



# Egyptian community pharmacies and self-care: Context, challenges and opportunities

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## ABSTRACT

Community pharmacists are ideally positioned to play a key role in promoting self-care behaviors through judicious use of self-care interventions. As highlighted by the International Pharmaceutical Federation, supporting effective self-care is a key strategy for pharmacists to contribute to the sustainability of healthcare systems. Despite recent positive developments in national health policies, Egypt does not have a clear self-care strategy and policy. It also has no national programs focusing on community pharmacists and self-care, important components that future health policy initiatives should tackle. This commentary explores self-care policies, strategies, and developments in the Egyptian community pharmacy practice context. It describes national research, roles, and challenges within the current model of community pharmacy practice and education concerning self-care. It addresses opportunities that Egyptian community pharmacy has to support self-care in light of the anticipated changes in the Egyptian healthcare system. Noting that success in the delivery of self-care interventions within community pharmacies is associated with key factors, recommendations are suggested for community pharmacy stakeholders to address such factors guided by the World Health Organization's implementation considerations for individuals' health needs and self-care-related health system challenges (agency, availability, quality, cost, information, accessibility, utilization, social support, acceptability, and efficiency).

## 1. Background

The World Health Organization (WHO) defines self-care as “the ability of individuals, families, and communities to promote health, prevent disease, maintain health, and cope with illness and disability with or without the support of a health worker”.<sup>1</sup> The relatively broad scope of self-care in the WHO definition includes health promotion, disease prevention, and control, giving care to dependent people, rehabilitation, and palliative care. Self-care includes self-medication, the process of selecting and using medicinal products (including herbal and traditional ones) by individuals to treat a self-recognized sickness or specific symptoms associated with an illness.<sup>2</sup> Tools that support and are part of self-care interventions include high-quality medications, medical devices, diagnostics, and/or digital interventions that can be used with or without the presence of a health professional. Self-care includes a range of interventions for health promotion including self-management, self-testing, and self-awareness. Those interventions may serve to improve quality, access, and cost-effectiveness of care as well as empower individuals, a commonly sought-after goal in the modern

practice of medicine.

## 2. The Egyptian healthcare system

By August 2023, Egypt's population had reached nearly 105 million people.<sup>8</sup> By 2020, Egyptians younger than 15 years constitute one-third of the population (34.1%) while the percentage of those older than 65 represents only 4.1%. The percentage of the urban population reached 43.0% in 2020.

The Egyptian healthcare system has been suffering from increasing challenges in the past decades. Traditionally, Egypt has had a pluralistic healthcare system, with multiple public and private providers and financing agents. The Egyptian healthcare system has started gradually shifting towards a Universal Health Insurance (UHI) system with the key premise of extending coverage as well as separating financing services from service provision which were entangled in the older system.<sup>3</sup> In 2018, Egypt implemented a compulsory new UHI law, which was rolled out in some governorates representing the first phase of implementation. The ambitious UHI plan aims to cover all Egyptian governorates by

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2032. The main insurance coverage unit within the new UHI system is the family. This is an improvement from the previous system, which provided, separate coverage to each family member, leaving some, such as informal workers, uninsured. While this law shows promise in improving access and quality of healthcare in Egypt, it is likely to face issues regarding feasibility and long-term financial sustainability.

In addition to the UHI law implementation, there have been several national public health initiatives focusing on improving specific health indicators. Those initiatives focus on patients with chronic diseases such as diabetes, hypertension, hepatitis C including self-diagnosis and self-management for those patients. In 2018, a national project to identify and treat all HCV-infected persons to reach disease elimination included a national screening program involving 50 million people.<sup>4</sup> In October 2023, The WHO recognized Egypt as the first country to achieve “gold tier” status on the path to elimination of hepatitis C as per WHO criteria.<sup>5</sup>

In line with public health initiatives, the Egyptian Drug Authority (EDA) was established in 2019 to oversee medical preparations and supplies.<sup>6</sup> The EDA reports directly to the prime minister rather than to the Ministry of Health and is responsible for the regulation and approval of self-care products, including medicines, medical devices, and food supplements. Since its establishment, the EDA has made efforts to facilitate and improve self-care through advertising regulations, non-prescription medicines lists, improving consumer awareness of medicines, and electronic medicine bulletins.

### 3. Health and pharmaceutical expenditures

Egypt has a robust domestic pharmaceutical industry with a focus on generic manufacturing that covers many pharmaceutical products. Medication pricing in Egypt is centralized and fully controlled by the government which determines the costs of the medications and requires pharmaceutical manufacturers to print the price on medication packages.

Out-of-pocket (OOP) payments continue to represent the largest source of healthcare financing in Egypt. In 2019/2020, A recent WHO report indicated that Current Health expenditures (CHE) were EGP 255.6 billion, corresponding to EGP 2560 per capita (31 EGP = 1 USD in November 2023), and represented 4.6% of gross domestic product (GDP) a decrease from 5.6% in 2017.<sup>7</sup>

According to the new Universal Health Insurance Authority (UHIA) website, medications for cancer and other chronic conditions will be dispensed for free. For all other medications, the percentage of the individual's contribution to the price of medicines should not exceed 10%, with a maximum of 1000 EGP at a time and it will increase to 15.0% in the tenth year of the UHI law's implementation.<sup>8</sup>

Despite these promising changes, Egypt does not have a clear self-care strategy and policy.<sup>9</sup> It also has no national programs focusing on community pharmacists and self-care, important issues to tackle in future health policy initiatives. Systematic and planned dissemination of self-care is likely to contribute to reducing the burden on the current and new health care system contributing to its success and sustainability. With their unique accessibility, community pharmacists represent an excellent resource that would contribute to this process. Education and assessment for patients by community pharmacists in addition to supporting informed decision-making and self-management of prescription and non-prescription medicines reduce the potential downstream burden on healthcare systems.

### 4. Pharmacy practice law and staff

According to the Egyptian Pharmacy Profession Practice Law (Law No. 127 of 1955),<sup>10</sup> a community pharmacy may only be established with a license from the Ministry of Health. This regulation for a new pharmacy has allowed community pharmacies in dense neighbourhoods to be only 100 m apart improving access to many essential medications

and pharmacists' advice for the public. Only a pharmacist can own a pharmacy and each pharmacist can own up to two pharmacies. Chains are allowed through a loophole in the law, which allows a chain pharmacy to be created if the chain “manages” rather than “owns” a group of pharmacies. Increased competition encouraged most community pharmacies to introduce a home delivery service of medications and other self-care interventions. Competition, however, has also increased poor practices in some pharmacies such as the alarming rates of injudicious dispensing of antibiotics, which may be up to 65% in upper respiratory tract infections.<sup>11</sup> The emergence and spread of pharmacy chains especially in large cities such as Cairo and Alexandria have created a disadvantage for many independent community pharmacies which continue to struggle in competing with larger corporations, which have the capacity to offer larger discounts on medication prices in violation of regulations.

Egypt continues to have a high density of pharmacists per 10,000 population with available evidence indicating that it continues to increase in the past two decades. According to data obtained from records of the Egyptian Pharmacists Syndicate (EPS), the number of community pharmacies has reached 95,000 in 2023. Those EPS data also indicate that the rounded number of registered pharmacists has reached 313,000 in 2023 up from 175,000 in 2013 and 71,000 in 2003.

The Egyptian law limits the ability of the community pharmacist to dispense medications without a physician's prescription. In practice, however, this aspect of the law is not enforced. Pharmacies routinely dispense different kinds of medications without a prescription. Still, law enforcement is strict with specific medications such as narcotics, which are listed under specific tables. For those medications to be dispensed a prescription with a specific stamp needs to be provided to the community pharmacy by the patients or their caregivers.

Community pharmacies are typically staffed by pharmacists who may be accompanied by other support staff including pharmacy assistants, usually with little to non-medical training. Evidence, however, suggests community pharmacies may often be left without a pharmacist in charge in violation of the pharmacy practice law.<sup>12</sup> This phenomenon can greatly impact the role a community pharmacy can play in empowering self-care.

#### 4.1. Egyptian Pharmacists' education and training for self-care

Education for pharmacists in Egypt has traditionally been dominated by pharmaceutical sciences with a smaller emphasis on clinical and social sciences that can be more directly related to the provision of self-care interventions. In 2019, the traditional 5-year Bachelor of Pharmaceutical Science degree has been replaced with a 6-year PharmD program. Within the new system, in addition to 5 years of didactic training, a year of experiential training is to be completed in work sites approved by the Supreme Council of Universities. Pharmacy schools offer two degrees; a “regular” PharmD and a “Clinical” PharmD. The key difference between the two is the greater emphasis on clinical and social topics with didactic and experiential training for the “clinical” PharmD training. Both PharmD degrees qualify for pharmacy practice in different settings. Current proposals include creating a licensure exam for graduates of these programs that graduates can take after graduation and before practice. In 2018, legislation was approved to establish a new regulatory authority for continuing professional development and added expectations for continuing professional development as a condition of re-licensure for physicians before rolling it out to other health professionals including pharmacists.<sup>13</sup>

Egypt's National Authority for Quality Assurance and Accreditation of Education (NAQAAE) provides National Academic Reference Standards (NARS) for Pharmacy Education, which were published in 2009 and updated in 2017.<sup>14</sup> The terms “Self-Care” and “Self-Medication” are not explicitly stated in any part of the NARS Pharmacy document. However, some of the NARS Pharmacy elements included directly or indirectly address the role of the pharmacist in promoting self-care and

responsible self-medication as defined by the WHO.<sup>15</sup>

#### 4.2. Egyptian community pharmacists' role and contribution to self-care

Given that most medications are readily provided without a prescription, there is not a clear-cut distinction between prescription and nonprescription medicines. The term Over the counter (OTC) is not appropriate for the Egyptian context, even though it continues to be widely used by pharmacy educators and community pharmacists.

Egyptian community pharmacists, especially those working in low socioeconomic neighbourhoods, often fill an unofficial primary care provider role where they diagnose conditions, educate patients about health maintenance, counsel on lifestyle changes, assist patients with health-related problems, and make referrals to specialty physicians when needed. To that end, community pharmacies are key sources for information and selection of self-care interventions including tests and medications. Egyptian community pharmacists do not receive remuneration for dispensing services and rely on direct profit from selling pharmacy products. Still, they have a significant impact on the use of pharmaceuticals that go beyond routine dispensing. One study indicated that community pharmacists influence four out of 10 purchase decisions for pharmaceuticals with higher levels of influence in lower social class neighbourhoods.<sup>16</sup> It is unlikely that this influence will decline since current projections indicate that Egypt's self-medication practices will continue to increase coupled with an expanding nonprescription medicine sector.<sup>17</sup> Key drivers for this projection include greater health awareness and willingness among the Egyptian public to self-medicate.

A significant proportion of Egyptian community pharmacy research addressing pharmacists' roles concerning self-care has addressed the community pharmacy's role in contributing to self-medication with antibiotics by allowing for easy access to and subsequent injudicious use of antibiotics and potential strategies in addressing this problem.<sup>11,18–21</sup> Increasing work has been addressing Egyptian community pharmacists' role in promoting health-supporting behaviour such as COPD inhaler adherence,<sup>22</sup> or in promoting self-care for patients with diabetes. A recent study found that Egyptian community pharmacists generally held strong intentions to practice diabetes care coupled with positive attitudes towards diabetes care, perceived positive social pressure to do so, and a sense of control over practicing diabetes care thus promoting self-care.<sup>23</sup> Nevertheless, building community pharmacists' capacity to support self-care for patients with chronic conditions such as diabetes would necessitate an assessment and support for community pharmacists' knowledge. Research indicated that community pharmacists' knowledge may be deficient in the knowledge necessary to support self-care for Muslim patients with diabetes who consider fasting during Ramadan,<sup>24</sup> but it also indicated that most pharmacists are interested in and open to receiving training on such topics.

In Egypt, sexual and reproductive health products such as menstrual hygiene products, pregnancy tests, condoms, oral contraceptive pills, emergency contraceptive pills, and intrauterine devices (IUDs) are readily available without a prescription in community pharmacies.<sup>25</sup> Research indicates that community pharmacists may lack some information that would help them provide evidence-based counselling on critical topics such as the use of oral contraceptives.<sup>26</sup> Promising work in that area indicates that community pharmacists trained in basic information on the use of oral pills, IUDs, injectables, and condoms and communication skills can collaborate with physicians to improve knowledge of family planning methods among potential users.<sup>27</sup>

It appears that most of the documented self-care work focuses on the self-care pillar "rational use of products and services" with little work addressing other areas such as, for example, deficiencies in counselling on special foods, supplements, food alternatives, and symptoms of hypovitaminosis or hypervitaminosis which relate to the "healthy eating" pillar.<sup>28</sup>

Egyptian community pharmacists have a significant potential to address other key self-care pillars such as "mental well-being" in their

work. This represents a particular opportunity in light of work addressing the status of psychiatric care and basic mental health services for Egyptians with mental disorders. This work points to a considerable gap between mental healthcare needs and available services in Egypt with most resources allocated to a few large centralized psychiatric hospitals.<sup>29</sup> Community pharmacists are ideally positioned to address such needs.<sup>30</sup>

Experience with utilizing the pharmacists' potential in promoting self-care as a component of interventions in other settings can be used to inform similar work in the community practice setting. Positive data includes pharmacists providing education on exercise training, healthy diet, and behaviour modification in cardiac rehabilitation units<sup>31</sup> in addition to enhancing the understanding and adherence of patients with hemodialysis to the treatment plan and encouraging self-management strategies in hospitals,<sup>32</sup> and engaging in interprofessional work to serve with self-isolated COVID-19 patients in rural areas remotely using phone calls and social media applications to encourage healthy diets and smoking cessation.<sup>33</sup> Further, pharmacists serving paediatric patients with Iron-overloaded  $\beta$ -thalassemia major within a children's hospital created simplified educational materials in the form of a story with various episodes for patient education. During visits, children and their caregivers were educated about the disease's nature, complications, risks of iron overload and how to control it, maximizing benefits from iron chelation regimen, the impact of treatment adherence, and their dietary requirements.<sup>34</sup> Success described in those reports can help promote pharmacist-led self-care-focused interventions in the community setting.

#### 4.3. Recommendations for community pharmacy stakeholders to improve the delivery of self-care interventions

Success in the delivery of self-care interventions within community pharmacies is associated with key factors. The following recommendations utilize and build on health system issues highlighted by the WHO as key implementation considerations affecting the delivery of self-care products and services. These key considerations include agency, availability, quality, cost, information, accessibility, utilization, social support, acceptability, and efficiency.<sup>35</sup>

##### 4.3.1. Agency and social support

A special emphasis should be placed on community pharmacists working with underserved populations. Equipping those pharmacists with the resources they need to enhance self-care is key. Systems thinking approaches would be particularly helpful to formulate and implement strategies that empower pharmacists in supporting patients in areas of great interest to pharmacy patrons including the use of traditional and complementary medicines.<sup>36</sup> The Egyptian Pharmacists Syndicate and other stakeholders should highlight the role of pharmacists in self-care in its policies and plans.

##### 4.3.2. Accessibility, availability, and cost

While many of the self-care products are readily available in community pharmacies, a shortage of some of those products is frequently encountered. When they become available again, their price will have significantly increased. Additional problems with continued availability may be encountered with imported products. While some of those shortages may be inevitable, the government stakeholders need to coordinate to minimize their incidence and impact on community pharmacy patrons. The EDA's "Inquiring about the availability of pharmaceutical products" is a step in the right direction.

##### 4.3.3. Accessibility, availability, cost, and quality

Accessibility to well-trained pharmacists in the community pharmacy is key to providing a service of acceptable quality. While the number of community pharmacists in Egypt is exceedingly high, community pharmacist absenteeism continues to be a problem. This requires mechanisms to encourage community pharmacists' availability,

especially in rural and underserved areas. The Ministry of Health inspection teams should be considering policies that allow for closer monitoring of community pharmacies involved in this practice. Further, and in support of good quality counselling, training provided for student pharmacists in schools and after graduation should provide more explicit coverage of competencies related to supporting self-care among community pharmacy patrons, which should be reflected in future versions of NARS Pharmacy. Current plans for continuing professional development as a condition of re-licensure for pharmacists represent a step in the right direction. These activities should provide educational opportunities around self-care strategies for community pharmacists. Stakeholders should focus, not only on non-prescription drugs but also on areas of great national interest such as the appropriate and safe use of dietary supplements<sup>37</sup> and family planning where promising work has been implemented<sup>27</sup>. To that end, community pharmacists, represented by the Egyptian Pharmacists Syndicate, should address potential reimbursement mechanisms for expanded services supporting self-care with the new Egyptian healthcare system. Pharmacist representatives should provide evidence explaining the potential cost saving of reimbursing and incentivizing pharmacists for such work as an upstream intervention that can reduce the potential cost of downstream expenses.

While the quality of self-care products is regulated in Egypt, ongoing reports of substandard quality medications that find their way to community pharmacies continue to be reported. Efforts should be made to minimize this incidence, by preventing their entry into the pharmaceutical market to begin with and when possible, address it as soon as possible. The EDA has established a pharmaceutical traceability system and a rapid alert system that applies to falsified products where an alert notice letter or public awareness letter should be sent to all contacts of the rapid alert notification list within 24 h, with a maximum of 72 h of the issuance. The effectiveness of such measures should be assessed in future work.

#### 4.3.4. Information, utilization, and efficiency

Ideally, the information presented at the community pharmacy should be of quality, reliable, evidence-based, and tailored for age, culture, gender, and sexual diversity. Earlier work, however, has shown that patients may exit community pharmacies while missing key information about their medications.<sup>38</sup> This need for information is often more prominent in patients with limited education compared to university graduates. Further, Package Information Leaflets (PILs), that accompany medications in Egypt, as in other countries, do not provide “user-friendly” instructions on the optimal usage of those key self-care interventions. There is a need to better support community pharmacists with resources to evaluate patient comprehension and the need for drug information, especially for patients with less schooling. Creating more user-friendly PILs is one strategy. Further, providing training for pharmacists in helping such patients should address therapeutic issues surrounding the use of medical products as well as key communication issues such as those related to cultural sensitivity. Those measures could help improve rates of adherence to and proper use of self-care products.

Quite often, community pharmacists carry out referrals to specialty physicians who can follow up on the patient's case. Loss to referral and follow-up is common and may result from several factors including the patient's inability to pay for a doctor's visit and inadequate comprehension of the severity of a medical condition. This may be exacerbated by poor coordination among community pharmacies and other health facilities. It is important to consider ways of electronically linking community pharmacies to other health facilities within the new healthcare system.

#### 4.3.5. Cost and acceptability

Egyptian community pharmacists are often readily available to answer key information on self-care products at no cost. As explained earlier, however, out of pocket expenses for self-care products, including medications, continue to be a significant issue for patients. The Egyptian

government needs to constantly evaluate its policy that aims to make sure that on one hand, medications are affordable to the public, and on the other hand, are not in shortage. Until the new UHI is more widely implemented, community pharmacists will need to be creative in supporting patients when choosing the most affordable self-care products. To that end, the issue of acceptability would need to be addressed. While many of the self-care products are readily accepted by patients, there continue to be opportunities to educate the public about self-care interventions that are proven to be cost-effective such as generic alternatives to brand-name medications.

## 5. Conclusion

Self-care plays an important role in the Egyptian pharmacy practice context. Existing circumstances have created challenges for community pharmacists to assume self-care roles that meet their full potential. Egyptian community pharmacies can expand their self-care roles by seizing the opportunity of ongoing changes in the healthcare system to demonstrate their full potential and meet key patient needs. However, advocacy for remuneration is required to ensure sustainability of self-care activities through community pharmacies. Pharmacists should focus on becoming a more integrated part of national initiatives that support self-care for example expanding to new areas such as mental health care. Stakeholders should systematically address issues and constantly monitor policies related to self-care products and well as self-care services provided through community pharmacies.

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**Amr Youssef:** Data curation, Formal analysis, Writing – original draft. **Mohamed Ezzat Khamis Amin:** Conceptualization, Data curation, Formal analysis, Supervision, Writing – original draft, Writing – review & editing.

## Declaration of Competing Interest

None.

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