


The Abuse and Misuse of Over-the-Counter Medicines During COVID-19

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Abstract

The abuse and misuse of OTC medicines is a common problem in community pharmacies and is expected to escalate during the COVID-19 pandemic. However, there is limited research on the patterns, causes, and consequences of these incidents during the pandemic. This article aims to provide evidence-based insights into the potential impact of COVID-19 on the abuse and misuse of OTC medicines, and suggest strategies for reducing these occurrences for pharmacy practitioners and healthcare managers.

Keywords

drug/medical use evaluation, drug interactions, medication safety

Introduction

Over-the-counter (OTC) medicines are dispensed to patients without a physician's prescription. They are commonly used for a broad range of minor illnesses, including but not limited to headache, cold, musculoskeletal pain, and heartburn.¹ The safety profile of OTC medicines is reassuring; however, these medicines are not harmless, and the abuse of OTC medicines, which means using them for nonclinical purposes, can lead to severe complications, such as addiction and even death.² Additionally, misuse of OTC medicines, which occurs when these medicines are used for medical purposes and with honest intentions but in the wrong manner, can induce adverse clinical outcomes.²

The outbreak of coronavirus disease 2019 (COVID-19) has influenced the global utilization of medicines and the prevalence of self-medication, especially in its early stages, for there were no approved medicines or vaccines for the management of the disease.^{3,4} More specifically, because the symptoms of the infection included cough, fever, fatigue and headache, the utilization of OTC medicines has been sharply increased during the pandemic.³ Additionally, the affordability of OTC medicines, fear of contracting the infection, and fear of quarantine could trigger the consumption of OTC medicines during the pandemic.³ Furthermore, the inability to seek medical care due to financial or logistic obstacles could drive people to use OTC medicines.³

The first step toward preventing the abuse and misuse of OTC medicines in times of pandemics is understanding the etiology and epidemiology of these behaviors. The objective of this article is to provide more precise insights toward the impact of COVID-19 on the abuse and misuse of OTC medicines and discuss potential prevention strategies. While

there have been studies evaluating the patterns and nature of substance use during the pandemic, very few have studied the abuse and misuse of OTC medicines. This commentary will bring the attention of health authorities and health personnel to the importance of safe OTC medicine distribution and use in times of pandemics. Furthermore, it will suggest potential strategies for reducing the abuse and misuse of OTC medicines.

Drivers of OTC Medicine Abuse During COVID-19

There is a scarcity of research concerning the abuse of OTC medicines during the COVID-19 pandemic. Nonetheless, there are several reasons to believe that OTC medicine abuse has increased during the pandemic. First, the implementation of remote healthcare services in developed and developing countries, especially online ordering of medications, has been globally accelerated.⁵ This could make OTC medicines more accessible⁶ and identifying their abuse even more challenging. For example, in community pharmacies that operate remote services, the pharmacy staff could be unsighted because the look and behavior of customers are crucial in

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detecting people with intentions to abuse medicines.¹ Adopting telepharmacy services has eased access to care during the pandemic.⁶ Still, in many countries, on the other hand, these services were not sophisticated and did not comprise early warning systems that can notify pharmacists about individuals with a history of drug abuse or suspicious behaviors. Second, the COVID-19 pandemic has brought stress, fear of infection and isolation, sorrow, loneliness and financial worries to many people and has caused a 25% increase in the global prevalence of mental problems such as depression, anxiety, and stress.⁷ Given the association between these problems and drug abuse,^{8,9} OTC medicine abuse is expected to occur more frequently. Third, poor pharmacovigilance legislation. While several voices from global healthcare organizations have called for monitoring and controlling the use of psychotropic medications, alcohol, and other substances during COVID-19,^{10,11} very few have warned health authorities to put more regulatory restrictions on OTC medicine dispensing and distribution.¹⁰ In response to the COVID-19 pandemic, many healthcare regulatory changes concerning the integration of information technology, roles of clinicians, and developing vaccines have been noticed worldwide. However, despite the indicators suggesting an increase in the abuse of OTC medicines, there have been inadequate policies mapping the dispensing and selling of these medicines. OTC medicines have become more accessible during the pandemic. Lastly, a lack of understanding and recognition of the dangers of OTC medicine abuse is a crucial factor that contributes to its occurrence. This issue is especially relevant during the COVID-19 pandemic, where there is a shortage of healthcare personnel and travel restrictions that limit access to information and resources. The limited availability of medical staff and resources exacerbates the challenge of raising awareness about the harmful effects of OTC medicine abuse, making it imperative that educational initiatives be implemented to address this critical issue.

Drivers of OTC Medicine Misuse During COVID-19

No studies have evaluated the rate, types, and severity of OTC medicine misuse in COVID-19. Nonetheless, evidence indicates that self-medication practice has been substantially triggered by COVID-19.^{12,13}

Despite the heterogeneity in findings, a recent systematic review and meta-analysis found that the prevalence of self-medication was 44.8% amidst the COVID-19 pandemic.¹⁴ Another review indicated that the prevalence of self-medication during the pandemic ranged between 33.9% and 51.3%.³ Specifically, antipyretics, antihistamines, cough suppressants, and vitamins were used by individuals without medical supervision to manage a broad range of symptoms, including fever, fatigue, nasal congestion, and cough.^{3,14,15}

The impact of COVID-19 on self-medication practice can be explained in several ways.¹⁴ First, lack of access to

healthcare, especially in the first wave of the pandemic, in which hospital consultations were restricted. Second, fear of contracting the virus could reflect a lack of confidence in preventative measures. Third, unavailability of physicians either due to crowding or being infected. Fourth, COVID-19-related misinformation on social media,¹⁶ and fifth, accessibility of medicines after the large-scale implementation of online drug ordering and home delivery of medication worldwide.

It has been established that the misuse of OTC is one of the major risks of self-medication.¹⁷ Specifically, people who self-mediate could have poor knowledge about the therapeutic dose, frequency, and duration of OTC medications, which may result in either a delay in treating a severe illness or adverse events.^{14,17} Additionally, using OTC medicines without medical diagnosis and supervision may mask the symptoms of a severe health problem.¹⁴ Furthermore, because several studies indicated that in many cases, self-medication was initiated based on a suggestion from a friend or a family,¹⁴ we expect that individuals who self-mediate may share their experiences with others, leading to the further spread of misuse of OTC medicines. Another concern regarding the risks of misuse when OTC medicines are self-medicated includes potential drug-drug interactions, particularly in older patients due to polypharmacy and polymorbidity.¹⁸

The conflicting evidence on COVID-19 therapy and management, especially in the first period of the pandemic, could increase the risk of OTC medicine misuse. For example, the use of non-steroidal anti-inflammatory drugs (NSAIDs) and vitamin D in COVID-19 patients has been debated.^{19,20} The mixed reports on COVID-19 management could spread rumors and misinformation among the public leading to confusion, hesitation, and lack of trust in healthcare, and ultimately fuel OTC self-medication and the risk of misuse. Other COVID-19-related factors that could trigger the misuse of OTC medicines include increased stress, anxiety, and panic.^{21,22} Health insurance loss due to job and income loss during the pandemic could also increase the misuse of OTC medicines by disconnecting people from their health professionals.²³

Reducing the Abuse and Misuse of OTC Medicines in Times of Pandemics

Many strategies, summarized below and listed in Table 1, that can be adopted to minimize the abuse and misuse of OTC medicines are designed to manage the underlying variables triggered by a pandemic. These variables include the deterioration of mental health, lack of access to healthcare, irrational use of information technology, the spread of misinformation and rumors, poor knowledge, and confusion. However, the effectiveness of these strategies has not been adequately addressed during a pandemic because the abuse and misuse of OTC medicines have not been a research priority, and some of these strategies cannot be implemented without regulatory changes and legislation, which limits their impact.

Table I. Strategies to Reduce the Abuse and Misuse of OTC Medicines During Pandemics.

Strategies	Reducing the abuse of OTC medicines	Reducing the misuse of OTC medicines
Activating and updating pharmacovigilance systems	✓	✓
Appropriate relocation of resources and personnel	✓	✓
Open and maintain communication channels between healthcare providers and patients	✓	✓
Using social media on a large scale to fight misinformation and rumors	✓	✓
Integrate mental health services into health preparedness plans	✓	✓
Education of patients on the appropriate use of OTC medicines	✓	✓
Ensuring the mental health facilities remain open during pandemics	✓	✓
Implementation of early warning systems in community and hospital pharmacies	✓	×
Reasonable restrictions on the online dispensing of OTC medicines	✓	×
Training healthcare professionals on identifying the abuse of OTC medicine	✓	×
Legislation permitting a pharmacist to examine the history of mental problems of individuals with suspicious behaviors before dispensing OTC medicines	✓	×
Awareness-raising campaigns on the consequences of OTC medicine abuse	✓	×

Early warning tools that enable pharmacists and other professionals to monitor patients’ OTC medicine dispensing history could assist in identifying potential abuse. However, the Real Time Prescription Monitoring (RTPM) systems that have been adopted in Canada, Australia, and the United States only monitor controlled medicines, and mixed data are available regarding the effectiveness of these systems in reducing the abuse of drugs.^{24,25} Therefore, the extension of RTPM systems to include OTC medicines could help identify those patients at risk of OTC medicine abuse.

Health systems should improve communication channels between healthcare providers and patients, especially during pandemics. Because the world is changing, communication channels should be continuously updated. Health systems can use social media websites to maintain patient-provider relationships and oppose rumors and misinformation.²⁶ Being easily connected with a reliable source of information regarding medication use could minimize the misuse of OTC medicines.

Given the significant impact of pandemics on people’s mental health and the association between mental problems and irrational use of medicines, mental health services should be continued and widely adopted in times of pandemics. This calls for mobilizing additional funds for mental health programs and increasing access to mental health services by creating online platforms for delivering mental health services.²⁷

Poor knowledge about medicine use and the consequences of irrational use could drive people to abuse and misuse OTC medicines.¹⁷ Therefore, patient education is a promising strategy to prevent these events. However, the COVID-19 pandemic restricted face-to-face communication between patients and their health professionals. Several studies indicated that to meet these challenges, the role of community pharmacists should be extended to include more patient-focused roles, including patient education about medication use and safety.²⁸ Other studies suggested virtual education as an alternative to in-person education.²⁹

Conclusion

With the substantial increase in the prevalence of self-medication of OTC medicines during the pandemic, the patterns of abuse and misuse of these medicines could be increased. Maintaining people’s mental health, patient education about medication use and adverse events, minimizing misinformation and rumors, and improving access to healthcare in a pandemic are recommended to be implemented in a multifactorial strategy for the prevention of abuse and misuse of OTC medicines in a pandemic.

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Author Contribution Statement

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