pharmacy practice in Malaysia

According to Moullin et al, a professional pharmacy service should not be restricted to only being "delivered by a pharmacist", but we need to look beyond that, where also may be performed by "other health practitioner" (Moullin et al., 2013). The whole concept is demonstrated in the figure below (Figure 2.1):

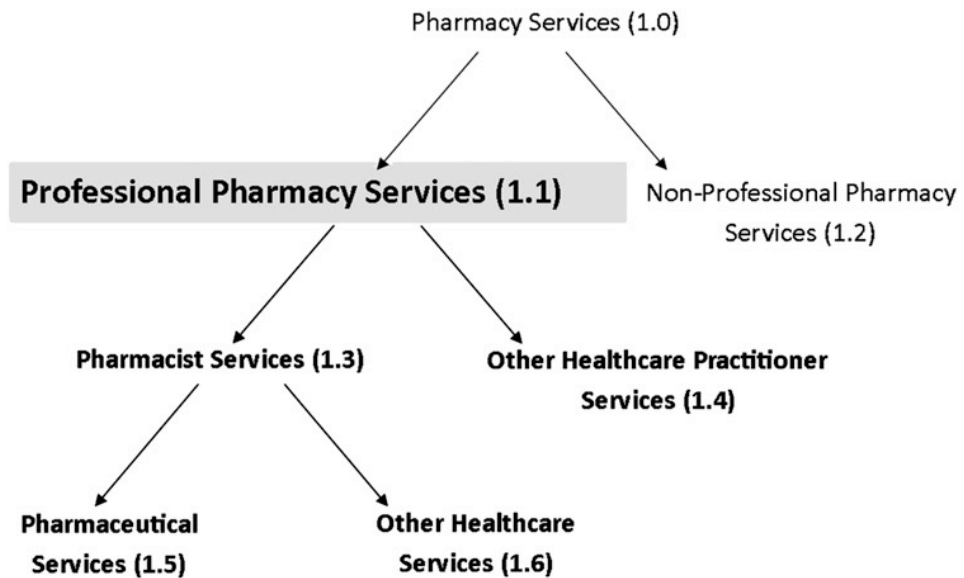


Figure 1.1: Model of pharmacy service provision (Moullin et al., 2013)

Pharmacy service in Malaysia came into existence in 1951 with the enactment of three main legislations governing its profession namely, the Registration of Pharmacist Act 1951, Poison Act 1952 and Dangerous Drug Act 1952. Prior to the independence, the pharmacy service in Malaysia was restricted primarily to the procurement, storage and distribution of drugs from the United Kingdom through the Crown Agents (2012).

Following the independence, the pharmaceutical service in Malaysia has evolved to encompass regulating and ensuring quality, safety and efficacy of pharmaceutical products. The establishment of a Drug Control Authority (DCA) and its executive arm, National Pharmaceutical Control Bureau (NPCB) established under the Control of Drugs and Cosmetics Regulations 1984 gave rise to a more systematic pharmaceutical regulatory system (2012).

In the 1990's, rapid expansion of pharmacy service was hampered by the shortage of pharmacists in the public workforce. Hence, in order to raise the number of pharmacists in the country to World Health Organization's (WHO) recommended pharmacist to general population ratio of 1:2000 by year 2020, governments have taken measures to increase the number of local academic institutions offering undergraduate pharmacy degree. In addition, the Ministry of Health (MoH) and Pharmacy Board of Malaysia amended the pharmacist registration process in 2005 to include a period of 4 years (which reduced to 2 years in 2011 and to 1 year in 2013/14) mandatory government service by pharmacists in order to retain sufficient manpower in the public sector. The increase in the number of pharmacists in the public sector had allowed the establishment and expansion of clinical pharmacy service within the MoH. In 2012, there are 11,240 registered doctors working in private sector in Malaysia (Ministry of Health Malaysia, 2013b). In the pharmacy sector, there are 3744 registered pharmacists working in private sector and approximately 1800 community pharmacies in the country (Ministry of Health Malaysia, 2014, Ministry of Health Malaysia, 2013b).

Currently, dispensing separation is not practiced in Malaysia and private doctors are allowed to prescribe and dispense medications. The current scenario is that consultation, treatment and medicines costs are charged separately in private hospitals and clinics. The patients pay only for the medication cost when they visit a community pharmacy as pharmacist consultation and dispensing services are free of charge.

Community pharmacies are premises with at least one pharmacist holding a Type A license issued under the Poison Act 1952. The Type A license allows an individual to

supply poison either by retail only or by both retail and wholesale (Laws of Malaysia). For all community pharmacies, the executive board and share equity shall be represented by pharmacists (Ministry of Health Malaysia, 2011). Community pharmacy benchmarking guideline has been introduced and revised from time to time by the MoH to provide an overview of the requirements that community pharmacies are expected to fulfil in the area of infrastructure, equipment, personnel and practice (Ministry of Health Malaysia, 2011). According to the proposed guidelines, the key areas that are benchmarked include premises, equipment, personnel, dispensing of medicines, dispensing errors, inventory management, reference library, professional standards and participation in health promotion activities (Malaysian Pharmacutical Society). The details of the benchmarking guidelines are available on Malaysian Pharmaceutical Society [1] website (http://www.mps.org.my) (Malaysian Pharmacutical Society).

1.2.3 Role of community pharmacists in Malaysia

Due to the absence of dispensing separation, the healthcare system has limited the community pharmacist's professional roles including the provision of pharmaceutical care and quality use of medicines (Tarn et al., 2008, Che Awang, 2008). The pharmacists were found well-trained and underutilized (Shafie et al., 2012, Chua et al., 2013).

[1] Malaysian Pharmaceutical Society (MPS) is an official national association for pharmacists in Malaysia.

In Malaysia, the primary role of pharmacists is in the supply of Group C poisons in the 1952 Poison Act. Group C poisons are medicines dispensed by registered pharmacists in a licensed pharmacy premise without a prescription (Laws of Malaysia). The limited role in dispensing prescription medicines (Poison Group B) due to absence of dispensing separation, has diverted the pharmacists' role into supplying health supplements and foods, homecare, personal hygiene products and beauty products (Wong, 2001, Che Awang, 2008, Hassali et al., 2009b). Community pharmacists in Malaysia have limited opportunity to optimise their clinical knowledge and role. Community pharmacies are functioning much like a personal store while community pharmacists are seldom involved in primary health care, but instead, as drug sellers or typical "assistant" providing advices on the medication (Anonymous., 2008).

1.2.4 Challenges and future direction of community pharmacists

Currently, community pharmacists in Malaysia are facing challenges from an economic and professional perspective. The profession is at a crossroad and need to decide which path it takes to secure its future. The role of community pharmacists in Malaysia remains to be fully defined or charted. Whilst community pharmacists in Malaysia are equipped with healthcare knowledge and have been trained as healthcare professionals, under the healthcare system of this country and in the absence of dispensing separation and the presence of current challenges, their knowledge and skills were fully utilised (Shafie et al., 2012).

In 2007, the National Medicines Policy stated that quality use of medicines, prescribing and dispensing functions must be separated (Ministry of Health Malaysia., 2007). Nevertheless, strong oppositions of the implementation of dispensing separation have been constantly received from Malaysian Medical Association (MMA) and consumers (Hassali et al., 2009d). The shortage of community pharmacists and the possibility of increase in patients' health expenditure were the common reasons for the parties to object the separation of prescribing and dispensing in Malaysia (Hassali et al., 2009b). One of the main reasons for delaying the implementation of dispensing separation is the objection by medical practitioners (Azhar et al., 2009). The relationship and collaboration between pharmacists and general practitioners need to be enhanced and improved for the benefit of the patients. Community pharmacists must ensure that they are well-equipped and prepared in terms of updated knowledge by attending continuing professional education (CPE) and willing to work with other healthcare practitioners as a team.

An issue that has been raised recently among community pharmacists is the poor distribution of pharmacies in the country. There are sufficient community pharmacies in the city however, there is an insufficiency of community pharmacies in small towns and rural places (Wong, 2001). Besides, The phenomenon of "price war" among community pharmacies and between private clinics and community pharmacies have also brought great negative impact to the profession (Hassali et al., 2010a). Due to the absence of price control and regulations in Malaysia, this unhealthy business competition has been undercutting the price of pharmaceutical products and the focus of community pharmacists have been shifting from patient-

oriented practice back to product-oriented in order to strive for survival (Hassali et al., 2013, Hassali et al., 2010b).

Despite all the mentioned challenges, a key challenge faced by the community pharmacists in Malaysia is whether they are ready for a change with respect to the breadth and depth of pharmacy services being provided or type of pharmacy practice being delivered. Rosenthal M mentioned in a commentary that ultimately the traditional culture or mind-set of the pharmacists has to be renewed and changed (Rosenthal et al., 2010). In the present, a few areas of pharmacy practices in Malaysia requires development or further refinement viz. benchmark, pharmacy premise benchmark, computerised pharmacy operation, appropriate and effective use of medicines, patient medication records, medicine prices control and continuing professional development (Chong, 2010). Efforts are much needed within the profession in order to understand the lack of advancement in pharmacy practice.

1.3 Justification of the study

With the absence of dispensing separation and all the challenges faced by community pharmacists, transformation of the community pharmacy practice is essential. Such change will need to include improvements in pharmaceutical care provided by the community pharmacies. Accordingly, community pharmacists have a pivotal role to play in transforming their current practice which is product-oriented to a patient-centred service provision.

1. At present, research and data on the provision of community pharmacy services in Malaysia remain scant. Indeed, it can be challenging to generalise

data from developed countries to those in the middle income regions due to the variations in healthcare system, resources and way of life in these different economic regions.

2. There is scant information on the readiness of community pharmacists in Malaysia towards professional practice change under the proposed healthcare reform presented to the nation in 2011 by the Malaysian government.

3. To effectively develop and implement strategies to enhance the role of community pharmacists in Malaysia, it is important that the views of all the key stakeholders and consumers are explored. However, such data are not available. Without these data, it is difficult to develop and implement policy to facilitate the change.

Accordingly, this thesis has been designed to explore the perceptions of the general practitioners, community pharmacy practitioners, consumers and health policy stakeholders towards community pharmacists' professional roles and the provision of community pharmacy services in the Malaysia. This work has provided much needed baseline data to facilitate the future direction of community pharmacy practice in Malaysia.

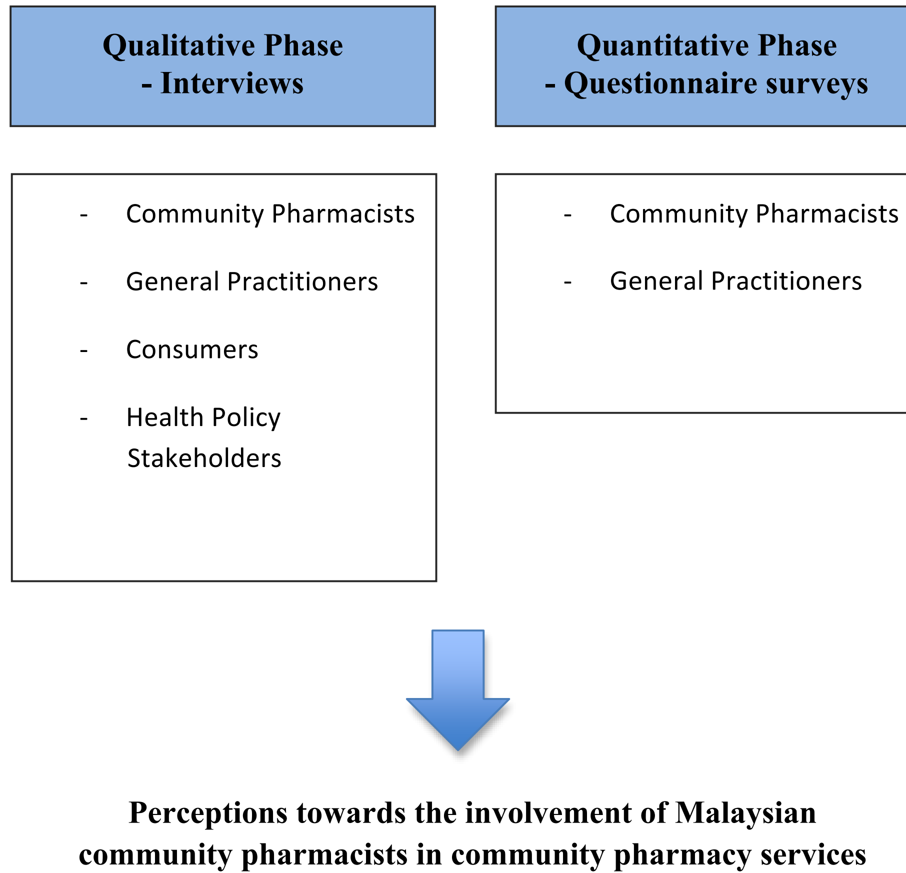
1.4 Aims and objectives

The overall aim of this study was to investigate the involvement of Malaysian community pharmacists in community pharmacy services, from the perspectives of general practitioners, community pharmacy practitioners, consumers and health policy stakeholders.

The objectives were:-

1. To explore the perceptions of community pharmacists towards the need for practice change to improve community pharmacy profession in Malaysia.
2. To determine the knowledge and attitudes of community pharmacists in Malaysia towards their professional roles in community pharmacy practice.
3. To document the current patient-oriented services provided by community pharmacists.
4. To explore the perceptions of general practitioners towards the provision of extended pharmacy services provided by community pharmacists and their willingness to collaborate in these services.
5. To explore the perceptions and knowledge of consumers towards the professional roles of community pharmacists.
6. To explore the perceptions among the policy makers in Malaysia towards the provision of extended pharmacy services provided by community pharmacists and the future of this profession.

1.5 Thesis overview



CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter reviews the literature relevant to this study. It provides an in-depth review of the literatures relevant to this thesis. It demonstrated the current trend of pharmacy practice around the globe and the perceptions of community pharmacists, general practitioners and consumers towards the current practice.

Over the last decades, changes in world's demographical, socio epidemiological disease pattern and health services provision have made the pharmacist’s role in the public health workforce more eminent (Adepu and Nagavi, 2006). The concept of "Pharmaceutical care", which involves a responsibility on the part of the pharmacist for patients' drug-related needs (Krska and Veitch, 2001b), has refined the traditional images of pharmacies and the roles and perception of pharmacists (Hepler and Strand, 1990).

According to Moullin et al (Moullin et al., 2013), a professional pharmacy service is defined as "an action or set of actions undertaken in or organised by a pharmacy, delivered by a pharmacist or other health practitioner, who applies their specialised health knowledge personally or via an intermediary, with a patient/client, population or other health professionals, to optimise the process of care, aiming to improve health outcomes and the value of healthcare" (p. 2). Community pharmacists are well-placed to deliver a professional service as they are often the first point of contact in the healthcare system (Adepu and Nagavi, 2006). Pharmacists have been shifting their practice from a 'product-focused' function of dispensing and

distribution of medication to a professional healthcare practice which is 'patient-oriented' where pharmacists are involved directly in providing advice, care, counselling and pharmacy services (Bryant et al., 2009b). Schommer JC et al reported that in 2004, pharmacists in the United States spent 49% of their working hours dispensing drugs and 32% of their time on providing healthcare services, such as evaluating the safety of drug therapy, advising patients on drug therapies, administering vaccines and counselling patients on services ranging from self-care to disease management. Furthermore, it was mentioned that the pharmacists would like to decrease their time spent on dispensing to only 39% and increase the time spent on providing healthcare services to 48% of their working hours daily (Schommer et al., 2006).

In addition, community pharmacists have an increasing role in making a positive contribution to public health (Eades et al., 2011). In order to fulfil the missions of public health, which are to "fulfil society's interest in assuring conditions in which people can be healthy" and "promote physical and mental health and preventing disease, injury, and disability" (Andy, 2006), community pharmacists are exploring opportunities to offer and provide more public health activities, such as substance misuse services, immunisation scheme, asthma-management schemes, advice on men's health and services on the safe and effective use of medicines (Eades et al., 2011).

2.2 Current international trend of pharmacy practice

The profession's shift to a patient-centred practice sees community pharmacy practice shifting from manufacturing, compounding, and distribution of pharmaceuticals to the provision of clinical services, pharmaceutical care, and cognitive pharmaceutical services (Roberts et al., 2008). Within the context of practice-change, Hepler and Strand redefined the responsibilities of the pharmacist and pharmacy services in 1990, by applying the term "pharmaceutical care" to this new concept of pharmacists' services (Hepler and Strand, 1990). An updated definition describes pharmaceutical care as "a patient-centred practice in which the practitioner assumes responsibility for a patient's drug-related needs and is held accountable for this commitment" (p. 622) (McGivney et al., 2007). More recently, "cognitive pharmaceutical services (CPS)" was introduced to the pharmacy profession, including both hospital and community pharmacists. CPS is referred to as professional services provided by pharmacists, using their skills and knowledge to take an active role in contributing to patient's health through effective interaction with both patient and other health professionals (Roberts et al., 2006).

As the roles of pharmacists have been transforming to a healthcare professional who is involved directly in patient care services (Hassali et al., 2009b, Bryant et al., 2009b), many developed countries such as Australia, the United States and the United Kingdom have also started to recognise the changing roles of the community pharmacist as an expert in the provision of healthcare (George et al., 2010b).

2.2.1 Current trend in developed countries

In Australia, the pharmacy profession has significantly shifted from a product oriented practice to a service- and patient-centred practice (Roberts et al., 2005). The involvement of pharmacists in the concept of pharmaceutical care, clinical services and cognitive pharmaceutical services (CPS) have brought transformation to the traditional roles of pharmacists (Roberts et al., 2008). In Australia, the five year Community Pharmacy Agreement between the Australian Government and the Pharmacy Guild of Australia was introduced in 2010 with the objectives to provide consumers with quality pharmacy services, to expand community pharmacist's professional roles, and others (The Commonwealth Department of Health and Ageing, 2000). Professional practice programs including Residential Medication Management Review[2] (RMMR), Home Medicines Review[3] (HMR), medicines information to consumers (Consumers Medicines Information), and quality care pharmacy program[4] (QCPP) were included since year 2000 in the Third Community Pharmacy Agreement (2000-2005) (The Commonwealth Department of Health and Ageing, 2000). According to a systemic review of professional pharmacy services published in Australia, community pharmacy services in Australia can be broadly divided into 6 main categories, including the provision of drug information, provision of pharmacy and pharmacist-only medicines, clinical interventions, medication management services, preventive care services for patients with chronic

[2] A Residential Medication Management Review (RMMR) is a services conducted by an accredited pharmacist when requested by a resident's GP and undertaken in collaboration with the resident's GP and appropriate members of the resident's healthcare team.

[3] The Home Medicines Review (HMR) programme is undertaken through a comprehensive medication review medication review conducted by an accredited pharmacist in the patient's home.

[4] Quality Care Pharmacy Program (QCPP) is a quality assurance program for community pharmacy, and provides support and guidance on professional health services and pharmacy business operations.

conditions and participating in therapeutic decisions (Benrimoj and Roberts, 2005, Roughead et al., 2003). Roles of community pharmacists in medication and disease management, especially in the management of asthma, hypertension, diabetes and bodyweight have been reported with positive clinical and economic impact data (Emmerton et al., 2012). Being one of the providers of Pharmacy Asthma Management Service (PAMS) has created an opportunity for the community pharmacists to be involved in innovative service delivery models and community pharmacists were trained and empowered as research partners (Emmerton et al., 2012). The involvement of community pharmacists in Australia in the prevention and management of cardiovascular disease have significantly brought improvement in clinical markers, quality of life, satisfaction for general practitioners, pharmacists and consumers, and also in terms of cost-effectiveness (George et al., 2011). The extended roles being performed included the provision of education materials, monitoring and screening of conditions, offer intervention in areas such as smoking cessation, medicines management, medicine compliance, and lifestyle modification (George et al., 2011).

In the United Kingdom (UK), the government is creating opportunities for community pharmacists to be more involved in delivering National Health Service (NHS) services that promote self care and improve the management of long term conditions (David, 2004). One of the major developments in the role of pharmacists in the UK was the introduction of independent or supplementary prescribing by pharmacists (David, 2009). This change aimed to fully utilise the skills, knowledge and specialization of pharmacists and subsequently to develop a more flexible system for prescribing, supplying and the administration of medicines (Tonna et al., 2007).

More recently, the new medicine services (NMS) was introduced by National Health Service (NHS) in United Kingdom to the community pharmacists. NMS is an advanced pharmacy service provided by community pharmacists to patients. It targets patients with primarily long term conditions (e.g. asthma, type 2 diabetes, hypertension, antiplatelet/anticoagulant therapy and chronic obstructive pulmonary diesa where new medicines have been prescribed and aims to improve medicine adherence, increase patient engagement with their condition and medicines, reduce hospital admissions due to adverse reactions associated with medicines, and others (Royal Pharmaceutical Society of Great Britain, 2014b). Another new concept that was launched in June 2014 is ‘medicines optimisation’. ‘Medicines optimisation’ aims to ensure the right choice of medicine, at the right time. It was developed and promoted by Royal Pharmaceutical Society of Great Britain, by in collaboration between patients and the health professional that care for them. In the area of pharmacy profession, pharmacists including community pharmacists need to adopt the principles to improve the prescribing, dispensing, administering or taking of medicines (Royal Pharmaceutical Society of Great Britain, 2014a). Several barriers have been identified along the way (Hobson and Sewell, 2006), but yet it is believed that this change will continue to bring positive impact to the UK healthcare system.

In Canada, the vision of pharmacists outlined in the Blueprint for Pharmacy, is to provide "optimal drug therapy outcomes for Canadians through patient-centred care" (Canadian Pharmacists Association, 2008). The profession aims to shift from traditional dispensing duties to services that will bring improvement in patient outcomes (Rosenthal et al., 2010). Community pharmacists have been taking a more proactive role in establishing their place in the primary care system to fulfil the needs

of Canadians and achieve the vision for pharmacy and focusing on the strategy of consultation (2009). Rosenthal et al described in a commentary that the pace of pharmacy practice change in Canada has been slow. Barriers to change have been identified previously but the authors highlighted that the biggest barrier has been observed and believed to be pharmacists themselves. The term pharmacist "personal traits" was used and it was related to patient care. "Personal traits" included lack of confidence, fear of new responsibility, paralysis in the face of ambiguity, need for approval and risk aversion (Rosenthal et al., 2010). Mak VSL et al reported that in Australia, community pharmacists lacked of awareness and appreciation towards healthcare reforms in the country; and they were not well-prepared to contribute to the new model of practice (Mak et al., 2012). The Self-Efficacy model (Bandura, 1986) was found to be important and useful in scenario like this (Mak et al., 2012). In order to bring changes, people have to believe that they have the knowledge and skills to change. Along the changing process, community pharmacists need guidance, facilitation and a model of practice that they are convinced and believed that they can adopt (Bandura, 1986).

In the United States (US), pharmacists have been playing important and pivotal roles in transforming the healthcare system. According to Ried LD and Posey LM, pharmacists in the US have been increasing their time spent in providing healthcare services, including advising, evaluating and counselling on drug therapies and safety use of medications, and so on (Ried and Posey, 2006). Besides, it was reported by Mott DA et al that there was an increase in recognition of the US government towards the importance of clinical pharmacy services in patient care and the government has implemented pharmacy programs to enhance patient-oriented care in

the country, including patient counselling and the utilisation-review activities (i.e. activities involving precertification, concurrent review, discharge planning and case management) (David et al., 2006). The appointment made by the Centers for Medicare and Medicaid Services (CMS) for pharmacists as one of the health professionals to provide medication therapy management (MTM) has proven the recognition by the government towards the ability of pharmacists (Centers of Medicare and Medicaid Services, 2014). MTM was a program implemented for the benefit of the elderly and the goals are to optimise therapeutics outcomes and to reduce the risk of adverse events through improved medication use. As one of the providers, pharmacists may offer services such as patient education and monitoring to improve the effectiveness and safety of medication use, and to increase patient compliance leading to better therapeutic outcomes (Law et al., 2009). Another positive scenario was the involvement of pharmacists in the US towards the management of blood pressure (BP) control. According to a study done by Margolis KL et al (2013), home BP telemonitoring with pharmacist management and intervention has resulted significant improvements in BP control. Within this program, pharmacists met with patients for the first time for 1-hour for explanation and reviewing of the high BP condition, subsequent follow ups were then carried out through telephone. This program has also improved patient satisfaction and shown cost-effectiveness (Margolis et al., 2013).

2.2.2 Current trend in developing countries

The situation of pharmacy practice in developing countries are generally more product-oriented, rather than patient-oriented (George et al., 2010b). In many

developing countries, pharmacists have much more to offer in terms of healthcare services than what they have been providing traditionally (Hasan et al., 2012); the pharmacists' skills and knowledge in healthcare are not utilised to benefit their community. A systematic review on the quality of private pharmacy services in low and middle-income countries, such as Vietnam, India, Lao PDR, Thailand, Nepal, Nigeria, Uganda, Egypt, Ghana Gambia, Ethiopia, Zimbabwe, Brazil and Mexico was conducted by Smith F (Smith, 2009). Smith F concluded that the quality of professional services provided by the pharmacies are limited, although local pharmacies played an important part in the provision of healthcare services for many people (Smith, 2009). The major challenges in the healthcare delivery system within these low and middle income countries included the lack of a trained health workforce and the issue of medicine supplied without a prescription. The author suggested that the governments should regulate practice to promote higher standards or care and the barriers to provision of higher quality of healthcare need to be identified and overcome (Smith, 2009).

In countries like India and Nepal, pharmacists are trained more towards manufacturing of pharmaceuticals and limited pharmacists are involved in patient-oriented activities, especially outside healthcare institution in community setting (Subal and Dondeti, 2009, Azhar et al., 2009). The is due to the high demand from the industrial sector and pharmacy curriculum in universities which focus mainly on subjects related to the aspects of pharmaceutical production (Azhar et al., 2009).

In the United Arab Emirates (UAE), findings reported that there was a lack in the provision of services among the pharmacy practice (Hasan et al., 2011). Many professional healthcare services are not being offered and provided by majority of

the pharmacies (Hasan et al., 2012). Pharmacists were aware of the trend of patient-oriented practice, but the practice change has been slow due to barriers such as the lack of pharmacists' skills, resources and time, low perception of the community towards the pharmacy profession, pharmacists are acknowledged as business people rather than health professionals and minimal pharmacist-patient interaction due to low patient demand. Sanah Hasan et al suggested that identifying factors and strategies that will bring improvement to the quality of community pharmacy services in UAE are needed (Hasan et al., 2011).

In Pakistan, there was a lack of pharmacy services in hospital and community pharmacies because of the isolation and the lack of recognition of pharmacists as healthcare professionals by the public and also other health practitioners. The main reason for the lack of recognition of pharmacists were mainly due to the insufficiency of pharmacists in public health services among the community pharmacies, which lead to the absence of interaction between pharmacists and other health professionals and with the public. At such, pharmacists' roles are limited to drug delivery, procurement and inventory control (Azhar and et. al., 2009).

In Saudi Arabia, community pharmacists play an important role in patient counselling and provide basic drug information, such as appropriate drug usage, dosage, side effects, and so on, but they have a limited clinical role in the dispensing of medication (Al-Hassan, 2009a). In addition, there was a lack in pharmaceutical care practice by community pharmacists in Saudi Arabia due to the concerns of community pharmacists towards their clinical knowledge, communication skills and pharmacy layout (Mohammed et al., 2007). Literature suggested that pharmacists in the community should be trained in an appropriate fashion to meet the goals in

promoting patient health care (Al-Hassan, 2009b). Besides, a study done by Al-Ferihi et al reported that there was a lack of adherence of community pharmacists to the regulations governing the dispensing of drugs (Alfreihi et al., 1987). This finding was further supported by Bawazie SA, in which community pharmacists were found dispensing prescription drugs including antibiotics, cardiovascular drugs and topical potent corticosteroids over the counter without a prescription. The studies suggested the need of strict enforcement on the regulations governing the sale of drugs, and the need to introduce changes to present community pharmacy practice (Bawazir, 1992).

In Africa, for example in Greater Accra, there is a serious shortage of pharmacists in the country. It has been reported that there were only 619 pharmacists serving 2.9 million people in the country (WHO recommendation 1:2000) (Azhar et al., 2009). In Ghana, the majority of community pharmacists are located in the city and thereby causing an unequal distribution of services across the country. The shortage of pharmacists in many parts of the country has affected the quality of health-care services (Smith, 2004). In South Africa, the maldistribution of community pharmacies and pharmacists had limited their accessibility to the majority of the population. Most of the community pharmacists were located in the more developed provinces, while very few were serving in the rural area (Gilbert, 1998).

2.2.3 Perception of community pharmacists towards the current practice

As mentioned in Chapter 1, one of the objectives of this study was to explore the perceptions of community pharmacists towards the need for community pharmacy practice-change to improve the public healthcare system. While the pharmacy