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Features and Ways to Ensure the Availability of Vital Pharmaceuticals for Pharmacy Organizations in the Context of the Covid-19 Pandemic

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

The article describes the features and ways of ensuring the availability of vital pharmaceuticals to pharmacy organizations in the context of the COVID-19 pandemic. It was noted that during the pandemic, pharmacists from all over the world made maximum efforts to ensure an uninterrupted

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and safe supply of medicines to patients, despite the unprecedented situation. The social distancing policy has been widely implemented to maintain the personal safety of patients and reduce the number of personal visits. Also, vital strategies and practices have been implemented in some foreign countries, including the supply of conventional medicines at state-subsidized prices, the maximum monthly supply of some prescription drugs has been provided and limits on the purchase of over-the-counter medicines have been set, home delivery of medicines to people at risk and people in isolation has been organized.
The experience of pharmaceutical organizations during the pandemic has shown that it is necessary to monitor the predicted shortage of medicines, especially in regional pharmacies, as well as to control the workload in pharmacies and timely control of online orders of medicines to eliminate frustration and anxiety in patients who need life-saving medicines.

Keywords: Pharmaceuticals; pandemic; coronavirus infection; pharmacy organizations; uninterrupted supply of medicines.

1. INTRODUCTION

The 2019 coronavirus pandemic (COVID-19) was a global public health crisis. Access to health services has been problematic all over the world for a long time.

Since the World Health Organization (WHO) declared the COVID-19 pandemic on March 11, 2020, people around the world have been overwhelmed by the ever-changing health warnings and messages, such as the constant media coverage of the projected economic consequences associated with the pandemic [1].

Taking into account the high pathogenicity of the spread of the virus, the governments of all countries have effectively implemented measures to prepare for emergency situations and prompt response to combat the spread of the virus. These included restrictions on travel within the country and abroad, rules of physical or social distancing, principles of quarantine and isolation, as well as online platforms for work and education. Most countries have closed their borders with China, and after that, they have reduced air traffic with other states as much as possible. People at risk, such as the aged, children, pregnant women and people with multiple comorbidities, were asked to take additional precautions due to the increased risk of COVID-19 infection.

In the conditions of the spread of the disease, a significant role belongs to the timely provision of medicines to the inhabitants of the country. In this regard, those countries that carried out a large percentage of drug imports were at high risk of disrupting the drug supply chain during the pandemic. This has created a problem for timely access to medicines, creating a high risk of their shortage [2].

The main task of the governments of the countries during this period was to ensure the continuous supply of essential medicines against the background of the imposed blockages in many states. The literature notes that during the period of the most active spread of the virus, pharmacists from different countries performed a number of functions in the fight against the COVID-19 crisis, providing patient-oriented assistance, such as using electronic prescriptions, preparing water-alcohol hand sanitizing gels in pharmacies and providing remote consultations. In case of unforeseen circumstances, pharmacists in the UK were charged with the duty to supply certain controlled drugs to patients without a prescription. Similarly, pharmacists in Canada were allowed to extend the validity of prescriptions for certain vital drugs, and some pharmacies in the United States were designated COVID-19 testing centers [3].

In addition, during the outbreak, pharmacists in China participated in the management of the drug supply chain, the preparation of dosage forms, the creation of remote pharmacies, the provision of drug reviews to reduce the risks associated with the use of medicines, etc. In India, pharmacists participated in the purchase of medicines, as well as provided the necessary consultations to patients. All these data demonstrate that pharmacists played a vital role during the pandemic.

The International Pharmaceutical Federation (FIP) provides updated information through its FIP COVID-19 information Center in order to provide detailed and appropriate guidance to

pharmacists as part of the COVID-19 situation management. These consultations and recommendations are based on the available evidence and recommendations of WHO, the Centers for Disease Control and Prevention of the United States and Europe, as well as other relevant authorities.

2. MATERIALS AND METHODS

The paper investigates an array of information in the framework of highlighting the activities of pharmacists in separate countries in the field of overcoming the shortage of medicines and providing the necessary drugs to the population. The information obtained was investigated using analytical and comparative methods.

3. RESULTS AND DISCUSSIONS

Most of international pharmaceutical organizations have joined forces to combat the spread of COVID-19. The main goal of this association was to ensure the continuous supply of essential medicines, protect pharmacists from abuse and minimize therapeutic goods [4].

The leadership of a number of countries around the world has made a number of changes in the policy and practice of regulating the continuous supply of essential medicines after the COVID-19 outbreak to ensure the quality of pharmaceutical services and patient safety. These strategies included access to conventional medicines at subsidized rates, home delivery services for people at risk and on self-isolation, the issuance of electronic prescriptions, etc. In some countries, the government has expanded the list of medicines that pharmacists can dispense for up to one month to certain groups of patients, especially if the patient cannot get an updated prescription from a doctor, and there is a need to ensure continuity of treatment [5].

Doctors who write prescriptions were given the right to send electronic prescriptions to patients by fax, e-mail, etc. Such prescriptions were necessary for people at risk (60 years and older), patients with chronic diseases, parents with newborns, pregnant women, as well as those who are in home isolation. The right to replace the medicine was granted to pharmacists if the specific dose and dosage form of the medicine were unavailable when the medicine was dispensed. For example, the issuance of two 20 mg tablets instead of a 40 mg tablet of this medicine or the issuance of capsules instead of tablets).

Pharmacists were required to dispense prescription drugs for a period of no more than one month and one unit for each purchase of over-the-counter drugs to ensure constant and fair access to counterbalance increased demand and to ensure the predictability of a supply interruption [6].

The governments of the countries also carried out the fight against opportunistic and illegal activities in the pharmaceutical market during the first wave of the COVID-19 pandemic. For example, several companies were fined up to $63,000 for illegally advertising their products that were effective against COVID-19.

Associations of pharmacists have been established in many countries to coordinate the drug market and mobilize the main forces to fight COVID-19. For example, as part of the Pharmaceutical Society of Australia's emergency response to COVID-19, PSA was created – the largest professional organization consisting of approximately 34,000 pharmacists throughout Australia. This organization has consistently defended the role of pharmacists and strengthens the pharmaceutical profession to its full potential by providing its members with the necessary skills and experience. The society regularly provides updated information on the COVID-19 crisis management through its website exclusively to its members based on federal government updates on the COVID-19 strategic plan. The association continues to disseminate government policies and plans in response to the current pandemic, such as protecting pharmacists from violence and abuse and recognizing government commitments. PSA also encouraged participants to use the COVIDSafe app to support the government in effectively tracking and quickly contacting people who may have been exposed to SARSCOV-2 [7].

An inexpensive and widely used steroid drug (dexamethasone) has been widely touted as an effective cure for COVID-19 following the success of the RECOVERY study in the UK. However, the results were still preliminary. Recently, PSA reported that the results of the study are applicable only to seriously ill and hospitalized patients with COVID-19 in conditions of ventilation or oxygenation, but are not applicable to mild cases or as a preventive measure. In addition, as the TGA notified the

PSA, Australia currently has a sufficient supply of dexamethasone in the form of injections or tablets; there are no warnings about a possible shortage. PSA works together with TGA, SHPA, Pharmacy Guild and NPSA to achieve the common goal of continuous supply of medicines throughout the country. PSA also presented the action plan "Pharmacists in 2023", aimed at improving the use and safety of medicines, as well as using the experience of pharmacists more effectively to improve access to medical care services and ensure consumer safety. Such an initiative will help post-pandemic recovery.

Another problem of the pharmaceutical market during the pandemic was providing patients with medicines for the treatment of colds and flu. Many countries have issued guidelines for the treatment of cold and flu symptoms during the COVID-19 pandemic, primarily focused on managing patient interaction, assessment, decision-making and necessary actions, including situations requiring urgent medical care services. Such recommendations emphasize that pharmacists should implement strategies that are finest suited for their pharmacies based on their level of risk assessment. It is important to note that, since a pharmacy is an important service, pharmacists are obliged to ensure optimal supplies of medicines, masks and other medical products. Pharmacists should be actively involved in educating clients about disease prevention, triage and referral of patients, when necessary, as well as in drug counseling. Moreover, more importantly, services should be provided on an ongoing basis, thereby ensuring quality without compromising the health and well-being of pharmacy staff [8].

During a pandemic, pharmacies are required to report any changes in opening hours to the community and stakeholders, as such changes may have several undesirable consequences. In order to avoid disruption of the main services, communication and cooperation with regional pharmacies regarding opening hours is strongly recommended. Rules for visiting pharmacies in many countries of the world included such components as a policy of social distancing, maintaining personal and environmental hygiene, as well as sorting patients to the appropriate public services were implemented in pharmacies throughout the country to prevent the spread of the disease. It is also important that pharmacies apply appropriate cleaning and disinfection procedures to minimize infection with the virus SARSCOV-2. In addition, pharmacies had to install one-way traffic to enter and exit the pharmacy. To designate 1.5 meters, a clear marking was used between patients and staff, as well as between customers waiting in line, in order to reduce the number of people in the pharmacy at the same time.

Patients were advised to contact pharmacies by phone to request prescription processing in order to minimize the time spent at the pharmacy. Visits to pharmacies by vulnerable people have been reduced by delivering medicines at home or asking family members, friends or neighbors to act on their behalf where possible.

4. DISCUSSION

Although the COVID-19 outbreak has caused widespread and extensive damage to the world, it gives pharmacists an opportunity to contribute to society.
During the COVID-19 crisis the government imposed restrictions to control panic purchases; this greatly contributed to the fair provision of medicines throughout the country, including regional pharmacies.

COVID-19 has become a heavy burden on the global health system. Travel restrictions and strict regime measures have played a significant role in reducing the transmission of the virus SARSCOV-2. Major policy changes have been made, such as restrictions on prescription and over-the-counter medications, electronic prescribing.

Australian pharmacists are working with multidisciplinary teams to provide critical services during the COVID-19 pandemic to ensure a fair and safe supply of medicines, despite the unprecedented situation in the pharmaceutical market. However, it is not surprising that people face some problems getting their usual medications and timely access to medical services due to pandemic restrictions and precautions such as social distancing, quarantine policies, travel restrictions and home orders. There were also facts of stress and anxiety among pharmacy customers due to a shortage of medicines and unexpected difficulties with access to medicines.

Restrictions on the quantity of supplies and granting pharmacists the rights to replace medicines were considered appropriate, since restrictions on travel between countries seriously disrupted the supply chain. Undoubtedly, these

strategies to some extent helped to cope with panic buying and, more broadly, contributed to the fair provision of pharmacy consumers with essential medicines. This restriction has facilitated continuous access to medicines for people living in residential institutions who have a complex profile and need for medicines. It is vital that these people have access to essential medicines, including vital ones, because it is now well known that the morbidity and mortality associated with COVID are high for this population group.

Despite some difficulties associated with the adoption of legislative changes and the associated workload for pharmacists, electronic prescribing has become vital especially for reducing personal contact and, ultimately, has played a key role in infection control, since patients are not required to visit a doctor to pick up their medications [9].

Electronic prescriptions are part of a broader digital healthcare and drug safety system that allows prescribing, dispensing and requesting medicines without the need for a paper prescription. A recent study reported numerous benefits of telemedicine services, including reduced exposure to the virus on patients and healthcare services providers, low demand for personal protective equipment, and fewer emergency department visits, especially during a pandemic.

Pharmacists also received the right to consult patients about certain medications by phone, in addition, home delivery of medicines to vulnerable people and people in home isolation reduced the number of visits to pharmacies, which may have led to a decrease in infecting by limiting personal contacts. These approaches, implemented by the Australian Federal Government in collaboration with state governments and pharmaceutical companies, may have helped the government plan to contain the infection through social distancing measures.

The persistence of infection and mortality rates at a noticeably low level (compared to other developed countries) is evidence of successful and rapid actions by governments of different countries. Digital prescription processing, drug replacement, virtual consultation with medicines and home delivery of medicines were among the approaches expanding the legal roles of pharmacists, as in some European countries, Canada and the USA.

Home delivery of medicines to people isolated during the pandemic was a difficult task, as pharmacists could not offer face-to-face consultations, and written instructions were relatively easy to misinterpret. Telemedicine counseling is also challenging, especially for the elderly with hearing weakening; however, the volume can be adjusted when communicating electronically.

The current COVID-19 pandemic has affected the entire world; therefore, there is a significant risk of shortages of some essential medicines. Even the most developed countries experienced shortages of medicines of various groups, as the supply chain was interrupted for some time, and a significant part of medicines and active pharmaceutical ingredients are supplied from India and China. During the spread of the pandemic, pharmacists noted a shortage of drugs such as angiotensin converting enzyme inhibitors, angiotensin II receptor antagonist, selective serotonin reuptake inhibitors, serotonin and norepinephrine reuptake inhibitors, beta-blockers, calcium channel blockers and even eye drops for glaucoma. The shortage of medicines was particularly high in rural pharmacies, but this problem was also brought under control in most countries.

In general, the shortage of medicines in small independent pharmacies that depend on monthly turnover is more worrying; conversely, larger pharmacies with a network have effective inventory control mechanisms for long-term storage. Drug shortages are associated with detrimental consequences, such as prescribing suboptimal therapy, erroneous medication intake, an economic burden on patients, and a high prevalence of side effects.

The shortage of medicines also has a significant impact on the safety of people with chronic diseases, if they are not affected by the effects of COVID-19.

Pharmacy customers may have serious concerns due to difficulties accessing conventional medicines due to the pandemic. According to the news, employees of some pharmacies faced verbal abuse and physical violence almost daily. Inappropriate behavior of customers was associated with a shortage of medicines, lack of necessary drugs, long waiting times for service at the pharmacy, physical distancing, etc. Some authors have noted that Australian pharmacists suffer from burnout, especially due to overtime

work, problems with drug supply management and antisocial behavior displayed by pharmacy buyers. Support services to improve psychological well-being are crucial, as the impact of COVID-19 pandemic on the mental health of pharmacists can be extremely detrimental.

Hospital pharmacists played a special role in the spread of coronavirus infection. They participated in ward rounds, drug storage, ensuring the availability of essential medicines, coordinating a drug turnover plan and making therapeutic decisions. In addition, it was noted that during the pandemic, pharmacists played a central role in the treatment of cold and flu symptoms, initial assessment and referral of patients to therapists and hospitals when necessary. Other functions of pharmacists in a number of countries were to check the intake of medicines at home using telemedicine.

Compliance with social distancing protocols when customers are in the pharmacy premises is a difficult task, especially for small independent pharmacies, for example, in regional cities. This could reduce the influx of customers to the pharmacy for regular prescriptions and consultations with a pharmacist for minor illnesses.

5. CONCLUSION

Like other healthcare professionals, pharmacists play an integral role in the fight against the global problems caused by COVID-19 pandemic. There are cases of deaths of pharmacists due to SARSCOV-2 infection, which they contracted during the performance of their official duties. These data potentially exacerbate stressful situations in pharmaceutical practice. Despite the frightening aspects of the current crisis, pharmacists around the world are constantly working to respond to COVID-19, demonstrating their dedication and professionalism in accordance with the duty to take care of the patient, which potentially puts themselves at risk.

DISCLAIMER

The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

CONSENT

It is not applicable.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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