

**MINISTRY OF HEALTH OF UKRAINE
NATIONAL UNIVERSITY OF PHARMACY
faculty for foreign citizens' education
department of social pharmacy**

QUALIFICATION WORK

on the topic: **“A STUDY OF THE PROBLEM OF SELF-MEDICATION IN
THE POPULATION”**

Prepared by: higher education graduate of group
ΦМ18(5,0)a-06

specialty 226 Pharmacy, industrial pharmacy
educational program Pharmacy

Mohammad HAMADE

Supervisor: head of the department of social pharmacy,
PhD, associate professor Alina VOLKOVA

Reviewer: associate professor of higher education
institution of department pharmaceutical management
and marketing, PhD, associate professor

Iryna BONDARIEVA

Kharkiv – 2023 year

ANNOTATION

The qualification work presents the results of the analysis of the problem of self-medication of the population in global practice. The results of the generalization of approaches in ensuring the implementation of the concept of responsible self-medication of the population are presented and the roles of pharmaceutical workers in this process are defined.

The results of the study are presented on 43 pages, the number of figures - 11, tables - 1, list of references - 33 titles.

Key words: self-medication, pharmacy practice, role of the pharmacist.

АНОТАЦІЯ

У кваліфікаційній роботі наведено результати аналізу проблеми самолікування населення у світовій практиці. Представлено результати узагальнення підходів у забезпеченні реалізації концепції відповідального самолікування населення і визначено ролі фармацевтичних працівників у цьому процесі.

Результати дослідження представлено на 43 сторінках, кількість рисунків - 11, таблиць – 1, список літературних джерел – 33 найменувань.

Ключові слова: самолікування, фармацевтична практика, роль фармацевта.

CONTENT

Introduction	4
CHAPTER 1. SELF-MEDICATION AS A MEDICAL AND SOCIAL PROBLEM OF MODERN SOCIETY	
1.1. Self-medication as a medical problem"	6
1.2. Risks and consequences of self-medication of the population	10
CONCLUSIONS TO CHAPTER 1	14
CHAPTER 2. RESEARCH ON THE PROBLEM OF SELF-MEDICATION IN THE POPULATION	
2.1 Study of issues of normative and legal regulation of self-medication of the population	16
2.2 Study of the problem of self-medication of the population in the conditions of the coronavirus disease pandemic	21
2.3 Analysis of the prevalence of self-medication with some groups of medicines among the population	28
CONCLUSIONS TO CHAPTER 2	34
CHAPTER 3 GENERALIZATION OF MEASURES TO PROMOTE RESPONSIBLE SELF-MEDICATION AND RATIONAL USE OF MEDICINES	
3.1 Determination of the role of the pharmaceutical worker in self-medication of the population	35
3.2. Development of a recommendation on spreading the concept of responsible self-medication	38
CONCLUSIONS TO CHAPTER 3	42
GENERAL CONCLUSIONS	43
LIST OF REFERENCES	44

INTRODUCTION

Actuality of topic. Self-medication is becoming an increasingly important area within healthcare. It moves patients towards greater independence in making decisions about the management of minor illnesses, thereby promoting empowerment. Self-medication also has advantages for healthcare systems as it facilitates better use of clinical skills, increases access to medication and may contribute to reducing prescribed drug costs associated with publicly funded health programs. However, self-medication is associated with risks such as misdiagnosis, use of excessive drug dosage, prolonged duration of use, drug interactions and polypharmacy. The latter may be particularly problematic in the elderly. Monitoring systems, a partnership between patients, physicians and pharmacists and the provision of education and information to all concerned on safe self-medication, are proposed strategies for maximizing benefits and minimizing risks.

Globally, self-medication is a common practice, and an increasingly perceived necessity to relieve burdens on health services. However, inappropriate self-medication may result in reduced health outcomes, increased antimicrobial resistance and economic waste.

The purpose of the study was to study the problem of self-medication in the population.

Research objectives:

- to analyze literary sources on the topic of the work, in particular, study the issue of self-medication of the population, its advantages and disadvantages;
- to determine the peculiarities of regulating self-medication in accordance with world experience and recommendations of international organizations;
- to analyze the peculiarities of the spread of self-medication by separate groups of medicines;
- to determine the role of pharmaceutical workers in implementing the concept of responsible self-medication and counteracting the irrational consumption of medicines by the country's population.

The object of study: publications and research results related to self-medication; research subject: approaches to the self-medication regulations of the population and implementation of the responsible self-medication concept.

Research methods. In the analysis methods of the content analysis, comparative, graphic methods were used.

Structure and scope of qualification work. The qualification work consists of the introduction, three chapters, conclusions to each chapter, general conclusion, and list of used sources. The results of the study are presented on 42 pages of text, the number of figures - 11, tables 1, and the list of references - 33 titles.

CHAPTER 1. SELF-MEDICATION AS A MEDICAL AND SOCIAL PROBLEM OF MODERN SOCIETY

1.1. Self-medication as a medical problem

Due to a combination of demographic changes and medical progress, healthcare systems across the world are facing serious financial challenges. Public health approaches based on a strengthened personal responsibility, i.e. on a more systematic practice of self-care, can help save time and costs. However, the strengthening of self-care is today still insufficiently promoted [3, 5, 18, 20, 23].

Every day, we are practicing self-medication in the form of self-care for our health [1, 12]. Around the 1960s in the West-self-care and self-medication were regarded as unnecessary and potentially even unhealthy practices. This paternalistic approach to medicine, supported by health systems designed to treat sickness (rather than to prevent disease) remains a familiar aspect of health care in many countries to this day. Self-medication has traditionally been defined as “the taking of drugs, herbs or home remedies on one’s own initiative, or on the advice of another person, without consulting a doctor.” Families, friends, neighbors, pharmacists, previously prescribed medicines, or suggestions from an advertisement in newspapers or popular magazines are common sources of self-medication [2, 4, 18, 20].

Today, self-medication should be seen as the “desire and ability of people/patients to play an intelligent, independent and informed role, not merely in decision-making, but also in managing those preventive, diagnostic and therapeutic activities which concern them [28, 19].

Although there is no consensus definition of self-medication, it usually corresponds to the self-administration of medication in the absence of a current prescription and/or without consulting a healthcare professional. Self-medication is usually employed for minor ailments that people diagnose and treat themselves and means that people have a more active role in caring for their own health [2, 19, 20,

21]. Self-medication has also been viewed as a coping strategy - especially in patients with a chronic health condition [3, 14, 27].

When individuals choose to self-medicate, they take medication without consulting their physicians or pharmacist and might not even be willing to seek correct information about the appropriate doses or duration of the medication. When individuals choose to self-medicate, they are engaging in help-seeking behavior. In order to self-medicate appropriately, people must identify their symptoms accurately; create therapeutic objectives; choose the correct medications, which includes dosage and timing; and take into account their past medical histories, drug contraindications, and possible side effects. Other factors that can influence self-medication practices include gender, income, self-care orientation, and medication knowledge. Taking ownership of their health and well-being gives people the opportunity to take responsibility for and build confidence in their ability to manage their own health status. Patient empowerment helps patients to improve their levels of awareness and also supports the development of positive relationships with their physicians. Hughes et al. (2001) reported similar results in other studies indicating that patients found nonprescription or any OTC medication more convenient, effective, and economical. Hughes et al. collected data from the British Market Research Bureau International from approximately 2,000 people about their use of nonprescription medications. The data analysis indicated that 80% of the participants felt that it was important to use nonprescription medicines for minor health problems, 67% reported that such medicines were just as effective as those obtained from doctors, and 86% stated that they would purchase again the same medication that they had used previously. These results suggested that the public has confidence in self-treatment as well as the convenience and effectiveness of medications that are available without physicians' prescriptions [1, 5, 6, 11, 24, 26-28, 31].

In a global context of an increasingly medicalized society, self-medication appears to be common in both developed and developing countries [11, 5-7]. Self-medication has often been linked to the use of non-prescription (i.e. over-the-counter, OTC) medicines. However, self-medication extends beyond the use of OTC

medicines and can include the use of prescription-only medicines obtained from a third party or purchased on the Internet [1, 11, 19, 20].

Although “responsible” self-medication (i.e. the use of appropriate medicines, such as OTC medicines) is encouraged by some governments because it might reduce healthcare costs, it is not risk-free; OTC medicines can be misused (adverse effects, microbial resistance, drug interactions, addiction, abuse, etc.) [7].

While self-medication can be a useful practice for managing minor ailments and promoting self-care, it can also pose potential risks and challenges when not approached responsibly. Here are some considerations highlighting self-medication as a medical problem [18, 28, 31].

Misdiagnosis. Self-diagnosis can be unreliable, as individuals may misinterpret their symptoms or underestimate the severity of their condition. Without a professional medical assessment, there is a risk of misdiagnosing the underlying problem, leading to ineffective or inappropriate self-medication.

Delayed or inadequate treatment. In cases where self-medication is used as a substitute for seeking professional medical advice, there is a risk of delayed or inadequate treatment. Serious or complex health conditions may go undetected or worsen over time, potentially resulting in complications and poorer health outcomes.

Drug interactions. Self-medication can lead to the use of multiple medications, including OTC drugs, herbal remedies, and dietary supplements. Without proper knowledge or consultation, individuals may inadvertently combine medications that interact negatively, leading to adverse effects or reduced efficacy.

Allergic reactions and side effects. Certain medications can cause allergic reactions or side effects that vary from person to person. Without professional guidance, individuals may be unaware of potential risks or be unable to identify adverse reactions promptly. This can lead to unnecessary discomfort or complications.

Inappropriate medication use. Self-medication may involve using medications intended for specific conditions to treat different symptoms or conditions. This

practice can lead to ineffective treatment or worsened symptoms, as the underlying cause may not be addressed properly.

Masking serious conditions. Self-medication can temporarily alleviate symptoms, leading individuals to believe their condition is resolved or less severe than it actually is. This can result in a delay in seeking appropriate medical care, potentially allowing serious health issues to progress unchecked.

Lack of monitoring and follow-up. Professional medical care includes monitoring treatment progress and ensuring appropriate follow-up. With self-medication, there is often a lack of monitoring and assessment by healthcare professionals, which can impede the detection of treatment effectiveness, adverse reactions, or necessary adjustments.

Inadequate dosage and adherence. Proper dosing and adherence to prescribed treatment regimens are essential for optimal health outcomes. Self-medication may involve incorrect dosing or irregular adherence, leading to suboptimal treatment effectiveness or medication-related issues.

Overreliance on OTC medicines. Some individuals may excessively rely on OTC medicines for prolonged periods, attempting to manage chronic conditions without proper medical guidance. This may delay the initiation of appropriate medical interventions and exacerbate the condition's progression.

Lack of professional advice. Self-medication may lack the benefit of professional advice and individualized treatment plans. Healthcare professionals consider factors such as medical history, pre-existing conditions, drug interactions, and contraindications when recommending treatment, which may not be adequately accounted for in self-medication practices.

It is crucial to promote responsible self-medication and educate individuals about its limitations. Encouraging individuals to seek professional medical advice, particularly for complex or persistent health issues, helps mitigate the potential risks associated with self-medication and ensures appropriate care and treatment.

1.2. Risks and consequences of self-medication of the population

Self-medication could offer several advantages to patients including quick access to treatment, self-independence in alleviating symptoms, reduction in the cost of accessing healthcare and frequency of visits to health centres; and also, to the community, its advantages include saving medical resources, decreasing absence from work, declining pressure on medical services and providing more time for critical conditions [18, 21-24]. Notwithstanding its various advantages, self-medication, especially if unguided could result in possible risks at the individual level such as incorrect diagnosis, serious adverse effects, increased antimicrobial resistance, dangerous food and drug interactions, as well as drug misuse and abuse. Also, at the community level, unguided self-medication may lead to increased medicine-induced disease and public expenses [8, 14, 19, 24]. The negative consequences of self-medication can be largely felt in many developing countries with limited resources, low literacy level and healthcare amenities, as well as the huge populace who neither have access to information nor satisfactory knowledge regarding therapy, dosage and duration of use or side effects [3, 4, 19, 20].

However, responsible / guided self-medication may still be envisaged, whereby the patient treats his illness or symptom with medicine which are approved and available without prescription, but which is safe and effective when used as directed [9, 19, 22].

The consequences of self-medication, especially when done without proper knowledge, guidance, or medical supervision, can be significant. Some potential risks and consequences of self-medication of the population are presented in fig. 1.1.

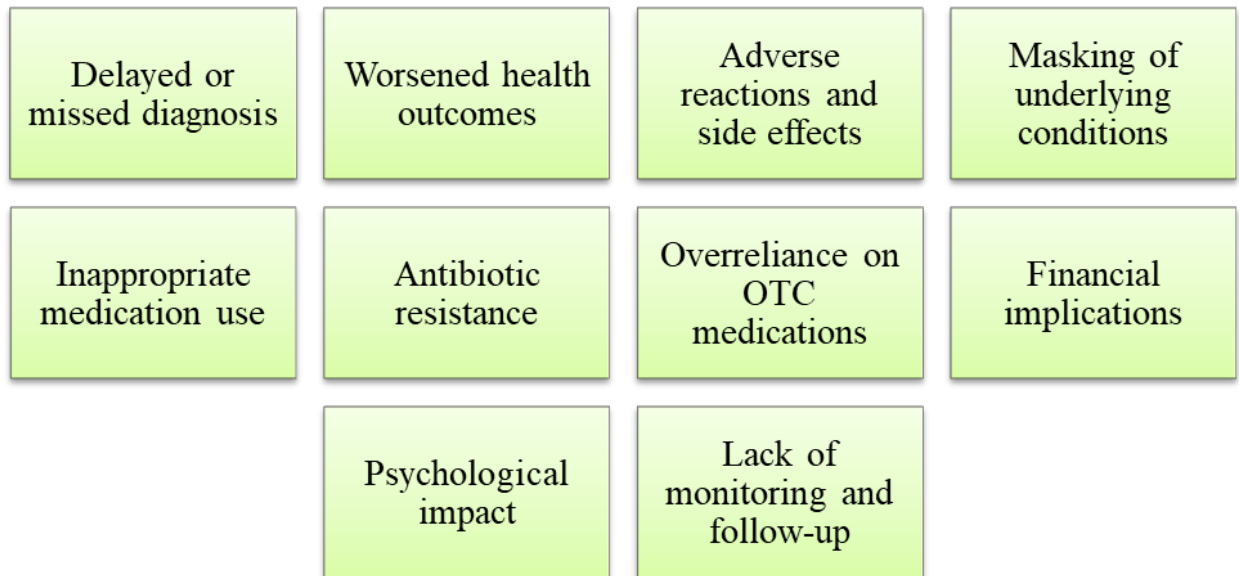


Fig. 1.1. Risks and consequences of self-medication of the population

Self-medication may lead to a delay in diagnosing underlying health conditions or a failure to recognize serious illnesses. Without a proper medical assessment, individuals may misinterpret their symptoms, leading to ineffective or inappropriate self-medication and potential delays in seeking necessary professional medical care.

Inadequate self-treatment or mismanagement of health conditions can result in worsened health outcomes. Improperly chosen or dosed medications, incorrect use of medical devices, or insufficient self-care practices may fail to address the root cause of the problem or exacerbate existing health conditions.

Self-medication can increase the risk of experiencing adverse reactions or side effects from medications. Without professional guidance, individuals may be unaware of potential risks, contraindications, or drug interactions, leading to unexpected adverse reactions or complications.

Self-medication can temporarily alleviate symptoms, giving individuals a false sense of improvement. However, underlying health conditions may remain undiagnosed or untreated, potentially allowing them to worsen over time. Masking

symptoms without addressing the underlying cause can lead to delayed or inadequate medical intervention.

Self-medication may involve using medications intended for specific conditions to treat different symptoms or conditions. This practice can be ineffective or potentially harmful, as the medications may not target the actual cause of the symptoms or may have unintended side effects.

Inappropriate self-medication with antibiotics, such as using them for viral infections or not completing the full course as prescribed, contributes to the growing problem of antibiotic resistance. This can render antibiotics less effective in treating bacterial infections and pose a threat to public health.

Some individuals may excessively rely on OTC medications for prolonged periods without seeking professional medical advice. This can lead to a delay in receiving appropriate medical interventions and potentially mask underlying health conditions.

Self-medication may involve purchasing medications, devices, or supplements without proper guidance or evaluation of their necessity. This can result in unnecessary expenses and financial strain, especially if the treatments are ineffective or inappropriate for the individual's condition.

Depending solely on self-medication without seeking professional medical advice can cause anxiety, uncertainty, and stress. Individuals may worry about the accuracy of their self-diagnosis, the potential risks of self-medication, and the lack of medical support and guidance [6, 14, 19, 26, 28].

Self-medication often lacks the ongoing monitoring and follow-up provided by healthcare professionals. Without regular assessment, individuals may not be able to evaluate the effectiveness of their self-treatment, make necessary adjustments, or identify potential complications or changes in their condition.

According to the results of the analysis of the literature reviews, the advantages and potential risks of using self-medication at the public level and at the level of individual patients/consumers were summarized (table 1).

Table 1.1

Potential benefits and potential risks associated with self-medication at individual
and community levels

	Individual level	Community level
Potential benefits	<ul style="list-style-type: none"> • An active role in his or her own healthcare • Self-reliance in preventing or relieving minor symptoms or conditions • Education opportunities on specific health issues (i.e. stop smoking aids and products to treat heartburn) • Convenience • Economy, particularly since medical consultations will be reduced or avoided 	<ul style="list-style-type: none"> • Saving scarce medical resources from being wasted on minor conditions • Lowering the costs of community-funded health care programs • Reducing absenteeism from work due to minor symptoms • Reduce the pressure on medical services where healthcare personnel are insufficient • Increase the availability of health care to populations living in rural or remote areas.
Potential risks	<ul style="list-style-type: none"> • Incorrect self-diagnosis • Failure to seek appropriate medical advice promptly • Incorrect choice of therapy • Failure to recognize special pharmacological risks • Rare but severe adverse effects • Failure to recognize or self-diagnosis contraindications, interactions, warnings and precautions • Failure to recognize that the same active substance is already being taken under a different name • Failure to report current self-medication to the 	<p>Improper self-medication could result in an increase in medicine induced disease and in wasteful public expenditure</p>

	prescribing physician (double medication/harmful interaction) <ul style="list-style-type: none"> • Failure to recognize or report adverse drug reactions • Incorrect route of administration • Inadequate or excessive dosage • Excessively prolonged use • Risk of dependence and abuse • Food and drug interaction • Storage in incorrect conditions or beyond the recommended shelf life 	
--	--	--

It's important to note that self-medication can be appropriate for minor, self-limiting conditions when individuals are knowledgeable about their health, follow appropriate guidelines, and seek professional medical advice when necessary. Responsible self-care should always be practiced, with a recognition of its limitations and an understanding of when professional medical intervention is warranted. In a world of scarce government and in many countries scarce individual resources, responsible self-medication should be a cornerstone of healthcare provision and health policy.

CONCLUSIONS TO CHAPTER 1

Proper self-medication practices have a beneficial impact on patients and healthcare systems by enabling individuals to take control of their health and promoting self-empowerment. It offers convenience in managing and alleviating minor conditions. Moreover, at a healthcare system level, it helps conserve medical resources by addressing minor ailments and reducing the burden on healthcare services. However, it is important to note that improper self-medication practices can pose risks to patients, leading to severe complications such as adverse reactions,

the development of comorbidities, and contributing to the global challenge of increasing antimicrobial resistance. Several studies have highlighted these concerns, emphasizing the need for responsible self-medication practices and awareness about the potential dangers associated with the misuse of medications.

CHAPTER 2. RESEARCH ON THE PROBLEM OF SELF-MEDICATION IN THE POPULATION

2.1. Study of issues of normative and legal regulation of self-treatment of the population

Self-medication is increasingly being considered as a component of self-care. The World Health Organization (WHO) defines self-care as what people do by themselves to keep their health, and prevent and treat illness, while International Pharmaceutical Federation, supported by World Health Organization defines self-medication as the self-administration of medication in the absence of a current prescription and/or without consulting a healthcare professional [5, 27, 28, 31].

Literacy level, socioeconomic status, access to health information and facilities, exposure to medicine promotions, awareness about diseases, and health policies are some of the associated factors with self-medication practice. Level of education, family history, societal background, legislative gaps, and availability of medicines are also reported as determinant factors. Advanced academic and professional levels have been reported as the foremost factors for self-medication. Prescribers and dispensers are the frontlines to be exposed to self-medication due to their easy access to medicines [6, 11, 14-16].

Self-medication practice without proper knowledge of their disease condition and complete information of medicines to be used will bring serious health-related consequences. Self-medication with either over-the-counter medications or prescribed medications including antibiotics is a common practice in many developing countries, and partly in some developed countries [5, 23]. The reasons for engaging in self-medication practice in developing countries have been reported to include lack of medical insurance, expensive hospitals visits/consultation fees, easy public access to the prescribed medications [15, 19, 27], suggestions of friends, the inexpensiveness of the practice and previous experience. Generally, self-medication is regularly used for minor ailments such as headache, fever, sore throat,

gastrointestinal tract problems, respiratory problems, skin disorders, ear symptoms among others, and WHO recognizes self-medication as a viable tool for achieving universal health coverage [4, 5, 7, 30, 31].

Major problems related to self-medication are wastage of resources, increased resistance of pathogens and causes serious health hazards such as adverse reactions and prolonged suffering. Antimicrobial resistance is a current problem world-wide particularly in developing countries where antibiotics are available without any prescription [1, 10, 12, 17] Hence, the government should take necessary steps to regulate responsible self-medication. This can be done by making availability of safe medicines along with proper instructions about its use and if in need consulting a physician [4, 5, 20, 28].

Nowadays health care services getting costlier and in developing countries health care facilities are not available. Hence, at that time self-medication becomes an obvious choice of healthcare service [11, 27, 28] Furthermore, it has been noted that purchase of drugs and many drugs that can only be purchased with a prescription in developed countries are OTC in developing countries. In addition, lax medical regulation has resulted in the proliferation of counter-free drugs that are in high demand for the treatment of highly prevalent diseases [1, 14, 23]. Self-medication is common nowadays and it is being used worldwide, given in fig. 2.1.

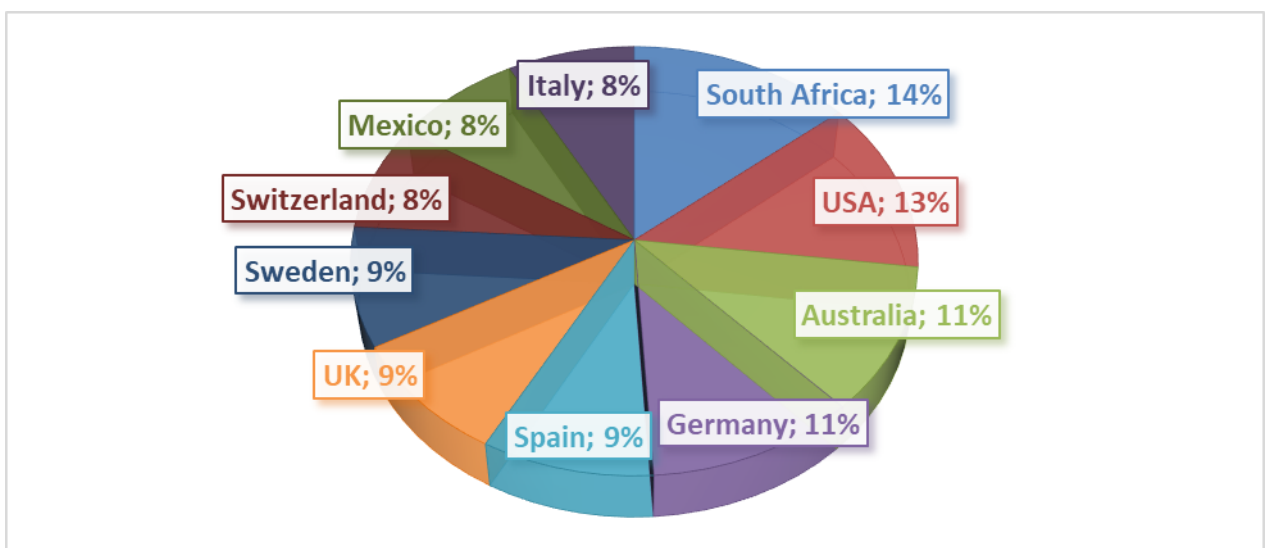


Fig. 2.1. Prevalence of self-medication

Modern consumers (patients) wish to take a greater role in the maintenance of their own health and are often competent to manage (uncomplicated) chronic and recurrent illnesses (not merely short-term symptoms) after proper medical diagnosis and with only occasional professional advice, e.g. use of histamine H₂-receptor blocker, topical corticosteroid, antifungal and oral contraceptive. They are understandably unwilling to submit to the inconvenience of visiting a doctor for what they rightly feel they can manage for themselves, given adequate information [2, 7, 11, 20, 21].

Self-medication is very common and a number of reasons could be enumerated for it [11, 19, 22]. An urge for self-care, feeling of sympathy toward family members in sickness, lack of time, lack of health services, financial constraint, ignorance, misbeliefs, extensive advertisement and availability of medicines in other than drug shops are responsible for the growing trend of self-medication.

The history of the regulation of self-medication dates back to ancient times when various cultures developed their own practices for treating common ailments. In early civilizations, remedies were often based on traditional knowledge and passed down through generations. The regulation of self-medication began to take shape as societies recognized the need to establish guidelines and standards to ensure the safety and efficacy of medical treatments.

Throughout history, different approaches and regulations have been implemented to govern self-medication practices. In ancient civilizations such as Egypt, Greece, and China, herbal remedies and traditional medicine played a significant role in self-medication. Practices were often based on the knowledge of healers and were regulated through customary laws and cultural norms.

During the Middle Ages, the practice of self-medication continued, but it became intertwined with religious beliefs and superstitions. The Renaissance period witnessed a resurgence of interest in science and medicine, leading to advancements in pharmacology and the emergence of early regulations governing the sale and use of medicinal substances.

18th and 19th Centuries: With the growth of scientific knowledge, the regulation of self-medication became more formalized. Pharmacopoeias, which are books containing standardized drug formulations and guidelines, were published to ensure the consistency and quality of medicinal products. Governments started enacting legislation to control the production, distribution, and sale of drugs.

The 20th century witnessed significant developments in healthcare regulation, including the regulation of self-medication. Governments and health organizations increasingly recognized the need to protect public health and ensure the responsible use of medications. Regulatory bodies were established to oversee drug approvals, labeling requirements, and advertising guidelines. Consumer education initiatives were launched to promote responsible self-medication practices.

In recent decades, the regulation of self-medication has become more sophisticated and comprehensive. Regulatory agencies conduct rigorous evaluations of over-the-counter (OTC) medications to assess their safety, efficacy, and appropriate use. Labels and package inserts provide clear instructions and warnings for consumers. Advertising regulations aim to prevent misleading or false claims about self-medication products. Additionally, advancements in technology and the internet have introduced new challenges and opportunities in regulating self-medication, particularly with the rise of online pharmacies and the availability of information online.

Today, the regulation of self-medication continues to evolve as governments and healthcare organizations strive to strike a balance between facilitating access to safe and effective treatments and safeguarding public health. The focus is on promoting responsible self-care, ensuring accurate information, and minimizing the risks associated with self-medication practices [3, 5-7, 16].

According to the results of the generalization of literary sources, the main stages of the formation of self-treatment are highlighted and approaches to its regulation at the international level are determined (fig. 2.2).

1970	<ul style="list-style-type: none"> The World Federation of Proprietary Medicine Manufacturers Association renamed as WSMI with an objective to stress for world-wide regulatory classification of medicinal products into two classes: Prescription and non-prescription.
1975	<ul style="list-style-type: none"> First international symposium on the role of the individual in primary care was held at the European Regional Offices of the WHO-stress on “self-care”.
1977	<ul style="list-style-type: none"> World Health Assembly adopted the resolution calling for “health for all” by the year 2000 and in 1978, the Declaration of Alma-Ata.
1981	<ul style="list-style-type: none"> World Medical Association stressed the responsibility of people for their own health in a “Declaration on the Rights of the Patient.”
1986	<ul style="list-style-type: none"> Ottawa (Canada) and launched “the Ottawa Charter for Health Promotion”, in which self-care was identified as one of the three key mechanisms for health promotion.
1990’s	<ul style="list-style-type: none"> there was an increasing recognition in many parts of the world that people were managing or treating a large proportion of their ailments without always consulting a health professional
1998	<ul style="list-style-type: none"> Role of pharmacist in self-medication was explained by WSMI and the International Pharmaceutical Federation (FIP).
1993	<ul style="list-style-type: none"> WSMI’s 11th General Assembly in Acapulco, Mexico, where the theme is “Globalization of the self-medication market: challenges and opportunities.”
1997	<ul style="list-style-type: none"> WSMI publishes its first global review of consumer surveys: “Health care, self-care and self-medication.”
1999	<ul style="list-style-type: none"> A joint statement is produced by WSMI and FIP entitled “responsible self-medication”
2000	<ul style="list-style-type: none"> The WHO publishes “guidelines for the regulatory assessment of medicinal products for use in self-medication.”
2006-2010 and the future	<ul style="list-style-type: none"> A globalizing world. Prevention of disease through self-care and responsible self-medication

Fig. 2.2. The historical periods of development and regulation of self-care and self-medication

Many healthcare organizations have made important statements on self-care and self-medication, singly or jointly with World Self-Medication Industry (WSMI):

The WHO: “It has become widely accepted that self-medication has an important place in the health care system. Recognition of the responsibility of individuals for their own health and awareness that professional care for minor ailments is often unnecessary have contributed to this view. Improvements in people’s general knowledge, level of education and socio-economic status in many countries form a reasonable basis for successful self-medication.” (Guidelines for the regulatory assessment of medicinal products for use in self-medication. 2000) [11, 31].

The FIP: “To have good health, people are becoming more responsible, getting proper information as much as possible to decide in their own care. Pharmacists and the manufacturers of non-prescription medicines share the common goals of providing high quality service to the public and encouraging the responsible use of medicines.” (Joint Statement by The FIP and the WSMI, 1999) [7, 18].

The international council of nurses (ICN): “Self-medication is a key component of self-care that is particularly significant in an era of increasing chronic illness and well-informed health care consumers. Optimizing responsible self-medication is an important and underused resource for health and provides an opportunity for collaboration and consultation among consumers, nurses, pharmacists and physicians.” (Joint Statement by the ICN and the WSMI, 2003) [19, 21, 28].

2.2. Study of the problem of self-medication of the population in the conditions of the coronavirus disease pandemic

In 2020, the global pandemic of coronavirus disease created unprecedented problems for the healthcare systems of all countries of the world, their economies, and the social and mental well-being of the population. Even in the most critical times, pharmacies remained open and offered qualified consultation, as well as a range of drugs for the treatment of mild symptoms of COVID-19 and other common diseases, which allowed the practice of self-medication, even if there was no such

experience before, and thus took care of the preservation of the resources of the system health care for those patients who need it most [8, 9].

At the beginning of the pandemic, many countries around the world saw an unprecedented wave of panic buying, including personal care products and drugs for symptomatic treatment, as well as prescription drugs. According to the results of the analysis of the reports of the Association of the European Self-Help Industry, it was determined that today in the EU countries more than 4,000 products of the pharmacy assortment, including drugs, are available for self-medication, so they include painkillers, antihistamines, etc. Medicines, nutritional supplements (vitamins, probiotics, etc.) and medical devices (nasal irrigation, wart removal gels, moisturizing eye drops, etc.). Moreover, it is noted that more than 200 active pharmaceutical ingredients (APIs) in more than 4,000 different medicines are available in Europe without a prescription [8, 29, 30].

In 2019, 9.7 billion packages of over-the-counter medicines and 1 billion packages of minerals and vitamins were purchased in Europe. In addition, two new active pharmaceutical ingredients (APIs) - desloratadine (antihistamine) and lidocaine + prilocaine were reclassified in the EU in 2020 from Rx to OTC.

During the COVID-19 pandemic, healthcare systems are facing an unprecedented number of patients requiring urgent and/or intensive care; it is obvious that material and human resources are scarce for peak demand. Optimizing the availability of healthcare workers, infrastructure, equipment and therapeutics is essential both during and beyond a pandemic.

According to the results of the analysis of WHO statistical reports, it was established that in the period from January 7, 2020 to June 1, 2020, there was an increase in people's interest in information about self-treatment on the Internet, especially the symptoms of COVID-19, which is reflected in the Google search trend [9, 16, 29, 30]. Suggestions for self-medication for COVID-19 can come from friends, family, neighbors, pharmacists, previous prescriptions, and the media. Self-medication with hydroxychloroquine and over-the-counter chloroquine to prevent COVID-19 has been documented in developing countries. The US Food and Drug

Administration (FDA) later declared hydroxychloroquine and chloroquine unsafe for use in mild to moderate COVID-19 based on their therapeutic safety profile for patients with COVID-19. Similarly, although British researchers have declared dexamethasone a "life-saving drug" for the treatment of severe COVID-19, the UK NHS minister has stressed that dexamethasone should only be used in seriously ill patients and not be used as self-medication in cases of mild and of medium severity due to its inherent security problems [8, 14, 20, 29, 30].

Ivermectin has been found to be sold OTC in some countries and people are self-medicating and, more importantly, self-dosing to treat COVID-19. Therefore, the WHO has issued several warnings regarding the use of drugs for the treatment of COVID-19, including the irrational use of antibiotics, herbal remedies and other over-the-counter drugs. So, in China, Pakistan and other countries of the world, many medicinal herbs are used to treat COVID-19. Such products are readily available to the public without a prescription and are used as self-medication to avoid hospital visits and hospitalizations, but their use in COVID-19 lacks established evidence support [8, 9, 20]. In China, three proprietary herbal products ("LIANHUAQINGWEN" capsules and "JINHUA QINGGAN" granules for mild conditions and "XUEBIJING" for severe conditions) have been recommended for the treatment of COVID-19. However, their potential efficacy and safety need to be confirmed by the results of randomized controlled clinical trials before being used in treatment regimens for COVID-19. Similarly, demand and use of the herbal plant Sanna Makki has increased among local residents of Pakistan due to its claimed efficacy in treating symptoms of COVID-19 [8, 29, 30].

According to the results of the analysis of data on the Ukrainian pharmaceutical market during the pandemic, it was determined that its growth is primarily due to sales of antibacterial drugs. This situation is explained by the presence of uncontrolled and irresponsible consumption of antibiotics in the conditions of the continuation of the trend of increasing incidence of COVID-19 and pneumonia. According to the Ministry of Health of Ukraine, the frequency of self-medication in the population reaches 65-70%, which is quite high, and the

consumption of antibiotics in outpatient settings can lead to negative consequences, such as the development of antimicrobial resistance. According to the data of the first half of 2021, we can talk about the stabilization of the situation with the hyped demand for antibacterial drugs, the peak sales figures have passed. However, it remains tense, as consumption volumes are still quite high. In addition to the above, there is a certain shortage of certain brands of drugs. Another segment in which increased demand is noted are vitamins, in particular, preparations of vitamins C and D, the use of which in the case of COVID-19 is also not always justified. However, the market situation in this segment also remains under control for now, and satisfied demand is most characteristic. The situation is more complicated for zinc preparations and low-molecular-weight heparins since in some regions there is a shortage of these drugs due to the reduction of pharmacy residues. Therefore, if the uncontrolled consumption of drugs, in particular antibiotics, continues, and the practice of self-medication spreads, it can have catastrophic consequences for the healthcare system, as it will significantly complicate the treatment of infectious diseases [10, 20, 29, 30].

Self-medication has become an important area of health care, but its use is a common and serious global problem, especially during the COVID-19 pandemic. Self-medication can contribute to the improvement of medical care by reducing the costs of prescribing drugs. However, inappropriate use of medications without professional supervision can lead to misdiagnosis, serious side effects, drug interactions, drug addiction, and microbial resistance. Thus, there is an urgent need to control and manage the appropriate practice of self-medication through the application of strict legislation and the involvement of health professionals and politicians.

During public health crises such as the COVID-19 pandemic, people should seek the advice of public health experts before using any remedy. The use of self-medication can be improved by educating the public about the harmful effects of inappropriate medication use.

Several studies have determined that the prevalence of self-medication before the COVID-19 pandemic ranged from 11.2 to 93.7% based on the studied population and country [8, 9, 27-30]. Google searches about self-medication have increased since the declaration of the COVID-19 pandemic [30]. This would imply a rise in interest in persons looking for information about self-medication to treat various illnesses.

According to the results of the study of the practice of self-medication of the population in the countries of the Arab region, the prevalence and factors influencing self-medication in general during the COVID-19 pandemic were assessed. Drugs that are most often self-prescribed and sources of information about self-medication were also determined [3, 14-16, 33].

Pain killers were the most consumed medicines (86.0%), followed by fever-relieving pills, vitamins, anticoagulants, and antibiotics (65.1, 57.1, 47.6, and 43.3%, respectively) (fig. 2.3).

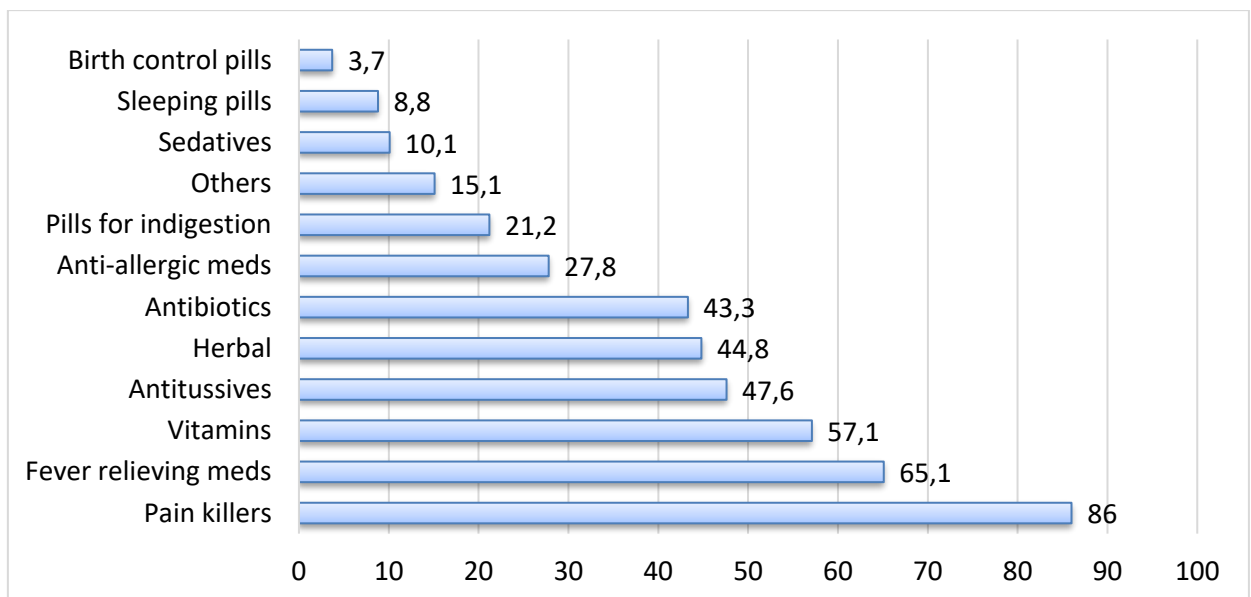


Fig. 2.3. Medicines used for self-medication during the COVID-19 pandemic in the Arab region [3, 33]

People tended to self-medicate when they had headaches (85.4%), flu common-cold and cough together (67.4%), and pain elsewhere (56.0%) (fig.2.4).

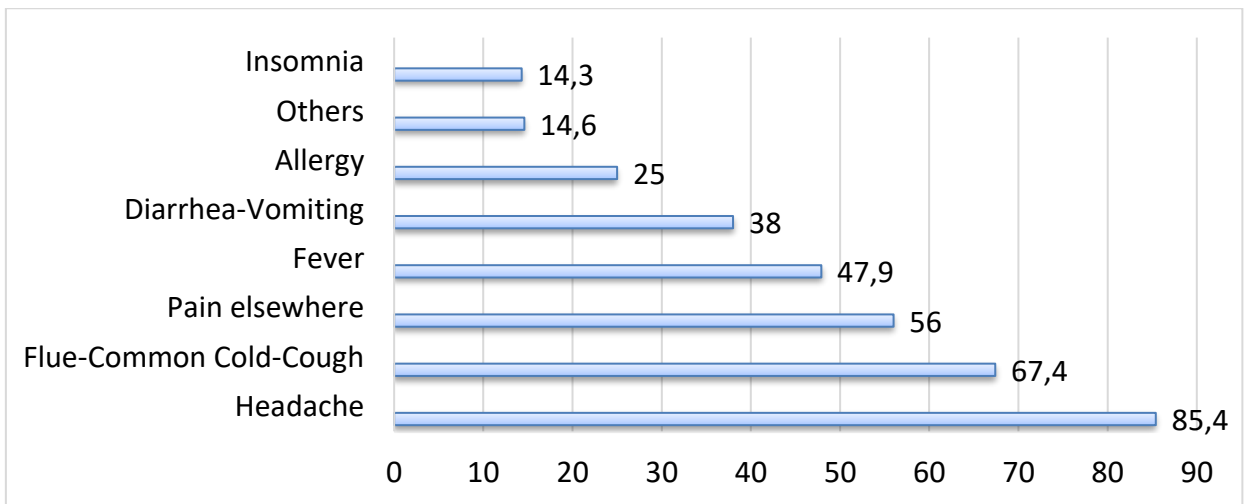


Fig. 2.4. Health conditions for which self-medication is practiced

Experience with similar conditions and the urgency of the case were the most common factors leading to self-medication (74.6 and 47.2%, respectively). A considerable number of participants practiced self-medication due to fear of infection (41.6%), while 38.2% were taking medicines as a prophylaxis against COVID-19 (fig. 2.5).

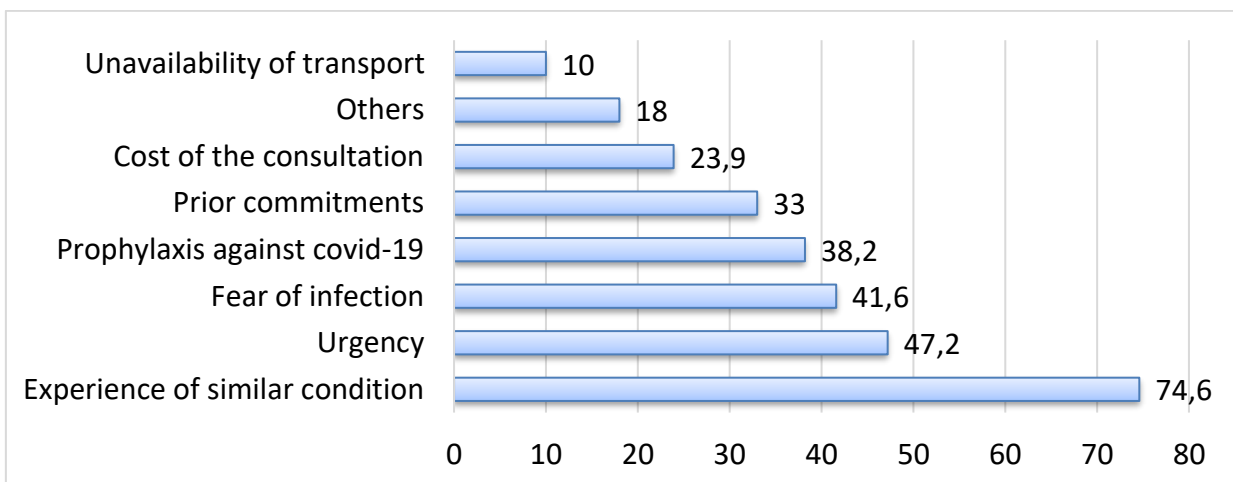


Fig. 2.5. Reasons behind self-medication practice

Pharmacist consultation was the most common source of information about self-prescribed medications (66.7%), followed by academic experience and prior prescription of the participant with the same frequency (50.1%) (fig. 2.6). The consumption rate of 19.7% of people who practice self-medication increased during the pandemic, while 63.9% remained unchanged.

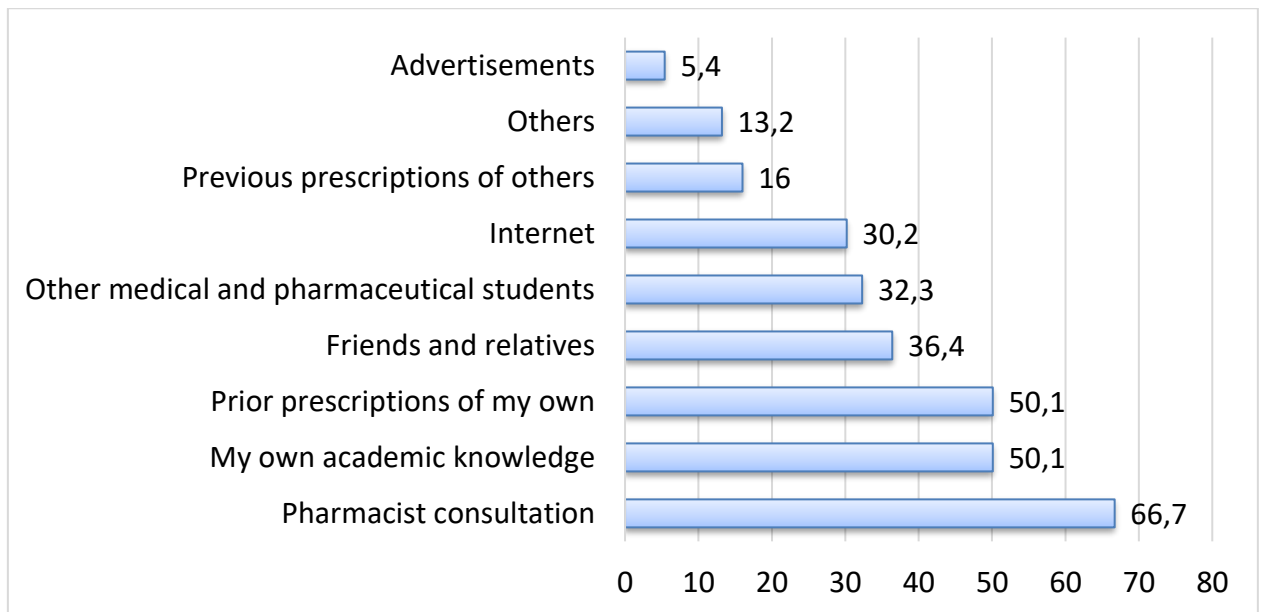


Fig. 2.6. Source of information about medications

So, the uncontrolled practice of self-medication results in serious health hazards. Its prevalence is high in Arab countries. Many factors influence self-medication, including socioeconomic status, access to healthcare facilities, and the emergency of the condition, as previously reported. The COVID-19 pandemic emphasized these factors and added fear of the infection, lockdown policies, and increased internet searches about self-medication [3, 23, 32-33]. As follows, the public became more liable to misinformation and misuse of medicines.

The findings of this study inform Arab healthcare policymakers about the status of self-medication in the Arab region. Hence, this may encourage the development of policies and regulations to control the inappropriate use of medications. Additionally, since pharmacists play an important role in informing people about SM, we recommend developing educational curricula for pharmacists that focus on the ethics of medicine supply, holding frequent seminars to discuss these challenges, and posting professional ethics charts in pharmacies. Furthermore, health ministries should conduct frequent public awareness campaigns to educate the public about the negative impacts of medication misuse, to provide reliable sources of information about medications and to give advice on the appropriate use of nonprescribed medications [16, 23, 32, 33].

Self-medication is a global phenomenon and a potential contributor to human pathogen resistance to antibiotics. The adverse consequences of such practices should always be emphasized to the community and steps to curb them. Rampant irrational use of antimicrobials without medical guidance may result in a greater probability of inappropriate, incorrect, or undue therapy, missed diagnosis, delays in appropriate treatment, pathogen resistance and increased morbidity. It would be safe, if the people who are using it, have sufficient knowledge about its dose, time of intake, and side effect on overdose, but due to lack of information, it can cause serious effects such as antibiotic resistance, skin problem, hypersensitivity and allergy. There is a need to augment awareness and implement legislations to promote judicious and safe practices. Improved knowledge and understanding of self-medication may result in rationale use and thus limit emerging microbial resistance issues [2, 3, 20, 23, 19, 30-32].

2.3 Analysis of the prevalence of self-medication with some groups of medicines among the population

Numerous studies have been conducted in different countries that have investigated the practice of self-medication among different population groups. In these earlier studies, complaints such as headache, fever, abdominal discomfort, sore throat, convulsions and illnesses such as respiratory infections, malaria, pneumonia, eye infections, urinary tract infections, colds and gastrointestinal disorders were reported. Numerous reasons for self-medication were also reported, such as ease of illness, saving time, suggestions from friends, and previous experience. In addition, the increasing availability of medicines with a variety in quantity and assortment may encourage people to engage in self-medication [1-5, 8, 11, 18, 21-24, 29, 30-33]. Therefore, it is relevant to conduct an assessment of the prevalence of self-medication practices and the factors affecting them.

Each year, 2 million people suffer from infections and are treated with antimicrobials. Among those, at least 23,000 die from complications that result from

antibiotic resistance. The CDC supports antibiotic stewardship programs in order to ensure appropriate antibiotic use in an effort to minimize the emergence of bacterial resistance. However, these programs are yet to be expanded in hospitals and ambulatory care settings. Also, the WHO recommends the education of the public and health care providers on averting antibiotic misuse and the concerns of bacterial resistance. Globally, studies have assessed public knowledge on the use and prevalence of self-medication with antibiotics, as well as factors associated with antibiotic misuse, antibiotics prescription by non-infectious disease physicians, antibiotics dispensing by pharmacies, and population knowledge, attitude and practice of antibiotic use [10, 13, 25].

In Lebanon, the Lebanese Ministry of Public Health laws regulate some prescription medications (psychiatric drugs, opioids derivatives), and the Pharmacy law prohibits dispensing prescription medications without a physician's order. However, the governing rules and regulations are mostly not enforced. Such a situation encourages self-medication, including the misuse of antibiotics. A report by the WHO noted high antibiotic resistance across the Eastern Mediterranean region, including Lebanon, with high levels of resistance of *Escherichia coli* to third-generation cephalosporins and fluoroquinolones, and of *Klebsiella pneumoniae* to third-generation cephalosporins. Particularly in Lebanon, *Escherichia coli* susceptibility to fluoroquinolones has decreased during the past decade from 75% to 53%, and the prevalence of extended-spectrum β -lactamase producing *Klebsiella pneumoniae* has increased from 12% to 28%. Additionally, there is emergence of extensively medicine resistant *Acinetobacter*, *Pseudomonas*, and carbapenem-resistant *Enterobacteriaceae*. Educating the general population about proper antibiotics use and discouraging self-medication are among the WHO's recommendations [23, 32, 33].

Based on a survey conducted in 2019 among the population of Beirut and Tripoli, consisting of 182 men and 218 women, the following findings were established:

Regarding antibiotic usage, 46% of the participants reported taking antibiotics within the three months prior to completing the questionnaire, while 51% did not use any antibiotics, and 28% were unable to recall. Among those who took antibiotics, 51% did so without a prescription, while the remaining 49% obtained a prescription for their medication. In terms of beliefs and perceptions related to antibiotics, 68% of the respondents believed that antibiotics should be taken for a sore throat, while 30% disagreed with this notion. Additionally, 61% of participants believed that antibiotics should be used for a common cold. When consulting a doctor for a severe cold, 66% anticipated receiving a prescription, and 47% believed their illness necessitated antibiotics even before consulting a doctor. Notably, 51% of respondents believed that antibiotics are effective against viral infections, whereas 47% were aware that antibiotics do not treat such infections. Interestingly, a significant majority of participants, comprising 83%, agreed that the excessive use of antibiotics can contribute to antibiotic resistance [23, 33].

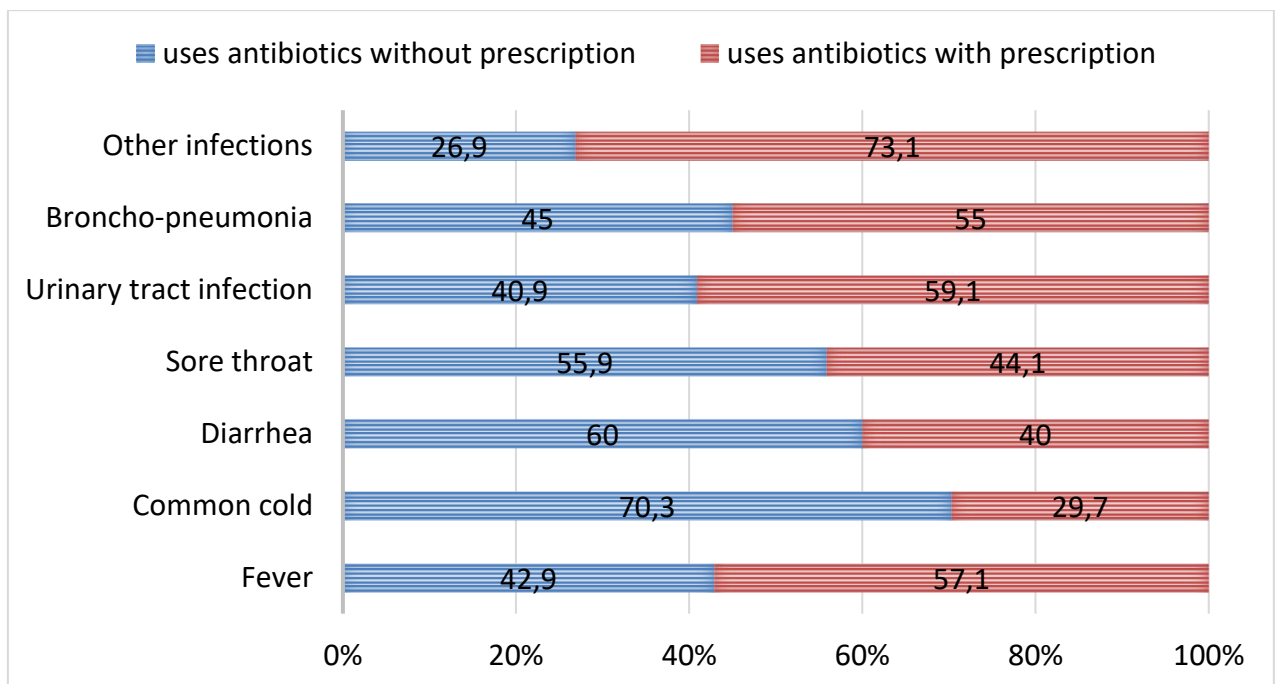


Fig 2.7. Antibiotics use with or without prescription for the presumed indication

On the other hand, lower knowledge about antibiotics (taken as a dependent variable) was assessed in the light of socioeconomic characteristics such as gender,

age, education and income. People with lower educational level used significantly more antibiotics without prescription than those with higher a correlation between the misuses of antibiotics to a low educational background. However, the impact of income status did not show to be statistically significant. Those with low income would not have had access to antibiotics if the pharmacy laws were more enforced in Lebanon. According to the results of the study, antibiotics were dispensed without a prescription upon request despite the high ratio of physician to patient in Lebanon. Also, there is a misconception that there is a need for antibiotics for symptoms or signs such as cough, runny nose, sore throat, and fever, which could be self-limited. This false thought is usually present among people with low educational status, according to the findings. Hence, pharmacists in Lebanon should be more proactive. They should advise against the use of antibiotics and refer patients to dispensaries for medical consultations that are available at a low cost [3, 23, 32-33].

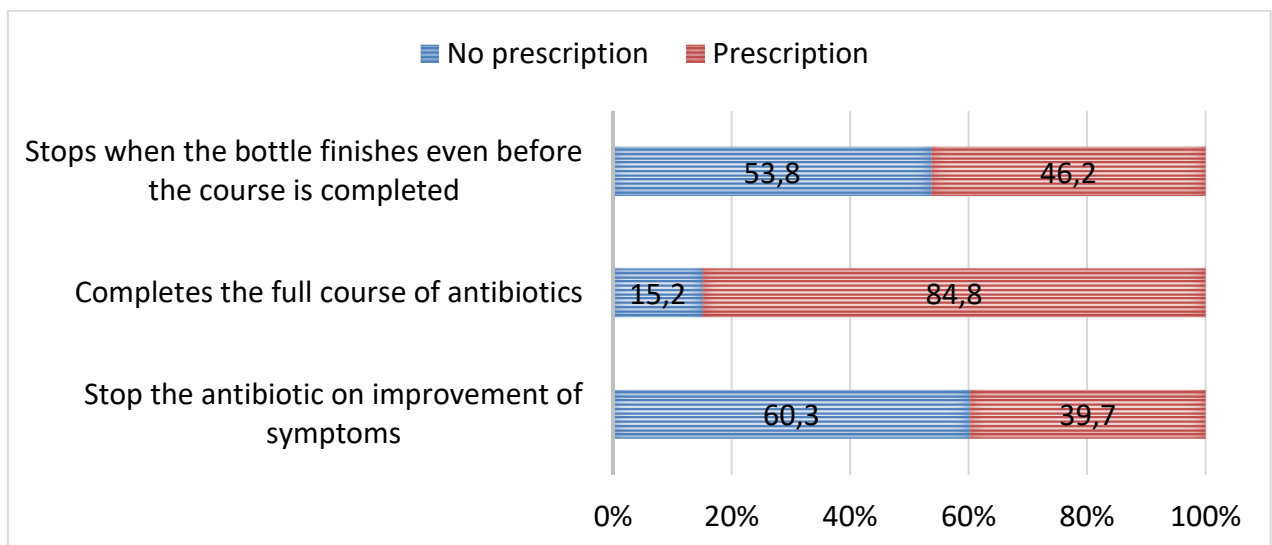


Fig. 2.8. Antibiotic prescription and the declared time of stopping

A study examining the optimal duration of antibiotic usage revealed an important observation: patients who obtained antibiotics without a prescription were more inclined to discontinue treatment once their symptoms improved, in contrast to those who had a prescription. Among those who received a prescription, a higher percentage completed the full course of antibiotics compared to those without a

prescription. This finding emphasizes the crucial role of obtaining a prescription and undergoing medical evaluation when managing individuals with infections.

Furthermore, when examining the utilization of antibiotics for different indications with or without a prescription, it was observed that individuals are more inclined to self-medicate for conditions like sore throat and common cold, compared to other infections such as bronchopulmonary and urinary tract infections. Interestingly, the economic status did not significantly influence the decision to seek medical advice. In Lebanon, medical practice operates independently in the private sector, without a government-designated standard consultation fee. While some patients receive assistance from national social security funds provided by the government, they are initially required to pay for the physician's consultation out of pocket and subsequently receive partial reimbursement [3, 23].

Antibiotic resistance is a growing global public health concern, with heavy economic and social burdens. Antibiotic-resistant bacteria cause 700,000 deaths per year worldwide, and it is predicted that resistance will be more lethal than cancer by 2050 [10, 12]. The misuse of antibiotics through excessive medical prescriptions and self-medication is an extremely important cause of antibiotic resistance. Indeed, the global consumption of antibiotics increased by 65% between 2000 and 2015, and this steadily increasing trend is mainly observed in low-and middle-income countries [12, 13, 25]. The majority of these antibiotics are consumed outside hospitals, and self-medication with antibiotics is a common practice worldwide, except in northern Europe and North America where it is strictly regulated [13, 17].

The prevalence of self-medication with antibiotics can vary significantly between different countries and regions. Antibiotics, in particular, are commonly misused due to their availability and the perception that they can treat a wide range of illnesses. There are several reasons why people may resort to self-medication with antibiotics:

1. Limited access to healthcare: In some regions, people may have limited access to healthcare facilities or face barriers such as long waiting times or financial

constraints. As a result, they may choose to self-medicate to alleviate their symptoms.

2. Lack of awareness: Many individuals may not fully understand the appropriate use of antibiotics or the risks associated with their misuse. They may believe that antibiotics can cure common viral infections like the flu or the common cold, which they are not designed to treat.

3. Easy availability: In certain countries, antibiotics may be available without a prescription. This accessibility can contribute to the misuse and self-medication with these drugs.

The inappropriate use of antibiotics, including self-medication, can lead to several issues. Misuse and overuse of antibiotics contribute to the development of antibiotic-resistant bacteria. When antibiotics are used inappropriately, bacteria can adapt and become resistant to the drugs, making infections more difficult to treat effectively. Adverse effects: Antibiotics are powerful medications that can have side effects and allergic reactions. Self-medication increases the risk of taking the wrong antibiotic, incorrect dosage, or using them when they are unnecessary, which can lead to adverse effects. Also, self-medication may mask underlying conditions or delay appropriate medical care. This can result in the progression of an illness, making it more severe or challenging to treat when medical attention is finally sought.

To combat the issue of self-medication with antibiotics, it is crucial to focus on raising awareness about the appropriate use of antibiotics, improving access to healthcare services, implementing stricter regulations on antibiotic sales, and promoting responsible prescribing practices by healthcare professionals [10, 17, 25].

To prevent further expansion of antibiotic resistance, regional and global action plans were initiated and were mainly based on improving awareness tools that took into consideration critical criteria such as demographic characteristics of consumers, as well as their level of knowledge and beliefs with regard to antibiotic misuse [12, 13].

CONCLUSIONS TO CHAPTER 2

During the COVID-19 pandemic, the combination of easy medicine accessibility and the amplified influence of social media contributed to a rise in inappropriate self-medication practices. The prevalence of self-medication experienced a slight increase during this period. Among the commonly utilized medicines, painkillers and medications for fever-related symptoms were frequently reported. This aligns with the prevailing conditions reported, such as headaches, common colds, and flu-like symptoms. A significant factor driving self-medication was the prior experience with similar ailments while seeking guidance from pharmacists emerged as the most frequent source of information. To address this issue, it is essential to enhance public awareness regarding the risks associated with self-medication. Encouraging responsible usage, promoting rational consumption, and implementing policies to restrict access to medications beyond OTC medicines can be effective strategies to combat this phenomenon.

CHAPTER 3 GENERALIZATION OF MEASURES TO PROMOTE RESPONSIBLE SELF-MEDICATION AND RATIONAL USE OF MEDICINES

3.1. Determination of the role of the pharmaceutical worker in self-medication of the population

Health professionals are one who has potential role in preventing risks of self-medication. Because he is the one who work on three main therapeutic aspects of professionalism in his daily practice: information, therapeutic advice, and education (fig. 3.1).

Information	Whenever health professionals are prescribing drugs, he should give proper instructions and explain for what it is prescribed so that it will be helpful for the patient to understand and making his own decisions.
	Given information should be at patient’s comprehension level so that it will be helpful for them to understand its management.
Therapeutic advice	Lack of therapeutic compliance is a serious problem in both acute and chronic treatments and reflects a poorly-understood or incomplete description of the treatment aims. If patients are not well-informed they are unlikely to use medication correctly.
	However, if the directions for use and the limitations of a given drug are explained-for example, dose, frequency of dose, treatment course, how to take it, etc., then patients have a set of guidelines which will help them to use the drug correctly, both now and in the future.
	Inappropriate and erratic self-medication, along with lack of compliance, will only be reduced if patients are informed and understand clearly why certain advice has been given.
Education	Inappropriate self-medication is the result of the medical model from which people have learnt. Proper health education should be given to the patients.
	By regularly adopting an educational attitude we can have an effect on large sectors of the population, on people who, in turn, may directly influence their friends and family.
	This aspect is of particular importance with respect to the self-medication of children by their parents or takes cares

Fig. 3.1. Role of health profession in preventing risks of self-medication

Pharmaceutical workers – pharmacists, assistants of pharmacist – play a crucial role in supporting the self-medication practices of the population. Self-medication refers to the use of OTC medicines, dietary supplements, and other healthcare products to treat minor ailments and manage self-diagnosed conditions without the direct supervision of a healthcare professional. Here are some ways in which pharmaceutical workers contribute to the self-medication process - fig.3.2.

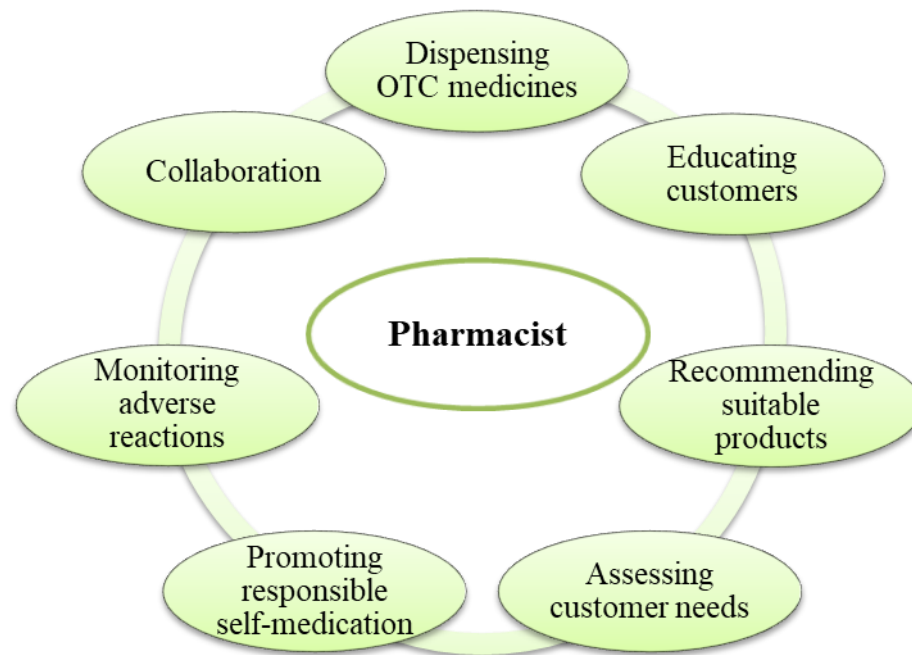


Fig. 3.2. The role of the pharmacist in self-medication process

Dispensing OTC medicines: Pharmaceutical workers, such as pharmacists and pharmacy technicians, are responsible for dispensing OTC medicines to customers. They provide information about the appropriate use, dosage, potential side effects, and contraindications of these medications. This helps individuals make informed decisions about their self-medication choices. The pharmacist must ensure that the products he/she purchases are from reputable sources and of good quality [9, 21, 25].

Educating customers: Pharmaceutical workers are trained to provide accurate and up-to-date information on various health conditions and the proper use of OTC products. They can educate customers about self-care practices, the limitations of self-medication, and when it is necessary to seek professional medical advice [9, 11, 31].

Recommending suitable products: Based on their knowledge of OTC products, pharmaceutical workers can recommend appropriate medications or healthcare products for self-treatment. They consider factors such as the customer's symptoms, medical history, and any other medications they may be taking, ensuring the products are safe and effective for their specific needs. In order to address the condition of the patient appropriately the pharmacist must ask the patient key questions and pass on relevant information to him or her (e.g. How to take the medicines and how to deal with safety issues) [9, 11, 25].

Assessing customer needs: Pharmaceutical workers are skilled in assessing customer needs and triaging cases that may require medical attention. They can identify situations where self-medication may not be appropriate, such as when symptoms worsen or persist, or when the customer's condition requires a higher level of care [11, 21, 30].

Promoting responsible self-medication: Pharmaceutical workers promote responsible self-medication practices by emphasizing the importance of reading product labels, following dosage instructions, and being aware of potential drug interactions or adverse effects. They encourage customers to consult a healthcare professional if they have concerns or if self-medication is not providing the desired results. As a member of the health-care team, the pharmacist must participate in health screening to identify health problems and those at risk in the community, participate in health promotion campaigns to raise awareness of health issues and disease prevention, provide advice to individuals to help them make informed health choices [11, 19, 25].

Monitoring adverse reactions: In cases where customers experience adverse reactions or unexpected side effects from self-medication, pharmaceutical workers can provide guidance on managing these reactions and reporting them to the appropriate regulatory authorities. They play a vital role in pharmacovigilance by gathering data on adverse events associated with OTC medicines [9, 15, 21].

Collaboration: It is imperative that pharmacists develop quality collaborative relationships with the other health care professionals, national professional

associations, the pharmaceutical industry, governments (local/national), patients and general public [9, 21, 25].

Therefore, pharmacists play a valuable role in identifying, solving and preventing drug-related problems for the purpose of achieving optimal patient outcomes and quality of life. Ambulatory based pharmacists have the opportunity and responsibility to foster safe, appropriate, effective, and economical use of all medications, especially those therapies patients are self-selecting. Pharmacists should guide their customers to consult the physician before taking any medication by self.

It is important to note that while pharmaceutical workers support self-medication, they also emphasize the importance of appropriate medical care when necessary. They act as a bridge between self-care and professional healthcare, ensuring individuals have access to safe and effective self-medication options while encouraging responsible practices and timely medical intervention when needed.

3.2. Development of a recommendation on spreading the concept of responsible self-medication

Numerous healthcare organizations, either independently or in collaboration with WSMI (World Self-Medication Industry), have issued significant statements regarding self-care and self-medication [7, 18, 22, 28, 31, 32]:

Promoting responsible self-care: Several healthcare organizations have emphasized the importance of responsible self-care practices, encouraging individuals to take an active role in maintaining their health and well-being through appropriate self-care measures.

Educating the public: Healthcare organizations have recognized the need to educate the public about self-medication, its benefits, and potential risks. They aim to provide accurate and accessible information to empower individuals to make informed decisions about their self-care and medication choices.

Providing guidelines: Some healthcare organizations have developed guidelines or recommendations on self-medication. These guidelines serve as a reference for healthcare professionals and the general public, outlining best practices, appropriate medication use, and when to seek professional medical advice.

Collaborating with industry: Healthcare organizations have engaged in collaborations with the self-medication industry, such as WSMI, to promote responsible self-medication practices. These collaborations aim to ensure that self-medication products are safe, effective, and accompanied by proper information for consumers.

Advocating regulatory standards: Healthcare organizations have advocated for regulatory standards and policies that govern the manufacturing, labeling, and marketing of self-medication products. They strive to ensure that these products meet quality standards and provide clear instructions for safe and effective use.

Addressing vulnerable populations: Recognizing the specific needs of vulnerable populations, healthcare organizations have highlighted the importance of tailored self-care strategies for children, the elderly, pregnant women, and individuals with chronic conditions. They aim to provide guidance on appropriate self-medication practices within these specific populations.

These are just a few examples of the statements and initiatives undertaken by healthcare organizations to promote responsible self-care and self-medication. The collective efforts of these organizations aim to enhance public health outcomes and empower individuals to take an active role in managing their health responsibly.

To spread the concept of responsible self-medication, it's important to focus on education, awareness, and collaboration among healthcare professionals, regulatory bodies, and the general public. Based on the results of the analysis and according to the literature, we summarized the main accents in the work of pharmacy specialists in this direction. Here are some recommendations:

1. **Public education campaigns:** Launch public awareness campaigns to educate the general population about responsible self-medication practices. These campaigns can be conducted through various channels such as television, radio,

social media, and healthcare websites. Emphasize the importance of reading labels, following dosage instructions, and seeking professional advice when needed.

2. Collaboration with healthcare professionals: Foster collaboration between pharmaceutical workers, healthcare professionals, and community organizations. Organize seminars, workshops, and training programs for pharmacists, pharmacy technicians, and other healthcare providers to enhance their knowledge of responsible self-medication. Encourage them to actively engage with patients and provide accurate information about OTC products.

3. Enhanced product labeling: Work with regulatory bodies and pharmaceutical companies to improve product labeling. Clear and concise instructions, warnings, and information about potential side effects can help individuals make informed decisions about self-medication. Include symbols or icons to denote specific precautions or contraindications.

4. Online resources and mobile apps: Develop user-friendly online resources and mobile applications that provide reliable information on self-care, OTC medications, and potential interactions. Include features such as medication trackers, reminders, and tools to check for drug interactions. Ensure that these resources are accessible and available in multiple languages.

5. Collaboration with schools and educational institutions: Collaborate with schools and educational institutions to incorporate responsible self-medication education into health education curricula. Teach students about common health conditions, appropriate self-care practices, and the role of OTC medications. Emphasize the importance of responsible decision-making and consulting healthcare professionals when necessary.

6. Continued professional development: Encourage pharmaceutical workers to engage in continued professional development programs to stay updated on the latest advancements in self-medication practices. Provide resources and opportunities for ongoing education and training, including webinars, conferences, and online courses.

7. Research and evidence-based guidelines: Promote research on self-medication practices and collaborate with academic institutions and research organizations. Encourage the development of evidence-based guidelines for responsible self-medication. These guidelines can serve as a reference for healthcare professionals, regulatory bodies, and the general public.

8. Collaboration with regulatory bodies: Work closely with regulatory bodies to establish and enforce regulations regarding the sale, marketing, and labeling of OTC medications. Ensure that OTC products meet safety standards and that information provided to consumers is accurate and up to date.

9. Partnerships with consumer organizations: Collaborate with consumer organizations and advocacy groups to promote responsible self-medication. These organizations can play a crucial role in disseminating information, organizing awareness campaigns, and advocating for consumer rights and safety.

10. Continuous monitoring and evaluation: Regularly monitor and evaluate the impact of initiatives promoting responsible self-medication. Collect data on consumer knowledge, behavior, and adverse events associated with self-medication. Use this information to refine educational strategies and improve self-medication practices.

By implementing these recommendations, we can foster a culture of responsible self-medication, where individuals are empowered to make informed decisions about their health and well-being while recognizing the importance of seeking professional medical advice when necessary. So, the standardization of pharmaceutical activities is a guarantee of the quality of medication supply to the population and the provision of pharmaceutical services and pharmaceutical care. Good Pharmacy Practice is a tool to understand and implement the obligations incumbent on all practicing pharmaceutical workers in the health care system, especially with regard to:

- a) safe, effective and economical self-medication;
- b) identifying and solving problems related to the use of medicines by outpatients [4, 6, 15, 26].

Compliance with the Good Pharmacy Practice standard will allow you to combine professional ethics with the commercial interests of the pharmacy, while putting the interests of the patient at the forefront. The pharmacy is becoming an important source of information on the consumption and use of over-the-counter medicines.

CONCLUSIONS TO CHAPTER 3

Thus, a pharmacist, as a participant in the process of self-medication of the population, must know his role in the system of self-help and self-prevention; legal, ethical norms and criteria of behavior with the consumer in the provision of pharmaceutical services to him; to form the patient's worldview in relation to a healthy lifestyle; know the amount of mandatory information required for the patient in if he or she consumes an over-the-counter medicines; promote preventive measures; be able to separate cases of pharmaceutical and medical competence; be able to take a patient's medication history; know the interaction of food, medicines, dietary supplements; carry out constant work among pharmacy visitors on the correct attitude towards medicines, dietary supplements, the exact definition of their role; to teach the rational use of medicines; constantly improve their professional knowledge. At the same time, the rights of a pharmacist can be distinguished, such as the right to reliable comprehensive information about medicines, dietary supplements, medical products; reliable comprehensive information about the interaction (compatibility) of medicines, dietary supplements for food, food; protection of their professional rights.

GENERAL CONCLUSIONS

1 Literary sources on the topic of the work were analyzed. It has been determined that self-medication is a common practice throughout the world, and the related irrational use of drugs is a concern of the global community. Self-medication is seen as part of a larger process of self-care that encourages people to engage in activities related to health improvement, disease treatment, disease prevention, and health restoration. Moreover, the definition of the concept of self-medication has been supplemented several times, and today WHO defines self-medication as the choice and use of drugs for the treatment of symptoms or diseases that have arisen independently, without consulting a doctor.

2 The advantages and disadvantages of self-medication of the population in modern society are described. It has been determined that self-medication is a serious problem in both developed and developing countries. According to various sources, the prevalence of self-medication is 30–80% worldwide. Most often, analgesics, antipyretics, antitussives, antidiarrheals, vitamin preparations, sedatives, some antibiotics, as well as many herbal and homeopathic remedies are prescribed independently.

3 It was determined that the existing normative legal acts and recommendations of the WHO are implemented in many countries, but with violations, which leads to the spread of self-medication of the population, including prescription drugs.

4 The role of the pharmacist in spreading the concept of responsible self-medication and preventing the irrational consumption of drugs is determined.

5 Information on the international practice of combating irresponsible self-medication and irrational medicine consumption is summarized.

LIST OF SOURCES USED

1. Akande-Sholabi, W., Ajamu, A.T. & Adisa, R. Prevalence, knowledge and perception of self-medication practice among undergraduate healthcare students. *J of Pharm Policy and Pract.* 2021. 14, 49. <https://doi.org/10.1186/s40545-021-00331-w>
2. Anderson A. Online health information and public knowledge, attitudes, and behaviours regarding antibiotics in the UK: Multiple regression analysis of Wellcome Monitor and Eurobarometer Data. *PLoS ONE.* 2018;13(10):e0204878. pmid:30356302
3. Ashraf Abdulrahim Mhadi and others, Irrational use of medicine in Arab countries: findings from a systematic review of literature (2000–2019). *International Journal of Pharmacy Practice*, Volume 31, Issue 2, April 2023, Pages 165–175, <https://doi.org/10.1093/ijpp/riac082>
4. Association of the European Self-Care Industry. Activity report 2020. 32 p.
5. Bennadi D. Self-medication: a current challenge. *J Basic Clin Pharm.* 2014; 5: 19–23.
6. Chouhan K, Prasad SB. Self-medication and their consequences: a challenge to health professional. *Asian J Pharm Clin Res.* 2016;9:314–7.
7. Erhun W, Babalola OO. Drug regulation and control in Nigeria: the challenge of counterfeit drugs. *World Health Popul.* 2013. <https://doi.org/10.12927/WHP.17597>.
8. European Commission. A European one health action plan against antimicrobial resistance (AMR). 2017 [Cited 2019 February 26]. Available from: https://ec.europa.eu/health/sites/health/files/antimicrobial_resistance/docs/amr_2017_action-plan.pdf
9. FDA/ Center for Drug Evaluation and Research [Electronic resource]. – Mode of access: <http://www.fda.gov/cder/Offices/OTC>.
10. Frost I, Van Boeckel TP, Pires J, Craig J, Laxminarayan R. Global geographic trends in antimicrobial resistance: the role of international travel. *JTM.* 2019; 26(8):1–13. pmid:31115466

11. Gras M, Champel V, Masmoudi K, Liabeuf S. Self-medication practices and their characteristics among French university students. *Therapies*. 2020. <https://doi.org/10.1016/j.therap.2020.02.019>.
12. Jamhour A, El-Kheir A, Salameh P, Hanna PA, Mansour H. Antibiotic knowledge and self-medication practices in a developing country: A cross-sectional study. *Am J Infect Control*. 2017; 45(4):384–388. pmid:28087169
13. Klein EY, Van Boeckel TP, Martinez EM, Pant S, Gandra S, Levin SA, et al. Global increase and geographic convergence in antibiotic consumption between 2000 and 2015. *PNAS*. 2018; 115(15): E3463–E3470 pmid:29581252
14. Lebanon Immigration Statistics 1960–2020. 2020 [Cited 2020 February 28]. Available from: <https://www.macrotrends.net/countries/LBN/lebanon/immigration-statistics>
15. Lebanon: Government must address medication shortages and healthcare crisis [Electronic resource]. – Mode of access: <https://www.amnesty.org/en/latest/news/2023/02/lebanon-government-must-address-medication-shortages-and-healthcare-crisis/>
16. Lebanon: Government must ensure medication is available and affordable [Electronic resource]. – Mode of access: <https://www.amnesty.org/en/documents/mde18/6410/2023/en/>
17. Mallah N, Badro DA, Figueiras A, Takkouche B. Association of knowledge and beliefs with the misuse of antibiotics in parents: A study in Beirut (Lebanon). *PLOS ONE*. 2020. 15(7): e0232464. <https://doi.org/10.1371/journal.pone.0232464>
18. Michelle P. An examination of awareness of over the counter non-steroidal anti-inflammatory drugs and adverse events. *UMI*. 2011; 9: 121–125.
19. O'Neill J. Tackling drug-resistant infections globally: final report and recommendations. 2016 [Cited 2019 February 23]. Available from: https://amr-review.org/sites/default/files/160525_Final%20paper_with%20cover.pdf.

20. Onchonga D. A Google Trends study on the interest in self-medication during the 2019 novel coronavirus (COVID-19) disease pandemic. *Saudi Pharm J*. 2020;28(7):903–904. doi: 10.1016/j.jsps.2020.06.007
21. Promoting rational use of medicines [Electronic resource]. – Mode of access: <https://www.who.int/activities/promoting-rational-use-of-medicines/>
22. Rago L. Benefits and risks of self-medication [Electronic resource]. – Mode of access: http://www.ill.ru/cgi-bin/form.news.prn.pl?c_article=589.
23. Ramia, E., Zeenny, R.M., Hallit, S. et al. Assessment of patients' knowledge and practices regarding their medication use and risks in Lebanon. *Int J Clin Pharm*. 2017. 39, 1084–1094. <https://doi.org/10.1007/s11096-017-0517-4>
24. Ryan AWS, Wilson S. Internet health care: do self-diagnosis sites do more harm than good? *Expert Opin Drug Safety*. 2008; 7(3):227–229. doi:10.1517/14740338.7.3.227
25. Saleh N, Awada S, Awwad R, Jibai S, Arfoul C, Zaiter L, et al. Evaluation of antibiotic prescription in the Lebanese community: a pilot study. *Infect Ecol Epidemiol*. 2015; 5:27094. pmid:26112266
26. Self-medication with over-the-counter analgesics: a survey of patient characteristics and concerns about pain medication / Els Mehuys, Geert Crombez, Koen Paemeleire, Els Adriaens, Thierry Van Hees, Sophie Demarche, Thierry Christiaens, Luc Van Bortel, Inge Van Tongelen, Jean-Paul Remon, Koen Boussery. *The Journal of Pain*. 2019. Vol. 20, Iss. 2. P. 215-223. <https://doi.org/10.1016/j.jpain.2018.09.003>
27. Sharif SI, Ibrahim OH, Mouslli LWR. Evaluation of self-medication among pharmacy students. *Am J Pharmacol Toxicol*. 2012;7(4):135–140
28. Siraj EA, Yayehrad AT, Kassaw AT, Kassahun D, Solomon E, Abdela H, Gizachew G, Awoke E. Self-Medication Prevalence and Factors Associated with Knowledge and Attitude Towards Self-Medication Among Undergraduate Health Science Students at GAMBY Medical and Business College, Bahir Dar, Ethiopia. *Patient Prefer Adherence*. 2022; 16: 3157-3172. <https://doi.org/10.2147/PPA.S390058>

29. US Food and Drug Administration. FDA cautions against use of hydroxychloroquine or chloroquine for COVID-19 outside of the hospital setting or a clinical trial due to risk of heart rhythm problems. July 1, 2020; <https://www.fda.gov/drugs/drug-safety-and-availability/fda-cautions-against-use-hydroxychloroquine-or-chloroquine-covid-19-outside-hospital-setting-or>.

30. World Health Organization. Coronavirus disease (COVID-19) advice for the public: mythbusters. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public/myth-busters>.

31. World Health Organization. The Role of the Pharmacist in Self-Care and Self-Medication. – 1998. – 17 p. [Electronic resource]. – Mode of access: <http://apps.who.int/medicinedocs/pdf/whozip32e/whozip32e.pdf>

32. Zahreddine L, Hallit S, Shakaroun S, Al-Hajje A, Awada S, Lahoud N. Knowledge of pharmacists and parents towards antibiotic use in pediatrics: a cross-sectional study in Lebanon. *Pharmacy Practice*. 2018;16(3):1194. pmid:30416621

33. Abdelwahed, A.E., Abd-elkader, M.M., Mahfouz, A. et al. Prevalence and influencing factors of self-medication during the COVID-19 pandemic in the Arab region: a multinational cross-sectional study. *BMC Public Health* 23, 180 (2023). <https://doi.org/10.1186/s12889-023-15025-y>

National University of Pharmacy

Faculty for foreign citizens' education
Department of social pharmacy

Level of higher education master`s

Specialty 226 Pharmacy, industrial pharmacy
Educational program Pharmacy

APPROVED
The Head of Department
of Social Pharmacy

Alina VOLKOVA
“28” of September 2022

ASSIGNMENT
FOR QUALIFICATION WORK
OF AN APPLICANT FOR HIGHER EDUCATION

Mohammad HAMADE

1. Topic of qualification work: « A study of the problem of self-medication in the population»,
supervisor of qualification work: Alina VOLKOVA, PhD, assoc. prof.,
approved by order of NUPh from “06th” of February 2022 № 35
2. Deadline for submission of qualification work by the applicant for higher education: April 2023.
3. Outgoing data for qualification work: data from scientific and periodic literature in accordance with the objectives of the study, reference books; WHO regulations.
4. Contents of the settlement and explanatory note (list of questions that need to be developed):
to analyze literary sources on the topic of the work, in particular, study the issue of self-medication of the population, its advantages and disadvantages; to determine the peculiarities of regulating self-medication in accordance with world experience and recommendations of international organizations; to analyze the peculiarities of the spread of self-medication by separate groups of medicines; to determine the role of pharmaceutical workers in implementing the concept of responsible self-medication and counteracting the irrational consumption of medicines by the country's population.
5. List of graphic material (with exact indication of the required drawings):
Tables – 1, figures – 11

6. Consultants of chapters of qualification work

Chapters	Name, SURNAME, position of consultant	Signature, date	
		assignment was issued	assignment was received
1	Alina VOLKOVA associate professor of higher education institution of department Social Pharmacy	30.09.2022	30.09.2022
2	Alina VOLKOVA, associate professor of higher education institution of department Social Pharmacy, Lubov TERESCHENKO, associate professor of higher education institution of department Social Pharmacy	15.11.2022	15.11.2022
3	Alina VOLKOVA, associate professor of higher education institution of department Social Pharmacy Lubov TERESCHENKO, associate professor of higher education institution of department Social Pharmacy	23.12.2022	23.12.2022

7. Date of issue of the assignment: «28» of September 2022.

CALENDAR PLAN

№	Name of stages of qualification work	Deadline for the stages of qualification work	Notes
1	Analysis of scientific, periodic literature on the topic of qualification work	October 2022	done
2	Study self-medication as a medical and social problem of modern society	November 2022	done
3	Research on the problem of self-medication in the population: Study of issues of normative and legal regulation of self-medication of the population. Study of the problem of self-medication of the population in the conditions of the coronavirus disease pandemic.	November – December 2022	done
4	Generalization of measures to promote responsible self-medication and rational use of medicines	January-February 2023	
5	Summary of the results of the study	March 2023	done
6	Finalizing the work, preparing the report	April 2023	done

An applicant of higher education

Mohammad HAMADE

Supervisor of qualification work

Alina VOLKOVA

ВИТЯГ З НАКАЗУ № 35
По Національному фармацевтичному університету
від 06 лютого 2023 року

нижченаведеним студентам 5-го курсу 2022-2023 навчального року, навчання за освітнім ступенем «магістр», галузь знань 22 охорона здоров'я, спеціальності 226 – фармація, промислова фармація, освітня програма – фармація, денна форма здобуття освіти (термін навчання 4 роки 10 місяців та 3 роки 10 місяців), які навчаються за контрактом, затвердити теми кваліфікаційних робіт:

Прізвище студента	Тема кваліфікаційної роботи	Посада, прізвище та ініціали керівника	Рецензент кваліфікаційної роботи
• по кафедрі соціальної фармації			
Хамаде Мохамед	Дослідження проблеми самолікування населення	A study of the problem of self-medication in the population	доц. Волкова А.В. доцент Бондарєва І. В.

Підстава: подання згідно згоди ректора

Ректор

Вірно. Секретар



ВИСНОВОК

**Комісії з академічної доброчесності про проведену експертизу
щодо академічного плагіату у кваліфікаційній роботі
здобувача вищої освіти**

№ 114041 від « 25 » травня 2023 р.

Проаналізувавши випускню кваліфікаційну роботу за магістерським рівнем здобувача вищої освіти денної форми навчання Хамаде Мохамед, 5 курсу, _____ групи, спеціальності 226 Фармація, промислова фармація, на тему: «Дослідження проблеми самолікування населення / A study of the problem of self-medication in the population», Комісія з академічної доброчесності дійшла висновку, що робота, представлена до Екзаменаційної комісії для захисту, виконана самостійно і не містить елементів академічного плагіату (копіляції).

**Голова комісії,
професор**



Інна ВЛАДИМИРОВА

1%

28%

REVIEW

of scientific supervisor for the qualification work of the master's level of higher education of the specialty 226 Pharmacy, industrial pharmacy

Mohammad HAMADE

on the topic: «A STUDY OF THE PROBLEM OF SELF-MEDICATION IN THE POPULATION»

Relevance of the topic. Self-medication can only include cases of self-use (without a doctor's prescription) of over-the-counter drugs, but in everyday life there are many cases of self-use of prescription drugs. Over-the-counter drugs are represented by various pharmacological groups, among them there is a sufficient number of drugs that can cause side effects, especially when used irrationally. Therefore, the issue of the rational use of drugs, the determination of measures that will allow managing the situation of irrational self-medication and keeping it under professional control, becomes relevant. And the key role in this process is given to the pharmaceutical worker, who is obliged to comply with certain professional requirements that ensure the safety of the use of over-the-counter drugs by the consumer.

Practical value of conclusions, recommendations and their validity. In the process of conducting the research, the student analyzed the experience of different countries of the world regarding the spread of self-medication among the population and its regulation. The results of the conducted analysis became the basis for determining the role of the pharmacist in responsible self-medication and developing relevant proposals.

Assessment of work. During the research a graduate student showed a creative approach to the solution of the tasks, diligently conducted research work, summarized and presented the results properly, which indicates the awareness of the problem and the proper level of its development. The work is carried out at a sufficient scientific level.

General conclusion and recommendations on admission to defend. In general, the qualification work of Mohammad HAMADE on the topic «A study of the problem of self-medication in the population» is performed at the proper level, meets the requirements of the "Regulations on the preparation and protection of qualification works at the National University of Pharmacy" and can be recommended for defense in the Examination commission.

Scientific supervisor
«6th» of April 2023

Alina VOLKOVA

REVIEW

**for qualification work of the master's level of higher education, specialty 226
Pharmacy, industrial pharmacy**

Mohammad HAMADE

**on the topic: «A STUDY OF THE PROBLEM OF SELF-MEDICATION IN
THE POPULATION»**

Relevance of the topic. Today, there is a trend in the world regarding the desire of citizens to take responsibility for ensuring their own health, in particular, disease prevention, identification and symptomatic treatment of diseases. And this problem has become especially acute in the conditions of the spread of the coronavirus disease, limited access to pharmaceutical care due to the isolation of the patient and the introduction of electronic trading of medicines. Under such conditions, the issue of responsible and rational self-medication of medicinal products becomes particularly relevant.

Theoretical level of work. The qualification work describes the main stages of the development of self-medication of the population and the formation of the concept of responsible self-medication in world practice.

Author's suggestions on the research topic. Based on the analysis carried out by the author, the role of the pharmaceutical worker in the modern conditions of the spread of self-medication among the population is determined, and approaches to the development of responsible self-medication of the population are also proposed.

Practical value of conclusions, recommendations and their validity. The results and conclusions can be used to improve the quality of pharmaceutical care provided by pharmacists and improve pharmaceutical care in conditions where the population most often uses drugs for self-medication.

Disadvantages of work. Minor typos and grammatical errors are present in the text.

General conclusion and assessment of the work. According to the relevance and the results of the research qualification work of Mohammad HAMADE on the topic «A study of the problem of self-medication in the population» meets the requirements for master's works and can be recommended for official defense in the Examination commission.

Reviewer

Associate professor Iryna BONDARIEVA

«13th» of April 2023

ВИТЯГ

**з протоколу засідання кафедри соціальної фармації
№ 12 від «20» квітня 2023 року**

ПРИСУТНІ: зав. каф. доц. Волкова А. В., доц. Кубарева І.В., доц. Овакімян О.С., доц. Болдарь Г.Є., доц. Корж Ю.В., доц. Терещенко Л.В., доц. Гавриш Н.Б., доц. Калайчева С.Г., ас. Пилюга Л.В., ас. Сєврюков О.В., ас. Сурікова І.О., ас. Тарасенко Д.Ю., ас. Ноздріна А.А

ПОРЯДОК ДЕННИЙ: Про представлення до захисту в Екзаменаційній комісії кваліфікаційних робіт.

СЛУХАЛИ: завідувачку кафедри доц. Волкову А. В. з рекомендацією представити до захисту в Екзаменаційній комісії кваліфікаційну роботу здобувача вищої освіти спеціальності 226 Фармація, промислова фармація Хамаде Мохамед на тему: «Дослідження проблеми самолікування населення»

Науковий керівник: к.фарм.н., доцент кафедри СФ Волкова А.В.

Рецензент: к. фарм. н., доцент кафедри ФММ Бондарева І.В.

ВИСТУПИЛИ: доц. Корж Ю.В., доц. Кубарева І.В., доц. Овакімян О.С., висловили рекомендації до кваліфікаційної роботи Хамаде Мохамед

УХВАЛИЛИ: Рекомендувати до захисту в Екзаменаційній комісії кваліфікаційну роботу здобувача вищої освіти Хамаде Мохамед на тему: «Дослідження проблеми самолікування населення»

Завідувачка каф. СФ, доцент _____ Аліна ВОЛКОВА

Секретар, асистент _____ Альміра НОЗДРІНА

НАЦІОНАЛЬНИЙ ФАРМАЦЕВТИЧНИЙ УНІВЕРСИТЕТ

ПОДАННЯ ГОЛОВІ ЕКЗАМЕНАЦІЙНОЇ КОМІСІЇ ЩОДО ЗАХИСТУ КВАЛІФІКАЦІЙНОЇ РОБОТИ

Направляється здобувач вищої освіти Мохамед ХАМАДЕ до захисту кваліфікаційної роботи за галуззю знань 22 Охорона здоров'я спеціальністю 226 Фармація, промислова фармація освітньою програмою Фармація на тему: «Дослідження проблеми самолікування населення».

Кваліфікаційна робота і рецензія додаються.

Декан факультету _____ / Світлана КАЛАЙЧЕВА /

Висновок керівника кваліфікаційної роботи

Здобувач вищої освіти Мохамед ХАМАДЕ під час виконання кваліфікаційної роботи опрацював достатню кількість літературних джерел, а також проаналізував аналітичну інформацію з досліджуваних питань, продемонстрував уміння працювати з науковими даними, проводити їх узагальнення, аналізувати та узагальнювати результати дослідження. Усі поставлені завдання відповідно до мети роботи було виконано у повному обсязі. Результати дослідження належним чином оброблені і представлені у вигляді таблиць і рисунків.

Таким чином, кваліфікаційна робота може бути рекомендована до офіційного захисту в Екзаменаційній комісії Національного фармацевтичного університету.

Керівник кваліфікаційної роботи

Аліна ВОЛКОВА

«06» квітня 2023 р.

Висновок кафедри про кваліфікаційну роботу

Кваліфікаційну роботу розглянуто. Здобувач вищої освіти Мохамед ХАМАДЕ допускається до захисту даної кваліфікаційної роботи в Екзаменаційній комісії.

Завідувачка кафедри
соціальної фармації

Аліна ВОЛКОВА

«20» квітня 2023 р.

Qualification work was defended
of Examination commission on

« ____ » _____ 2023

With the grade _____

Head of the State Examination commission,

DPharmSc, Professor

_____ / Oleh SHPYCHAK /