Commentary

Separation of prescribing and dispensing in Malaysia: A summary of arguments


Discipline of Social and Administrative Pharmacy, School of Pharmaceutical Sciences, Universiti Sains Malaysia, Penang, Malaysia

Abstract

The role of pharmacists has transformed significantly because of changes in pharmacists’ training and population health demands. Within this context, community pharmacists are recognized as important health personnel for the provision of extended health services. Similarly, in Malaysia, the need to transform community pharmacy practice has been discussed by all interested parties; however, the transition has been slow due in part to the nonexistence of a dispensing separation policy between pharmacists and medical doctors in private community practices. For decades, medical doctors in private community practices have had the right to prescribe and dispense, thus diluting the role of community pharmacists because of overlapping roles. This article explores dispensing separation in Malaysia and, by taking into account the needs of health professionals and health care consumers, suggests a mechanism for how dispensing separation practice can be implemented.

© 2011 Elsevier Inc. All rights reserved.

Keywords: Dispensing separation; Prescribing; Community pharmacists; Medication error; Malaysia

Introduction

Prescribing and dispensing are 2 important tasks in patients’ treatment. The task of prescribing (or writing a prescription) involves a systematic and complex set of activities that include evaluating patients’ problems, specifying therapeutic objectives, selecting appropriate medication therapy, initiating medicine or nonmedicine treatment, giving information, and evaluating the therapy.1 Similar to prescribing, dispensing is defined as the provision of medicine and consists of verifying the validity of a prescription, checking for possible drug interactions, solving medication-related problems, counseling on the use of medication, documenting patient medication records, and monitoring medicine therapy.2 Because of the complexities and distinctly separate nature of the tasks, prescribing and dispensing have traditionally been regarded as 2 different professions. For example, in records as far back as 2600 BC in Babylon, a medical team consisted of people who prescribe, dispense, and pray. The separate roles of doctors as prescribers and pharmacists as dispensers were
officially enacted in Europe in 120 through an edict by Frederick II of Hohenstaufen, who was Emperor of Germany.  

In South Africa, a document from the Department of National Health and Population Development (1990) states, “The community pharmacist plays an important role in the provision of health services to the essentially first-world component of the population.” This role must naturally be entrenched and even extended where indicated. The way in which this role is interpreted must, however, be continually adapted to meet the changing needs of the population. Therefore, the community pharmacist’s professional activities cannot be limited to the confines of his or her pharmacy but must be extended in particular to the community in which he or she practices.  

In some countries, particularly in Asia, where pharmacists are lacking and the practice of medicine was traditionally played by a single healer, doctors are still legally allowed to prescribe and dispense medicine. Pharmacists soon found themselves overtrained and underutilized. Many countries, however, have gradually separated dispensing and prescribing roles (eg, Japan, Taiwan, South Korea, Indonesia, Philippines, and India). For example, the South Korean government instituted the separation of prescribing and dispensing of medications on July 1, 2000 as a policy to provide greater differentiation between the roles of physicians and pharmacists. This policy promoted the rational use of medications and reduced medication expenditures.  

Malaysia, one of the few countries where physician dispensing practices are still allowed, has been pondering a separation of roles for many decades, but fierce vocal opposition from a few parties unfortunately has misled and confused the Malaysian public and has inhibited further progress toward separation. As such, the authors aimed to ameliorate this confusion by reviewing recent scientific evidence that examines the rationale of dispensing separation and the readiness of the Malaysian government in facing the separation. This article provides information for policy makers on the value of a pharmacist dispensing service and serves as a framework for countries that are still in the process of separating prescribing and dispensing.  

Rationale for dispensing separation  

One of the most common reasons for advocating separation is the higher risk of irrational prescribing by dispensing doctors, which can be assessed in practice by the overprescribing and irrational selection of medicines. In Zimbabwe, prescriptions by dispensing doctors include almost double the items of nondispensing doctors. In Malaysia, dispensing doctors prescribe 7 times more medicines than nondispensing doctors. Irrational prescribing not only increases treatment cost but also could compromise patient safety and reduce therapy effectiveness. Although generic medicines could save patients 30-90% of the cost compared with innovator medicine, dispensing doctors are much less likely to prescribe generic medications compared with nondispensing doctors. Overprescribing also could harm patients by introducing hazardous interactions with other medications or with a comorbid illness. Furthermore, rampant antibiotic prescription in private general practice clinics are 7 times higher than in public primary care clinics, which can increase the resistance of pathogenic microorganisms and reduce a medication’s effectiveness in the population. In Hong Kong, 90% of common antibiotics, compared with 10% and 15% for the United States and United Kingdom, respectively, were observed to be ineffective against a wide range of infections.  

In 2005, a study in Korea evaluated the impact on the quantity and quality of physicians’ prescribing after the new policy prohibiting physicians from dispensing drugs. The changes in antibiotic prescribing after the policy were investigated, including reductions in antibiotic prescribing for viral diseases. The results showed that prohibiting physicians from dispensing drugs reduced prescribing overall, both for antibiotics and other drugs, and selectively reduced inappropriate antibiotic prescribing for viral illnesses.  

In Taiwan, a separation policy was implemented in Kaohsiung and Taipei in March 1997 and expanded to Chiayi and Taichung in March 1998. Because of the awareness that combining prescribing and dispensing creates incentives for physicians to increase drug prescriptions and is hypothesized to be a major cause of high drug expenditures and the widespread prescription of antibiotics in Asia, research was conducted to evaluate the impact of Taiwan’s separation reform on drug and total health expenditures. The results showed that the separation policy could be effective in reducing drug expenditures and changing prescription behavior, but the results are less certain for reducing total health expenditures.  

Intentional irrational prescribing by doctors can be explained in part by supplier-induced
demand. This demand theory is contextualized on the dual economic role played by dispensing doctors in health care markets. Physicians would play the role of buyer and seller, which would influence the doctors to expand patient needs by prescribing unnecessary medications or promoting unnecessary interventions. In this market, where the patient lacks information about medicine, the dispensing physicians not only acts as an agent to determine what medicine the patient needs but also as a seller who sells medicine for profit. These conflicting roles could encourage the dispensing physician to influence a patient’s demand for care against a patient’s best interests.

Separation of the prescribing and dispensing functions would avoid the conflicting roles of physicians who have the potential to profit from the prescription and sale of drugs, and it would introduce a check-and-balance system to prevent such overprescribing practices. In fact, the amount of medicine prescribed went down by almost 5% immediately after the dispensing separation policy was implemented in Korea.

The second rationale for a dispensing separation is the potential high rate of medication errors by physicians, which are highly problematic if left unchecked. These errors can be because of the simple omission of the patient’s name or poor handwriting, or they can be because of a more serious source, such as prescribing medicine that is contraindicated to the patient. Even a simple error such as poor handwriting can lead to serious consequences. For example, in 1 prescription found in a Malaysian hospital, a medication name was written so poorly that it could either be interpreted as bisolvon, a medicine for cough, or as busulphan, an anticancer medicine that can cause cancer in healthy people (Fig. 1). An estimated one-third of preventable medication-related harm is actually because of medication error and could lead to hospitalization or death. In the United States, 98,000 patients have died because of medication errors, which is equivalent to 1 passenger airplane crash every 2 days. The cost of treating medication errors is enormous; 1 leading study estimated the cost to be an additional $8760 for each error. Having a pharmacist as a dispenser would add an important prescription check that would reduce such harmful and costly errors.

Medical and medicine knowledge has evolved rapidly with new discoveries, and the complex task of prescribing and dispensing cannot be managed by 1 individual. The task should be managed by 2 independent professions. The amount of education and training to be a qualified prescriber or dispenser is enormous, as it involves a mix of science and art. Whereas a medical student’s formal education includes a strong emphasis on pathophysiology and less emphasis on medications, a pharmacy student receives less emphasis on pathophysiology but has at least 4 years of theory and practice in medication development, production, behavior in humans, interactions, and their economic and clinical use. Years of education will train medical students to be competent prescribers and pharmacy students to be competent dispensers. Not only is the amount of necessary training enormous but sufficient patient time is also needed for proper prescribing and dispensing. New understandings of disease, the emergence of new diseases, and new diagnostic technologies complicate diagnosing procedures and, consequently, prescribing. Similarly, medicines of today often are more efficacious but also may carry higher risks of toxicity and potentially harmful interactions. A medication expert, or pharmacist, is needed for proper medicine monitoring and dispensing. Holding both roles would not only compromise the quality expected from each task but also could lead to potential error. Evidence points to a 30% smaller duration of medical consultation in dispensing doctor compared with nondispensing doctor practices. Separation of the dispensing role from doctors would allow them to concentrate on their already complicated prescribing task.

Arguments by those with a contrary view

The proposition of dispensing separation policy is met with mixed reactions in Malaysia. Physicians initially agreed on dispensing separation in 1985 by...
signing a memorandum of understanding with the Malaysian Pharmaceutical Society but have since taken a formal public stance of opposing the policy. They commonly cite inconvenience and increased costs for the patient and a lack of pharmacists as reasons for such fierce opposition. However, recent evidence shows that these reasons are baseless.

In fact, when doctors in Johannesburg were interviewed to explore their perceptions of the role of pharmacists, all respondents (100%) indicated that “advice on methods of administration of medicines, advice on storage and safe handling of medicines, and advice on safe and effective use of medicines” should be conducted primarily by pharmacists.

Similarly, “dispensing according to a doctor’s prescription” was seen by all of the physicians (100%) as an activity that is “very appropriate and very important” for community pharmacists.16

In Malaysia, a pilot study exploring the perceptions of general medical practitioners (GPs) toward professional training and roles of community pharmacists suggested that GPs would support an extension of the role of the community pharmacists in a number of activities of patient care activities, such as medication counselling.17

A study conducted among the Malaysian public found that 67% of respondents were willing to fill their prescriptions in pharmacies and appreciate the value of pharmacists in detecting potential medication errors.2 The overall cost to Malaysian society also would be higher with the present dispensing physician system because of irrational medicine prescribing, excessive markup, and treatment of medication errors. In fact, a Malaysian study in 2007 found that medicine markups in dispensing doctor clinics could be 3 times that of retail pharmacies15 (Table 1). The number of pharmacists in Malaysia has been increasing exponentially for 30 years, as local universities are graduating more than 1000 pharmacists per year. It is estimated that Malaysia will achieve the World Health Organization (WHO) optimum pharmacists-to-population ratio in 5 years. The number of registered pharmacists in 2009 was 7000, with the pharmacist-population ratio around 1 per 4700,18 which is lower than the ratio of 1 per 2000 suggested by the WHO.19

The population of newly registered pharmacists in Malaysia increased by 172% from 259 in 2000 to 705 in 2009; and there are 2047 pharmacists in the private sector.20 There are 16 institutions of higher learning producing almost 2000 new pharmacists per year. With the yearly increases in the population of newly registered pharmacists, the pharmacist-population ratio is estimated to be improving over time.

### The way forward

Dispensing separation is a critical policy change that would reduce medical costs, improve population health, and increase the quality of health care in Malaysia. Medical care is no longer an isolated practice where everyone practices in his or her own silos. It is now a teamwork practice where everyone, including doctors, pharmacists, nurses, and medical assistants, has equal importance in playing specific roles for the betterment of public health. Although pharmacists are highly skilled health care workers who are specialized in medication therapy, it is unfortunate that their skills and knowledge are severely underutilized in Malaysia. Their present role in private primary care is limited to that of storekeeper, as most retail pharmacies rarely see more than 10 prescriptions a month.

Nonetheless, the policy change needs a strong political will from the government. Although there is strong evidence of public support and benefits, the Malaysian Pharmaceutical Society and the Ministry of Health should spearhead educational campaigns to educate the public on the value of such policy change. The policy can be gradually implemented in major cities in Malaysia to provide mechanisms to limit any economic

<table>
<thead>
<tr>
<th>Medicine</th>
<th>Retail pharmacy markup (%)</th>
<th>Dispensing doctor markup (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generic atenolol 50 mg tab</td>
<td>100</td>
<td>146</td>
</tr>
<tr>
<td>Innovator atenolol 50 mg tab</td>
<td>25</td>
<td>76</td>
</tr>
<tr>
<td>Generic omeprazole 20 mg caps</td>
<td>140</td>
<td>317</td>
</tr>
<tr>
<td>Innovator omeprazole 20 mg caps</td>
<td>38</td>
<td>50</td>
</tr>
</tbody>
</table>

Tab, tablet; Caps, capsule.

setbacks for doctors. Malaysia deserves a better, safer, and more efficient health care system.

References