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## Original Article

# Roles of pharmacists in expanding access to safe and effective medical abortion in developing countries: A review of the literature

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**Abstract** Unsafe abortion continues to be a major contributor to maternal mortality and morbidity around the world. This article examines the role of pharmacists in expanding women's access to safe medical abortion in Latin America, Africa, and Asia. Available research shows that although pharmacists and pharmacy workers often sell abortion medications to women, accurate information about how to use the medications safely and effectively is rarely offered. No publication covered effective interventions by pharmacists to expand access to medical abortion, but lessons can be learned from successful interventions with other reproductive health services. To better serve women, increasing awareness and improving training for pharmacists and pharmacy workers about unsafe abortion – and medications that can safely induce abortion – are needed. *Journal of Public Health Policy* (2012) 33, 218–229. doi:10.1057/jphp.2012.11; published online 8 March 2012

**Keywords:** pharmacist; pharmacy worker; pharmacy; abortion; medical abortion; reproductive health

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## Introduction

Worldwide, women endure almost 22 million unsafe abortions each year, defined by the World Health Organization (WHO) as ‘a procedure for terminating an unwanted pregnancy either by persons lacking the necessary skills or in an environment lacking the minimal medical standards, or both’.<sup>1,2</sup> In this article, we summarize lessons learned from the literature about the role of pharmacists and pharmacies in ‘medical abortion’ or pregnancy termination with medications, in low-income settings in Latin America, Africa, and Asia, where 99 per cent of unsafe abortions take place.<sup>1</sup> Innovative strategies for improving women’s access to safe abortion services are needed in these regions to prevent morbidity and mortality in women.

Literature discussing the roles that pharmacists and pharmacy workers play in medical abortion throughout Latin America, Africa, and Asia provides the evidence base for this article. Two library science experts, working independently of one another, searched PubMed and Google Scholar, using >35 search terms. At the same time, to locate additional literature not available through the online searches, the co-authors contacted researchers conducting studies on pharmacies and medical abortion in the three regions.

## Medical Abortion and Pharmacies

Medical abortion is safe and effective for ending unwanted pregnancy. Clinical studies support the combined use of mifepristone and misoprostol.<sup>3–5</sup> Where mifepristone is not available, misoprostol alone can be used as a safe and effective abortifacient.<sup>6</sup> As of 2011, in at least 45 countries, mifepristone was registered for abortion and pending in others;<sup>7</sup> misoprostol was registered in more than 80 countries, primarily for the prevention and treatment of gastric ulcers.<sup>8</sup> The WHO includes a mifepristone/misoprostol regimen for abortion up to 9 weeks of gestation on its Complementary Model List of Essential Medicines; misoprostol is included for treatment of incomplete and missed abortion.<sup>9</sup>

With greater availability of these promising drugs,<sup>8,10</sup> pharmacists – often first-line health-care providers in the developing world – have an increasingly important role to play in delivering accurate information about and increasing access to such methods. Pharmacies (also called chemist shops and drugstores) sell medications. They are often the most

available health-care outlet in communities.<sup>11</sup> Pharmacy waiting times usually are short and services, including information and direct sales of medications, often less costly than those of other health-care providers.<sup>12–14</sup> Trained pharmacists and pharmacy employees have successfully delivered care related to stigmatized health conditions, including sexually transmitted infections (STIs), family planning, and emergency contraception (EC). Their success has been due to their ability to facilitate rapid access to medications, supplies, medical information, and advice while maintaining client confidentiality.<sup>11,13,15</sup>

Despite the potential advantages of working through pharmacies, there are challenges for ensuring accurate information and quality care.<sup>14</sup> In many developing countries, there are few trained professional pharmacists; those who are well trained may not always be present in the pharmacies where they work.<sup>13,14</sup> Pharmacy employees, many with low levels of education and without formal pharmacy training, sell medications without prescriptions or support from a trained health-care professional.<sup>12,16</sup> This often leads to inaccurate advice and incorrect dispensing.<sup>12,14,17</sup> The medications they sell may be unnecessary, ineffective, or even dangerous.

### **Pharmacy provision of medical abortion in Africa, Asia, and Latin America**

Women seek pharmacists' guidance when they want to end unwanted pregnancies, both in 'legally restrictive settings' (where abortion is fully illegal or is only allowed for specific reasons, such as to save the life of the woman or in cases of rape) and in more 'liberal settings' (where abortion is permissible for broader health and social circumstances). Table 1 summarizes findings from studies conducted about pharmacies and medical abortion throughout Latin America, Africa, and Asia.

Research elucidates challenges to facilitating medical abortion through pharmacies.

- The unwillingness of pharmacists to stock and dispense mifepristone and/or misoprostol.
- The lack of information and knowledge about medical abortion among pharmacy personnel, often exacerbated because misoprostol is rarely registered or labeled for abortion. Thus, effective doses are often unknown to pharmacists and the women seeking help.

**Table 1:** Pharmacies and medical abortion: results from research studies

<i>Research results</i>	<i>Restrictive setting<sup>a</sup></i>	<i>Liberal setting<sup>b</sup></i>
	<i>Country</i>	<i>State/Country</i>
Pharmacists/pharmacy workers do not have correct information about how to use the medications (mode of administration, dosage, side effects, gestational limits)	Mexico <sup>18–20</sup> Dominican Republic <sup>22</sup> Argentina <sup>23</sup> Nigeria <sup>25</sup> Kenya <sup>26</sup>	Bihar and Jharkhand, India <sup>c, 21</sup> Tamil Nadu, India <sup>24</sup>
Pharmacists/pharmacy workers are uncomfortable in helping customers with abortifacients	Mexico <sup>27</sup> Nigeria <sup>25</sup> Kenya <sup>26</sup>	No research findings to report
Pharmacists/pharmacy workers do not request a prescription to sell the medication	Mexico <sup>18–20</sup> Dominican Republic <sup>22</sup> Argentina <sup>23</sup> Nigeria <sup>25</sup> Kenya <sup>26</sup>	Bihar and Jharkhand, India <sup>d, 21</sup>
Pharmacists/pharmacy workers consider abortifacients other than misoprostol	Mexico <sup>19,20</sup> Kenya <sup>26</sup>	Bihar and Jharkhand, India <sup>21</sup> Nepal <sup>d, 28</sup>
Pharmacists/pharmacy workers willing or unwilling to stock misoprostol and/or mifepristone in pharmacies	Mexico <sup>e, 18–20</sup> Kenya <sup>f, 26</sup>	Nepal <sup>28</sup> Tamil Nadu, India <sup>24</sup> Bihar and Jharkhand, India <sup>21</sup>
Medical abortion medications are restricted to authorized sites	Brazil <sup>g, 29</sup>	Vietnam <sup>h, 30</sup>

<sup>a</sup>Restrictive settings are where countries prohibit abortion entirely or have few exceptions to a broad prohibition, which include saving the life of the woman or pregnancy resulting from rape.

<sup>b</sup>Liberal settings are where countries permit abortion under any circumstance without legal penalties incurred on the woman who aborts or the provider offering abortion services.

<sup>c</sup>In India, the Drug Controller approved the manufacture and sale of mifepristone in 2002.

<sup>d</sup>In India and Nepal, mifepristone and misoprostol may be sold by prescription in chemist shops.

<sup>e</sup>Pharmacists/pharmacy workers were willing to stock medications.

<sup>f</sup>Pharmacists/pharmacy workers were unwilling to stock medications.

<sup>g</sup>In Brazil, only hospitals may purchase misoprostol.

<sup>h</sup>Vietnam limits mifepristone sales to pharmacies authorized by government (usually affiliated with hospitals).

As Table 1 shows, pharmacy workers may be apprehensive about informing and counseling women about abortifacients. The reasons include: worry about risk to their employment; ethical, moral, and religious grounds; fear of backlash from anti-abortion groups; and

perceptions that physicians, rather than pharmacy workers, should provide such information. Even pharmacists and pharmacy workers who were willing to provide information and sell the medicines often gave customers incorrect or incomplete information about the route of administration, dosages, side effects, and gestational limits for medications used for medical abortion. Some countries, such as Brazil and Vietnam, restrict stocking and distribution of medical abortion medications to authorized sites, thereby excluding non-hospital-based pharmacies (Table 1).

Studies also show that pharmacists do dispense misoprostol, regardless of local regulations intended to prevent pharmacists from prescribing medications and that they frequently do not request a prescription. In restrictive and liberal settings alike, pharmacists often sell medicines that are ineffective abortifacients and may be unsafe (Table 1). In South Asia, many pharmacists and pharmacy workers recommend allopathic, ayurvedic, or homeopathic drugs, although their effectiveness for abortion has not been clinically evaluated. In Latin America and Africa, pharmacists and pharmacy workers incorrectly recommended contraceptive methods, including EC, as abortifacients.

Where abortion is legally restricted, low-income women have even more difficulty accessing safe abortion services than do women with resources, yet medications for inducing abortion safely may be available. Studies in Mexico, the Dominican Republic, and Argentina show that pharmacies in low-income neighborhoods are more likely to carry misoprostol than those in medium- to high-income areas.<sup>18,22,23</sup> Research in four regions of Mexico showed independent privately owned pharmacies, and those located in low-income areas, to have been significantly more likely to sell misoprostol by the pill than chain pharmacies and those in medium-income areas.<sup>18</sup> Pharmacy managers may be responding to demand generated by low-income women for a safe and relatively inexpensive alternative to unsafe abortions.

### Approaches to working with pharmacists

Although efforts have been made to extend the range and quality of reproductive health services offered at pharmacies, including counseling, information, and sales of medications, we found no publications about how pharmacists can improve access to safe medical abortion. Communities, governments, non-governmental organizations, and international



organizations have asked pharmacists and pharmacy workers to improve access to EC, contraceptives in general, and medications for STIs. Thus, we draw on literature from other areas of sexual and reproductive health, including studies on interventions with other sorts of health-care professionals, to explore the potential for expanding the role of pharmacists in medical abortion.

Non-physician clinicians (including midwives, nurse practitioners, clinical officers, and physician assistants) can deliver safe abortion care.<sup>31–35</sup> Studies demonstrate that maintaining abortion services strictly within the confines of physician-only practices is unnecessary. Other types of providers can offer safe and effective abortions – including medical ones. Pharmacists, however, do not traditionally fall within the definition of a midlevel provider or even health-care provider. Their role as service providers or facilitators who can connect with other cadres of providers to increase access to medical abortion has yet to be examined. Nor have researchers yet studied the ability of pharmacists to screen women for appropriate gestational age and lack of risk factors (for example, ectopic pregnancy) for medical abortion.

In both liberal and restrictive settings, strategies to work with pharmacists must take into account local policies and context; these are often controversial or confusing. For example:

- Mifepristone and/or misoprostol may be registered in countries but are not for sale in readily accessible pharmacies.
- Pharmacists may not be legally authorized to sell medical abortion medications without prescriptions; these prescriptions may not be available to lower-income women, who cannot afford to see anyone other than a pharmacist for their care.
- Pharmacists or pharmacy workers may not be trained to advise consumers on the correct use of medications.
- Pharmacists and pharmacy workers may have moral objections to abortion and refuse to sell medications, even when the consumer has a prescription.

### *Social marketing and detailing*

Social marketing applies commercial marketing strategies to social causes and often sells an associated product at a subsidized rate. Developing a network of retailers to sell a specific product and thus

increasing product promotion and distribution by raising awareness through advertising, packaging, and branding is a typical approach. Social marketing may also include training programs for pharmacy personnel (often through educational outreach visits, also known as academic or medical detailing) and development and distribution of information, education, and communication materials for pharmacists, pharmacy workers, and clients. Social marketing that has already been applied to reproductive health products could likely be a successful mechanism to enhance pharmacy staff capacity and provide quality medications as part of a broader medical abortion strategy.<sup>36,37</sup> A challenge of social marketing is finding ongoing support or a subsidy for sustainability. Ultimately, products and services need to be profitable to those who provide them, and affordable to those who need them.

A 1997 Cochrane Systematic Review on the use of academic detailing included two studies on pharmacists and pharmacy workers. Detailing visits included talking with pharmacists about evidence-based information and leaving them with written information, with the objective of improving the advice and information they offer to clients. Individualized outreach visits, particularly when combined with social marketing, did affect provider behaviors, especially prescribing. The intensity (measured in the number of detailing visits) needed, the sustainability of this effect over time, and cost-effectiveness, remain unknown.<sup>38,39</sup>

Pharmacists in a Kenyan study expressed preference for detailers to offer regular updates to pharmacy staff on the use of emergency contraceptives. They viewed the visits as a good method for reminding pharmacy staff about the importance of providing clients with information about emergency contraceptives while making the sale.<sup>40</sup>

### *Pharmacist training*

Training of pharmacists using materials, referral links, and refresher courses has met with some success, but without strong evidence for longer-term impact.<sup>13,41</sup> In Lima, Peru, an intervention study in 14 of the city's 24 lowest socio-economic districts showed that training pharmacists and physicians in STI management and linking them through a formalized referral network strengthened the connection and communication between the two professions and improved their recommendations to clients for STI treatment regimens.<sup>15</sup> A 1-day program in Ghana on effective drug treatments for STIs with pharmacists resulted in better



prescribing practices for urethral discharge.<sup>13</sup> In Mexico City, pharmacy workers became slightly more willing to offer information about condoms after a training about STI treatment and HIV/AIDS prevention; the information was more accurate than that offered by pharmacy workers who did not participate in any training.<sup>42</sup> The need to conduct one-on-one training to accommodate individual schedules makes comprehensive training expensive. Only training reinforced by refresher sessions sustained gains long term.<sup>13,42</sup>

### *Health-care referral systems*

Referral systems between pharmacists and other health-care providers have helped women receive appropriate care.<sup>15</sup> In a randomized control trial, in a program that trained pharmacists to identify and manage STDs, use of referral cards improved communication between pharmacists and physicians, facilitating continuity of care.<sup>15</sup> In Brazil, training pharmacy workers only to refer people to the public health system for care was not effective, because consumers looked to pharmacies for a solution, not simply for a referral.<sup>14</sup>

## **Discussion**

As pharmacists and pharmacy workers often sell something to customers to end a pregnancy, it is imperative that they learn about what is or is not effective for medical abortion, and where to refer women who need clinical attention. In many countries, medical abortion practice guidelines do not exist, thus limiting information on up-to-date drug options and evidence-based practices. Misoprostol, moreover, does not have package labeling for its use in abortion care. Regulations that guide pharmacist practices may limit prescribing of medications or selling them over-the-counter. Where medical abortion is available in some form, programs that build referral networks among clinicians prescribing medical abortion and pharmacists who stock and sell the product may reach more women than single-profession interventions.

Successful interventions must address what hinders pharmacists: lack of training in counseling during pharmacy school; shortage of trained pharmacists in pharmacies throughout the world; and client concerns about confidentiality. Strong links with other health-care providers can address pharmacists' inability to confirm physical findings of pregnancy



(beyond what a woman reports) and address complications. Because pharmacists are often also business owners, they want to know how expanding and improving services for women with unwanted pregnancies can improve pharmacy practices and pharmacists' livelihoods.

## Conclusion

Even where pharmacists' knowledge about medical abortion is limited, many are willing to provide *something* to help a woman with an unwanted pregnancy. Women already seek medicines from pharmacists to end unwanted pregnancy, but some of these women are unable or unwilling to seek care from a trained clinical provider. Approaches that successfully improve pharmacists' ability and willingness to provide accurate information about medications as well as referrals to other health-care providers can help women benefit from safe and effective medical abortions. To date, such approaches and interventions have not been documented. When they are, they will need to be carefully tested and rigorously evaluated. The specific roles of pharmacists in medical abortion will depend on a country's legal and policy context. Research is needed to test strategies that enable pharmacists to collaborate effectively with other health-care providers and thus reduce unsafe abortions and increase women's access to safe abortion services.

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