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Frequency of Outpatient Inhalers Prescriptions in Riyadh

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Authors' contributions

This work was carried out in collaboration between both authors. Author NJA designed the study, managed the literature searches, wrote the protocol and wrote the first draft of the manuscript. Author MFK managed the analyses of the study and performed the statistical analysis. Both authors read and approved the final manuscript.

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ABSTRACT

Background: Community pharmacists help patients in making informed decisions about their treatment and prevent the problems that could be developed from self-medication. The maintenance therapy with inhaled medications is the keystone of pharmacotherapy in many respiratory diseases such as asthma and chronic obstructive pulmonary disease.
Aim: The aim of the present study was to explore the frequency of inhalers dispensing in Riyadh.
Methodology: This was a cross-sectional, observational study carried out in Riyadh city to analyze the prescriptions in outpatient pharmacies.
Results and Discussion: The total number of prescriptions is 198 prescriptions that include 650 different medications. Out of the 650 medications, the majority were in the form of a tablet (61.7%), followed by capsules. The present study showed that the use of inhalers was uncommon in Riyadh. Out of 650 drugs, 27 drugs were available as inhalers (4.15%). Out of 27 Inhalers, Ventolin inhalers is the most prescribed (48.14%), followed by Seretide Evohaler (29.62%) and Symbicort Turbuhaler (22.2%).

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Conclusion: Although there is a high prevalence of respiratory diseases, inhaler prescriptions and dispensing aren't common. This may be due to the use of these inhalers as OTC drugs. The role of pharmacists should be to dispense the regular medications only by prescriptions and to counsel patients about the information regarding the use of inhalers.

Keywords: Outpatient; inhalers; prescriptions; Riyadh.

1. INTRODUCTION

Community pharmacists commonly help patients in making the appropriately informed decisions about their therapy and prevent the problems that could be developed from self-medication. The appropriate dispensing processes of medicines prescription or over the counter (OTC) medications require more attention to patients' needs than on medication marketing [1].

Studies report that the public considers pharmacists who work in community pharmacies are an accessible and reliable source of information, mainly in the case of using OTC medicines and in minor diseases. Moreover, they are generally accepted as qualified health care professionals and medication experts [2-4].

Asthma and chronic obstructive pulmonary disease (COPD) [5,6] are common reasons for mortality and morbidity. Management of these two diseases requires consistent administration of several medications through inhalation [7,8].

Globally, it is estimated that in 2016 there were 251 million cases of COPD, with the number of cases likely to increase with increasing the age of populations and increasing the number of smokers [9-12].

Inhaled maintenance medications are the cornerstone of pharmacotherapy in different respiratory diseases such as asthma and chronic obstructive pulmonary disease. The major two classes of inhaled medication that are usually used include corticosteroids (ICS) and bronchodilators [13].

Typically, in patients with asthma, inhaled corticosteroids and long-acting β-agonists are used regularly, with short-acting β-agonists (SABAs) used as rescue therapy only when needed [14-16]. In COPD, both long-acting β-agonists and long-acting muscarinic antagonists have been used alone or in combination [17,18].

Inhaler medications generally should be given by prescriptions and not as OTC. Moreover, the physician should diagnose the disease and determine the stage of it before choosing the medications. So it isn't rational to dispense these medications without prescriptions. The objective of this study was to explore the frequency of dispensing inhalers in the prescriptions of outpatient pharmacies in Riyadh.

2. METHODOLOGY

The study was conducted in Riyadh, Saudi Arabia. The community pharmacies were randomly selected and data was collected from the pharmacies in Riyadh. This cross-sectional, observational study was designed to analyze the prescriptions in outpatient pharmacies in Riyadh. The prescriptions were analyzed to demonstrate the number of prescribed inhalation drugs. The study investigator contacted the selected pharmacies in the Riyadh region and, explained to the pharmacists the study objectives, and assured them the complete confidentiality of the patient.

The collected data was analyzed and calculated as frequencies and percentages for the total number of prescriptions, the total number of drugs prescribed in each prescription, the total number of inhalers prescribed for the treatment of asthma and the most dispensed inhalers.

3. RESULTS AND DISCUSSION

A total number of 198 prescriptions were evaluated in the different pharmacies in Riyadh. There was a total number of 650 medication has been prescribed. Amongst them there were 68 prescriptions contain 2 drugs, 62 prescriptions contain 3 drugs, 38 prescriptions contain 4 drugs and 30 prescriptions contain more than 4 drugs respectively. The total distribution of prescription is shown in Table 1.

Table 1. Total number of prescriptions

Number of drugs prescribed	Number of prescriptions
2 drugs	68
3 drugs	62
4 drugs	38
More than 4 drugs	30

Table 2. Number of the dosage forms of the drugs

Tablet	Capsule	Liquid -orally	Topical	Drops	Injections	Inhalers	Others
401	56	27	39	55	38	27	7

Table 3. Number of Inhalers in the prescriptions

Ventolin inhaler	Seretide evohaler	Symbicort turbhaler
13	8	6

The prescription drugs were categorized on the basis of different dosage forms, Out of the 650 medications , the majority were in the form of tablet (61.7%), followed by capsules, drops (such as eye, ear, nasal and oral drops), topical dosage forms (such as creams, gels, lotions, ointments), injection dosage forms (such as syringe, pens, vials and ampules), inhalers and liquid dosage forms that were given orally (such as syrups, solutions and suspensions).

The distribution of the number of dosage forms of the drugs is shown in Table 2.

Amongst the 650 drugs, 27 drugs were available as inhalers (4.15%). The number of different inhalers dispensed is shown in Table 3.

In the present study from out of 27 Inhalers, Ventolin inhalers which include Albuterol was the most prescribed (48.14%), followed by Seretide Evohaler which includes salmeterol/fluticasone propionate (29.62%) and Symbicort Turbuhaler which includes budesonide; formoterol fumarate dihydrate (22.2%). The same has been reported in other studies the many delivery systems are available for medications approved for asthma treatment: oral tablets, nebulizers, MDIs, and dry powder inhalers (DPIs) but Inhalers are the most common delivery system for asthma medications.

Ventolin is given as needed but the other inhalers are given regularly. Therefore it is rational to dispense Ventolin more than other inhalers. For the treatment of Asthma inhalers are one of the most common devices for the delivery of medications.

The overall use of inhalers in the prescriptions was 4.15%. This is not consistent with the high prevalence rate of asthma. A national Saudi household survey was conducted in 2013 estimated that the self-reported clinical diagnosis of asthma to be 4.05% [19]. Another survey using the European Community Respiratory Health Survey questionnaire carried out in Riyadh among a total of 2405 Saudi people aged between 20–44 years showed that the prevalence of physician-diagnosed asthma reported was 11.3% [20]. Regarding COPD, the overall prevalence of COPD in Saudi Arabia is 4.2% [21].

It was reported in our study also the maximum number of prescriptions was albuterol. The same has been reported in another study, the Use of Albuterol inhaler is the most effective treatment for providing prompt relief from worsening asthma symptoms and is recommended for home use [22].

These results may happen due to the use of some inhalers as OTC and this is wrong because the majority of these medications should be prescribed by physicians. Additionally, George Schiffman reported that the OTC medications that are available to treat bronchospasm have little, if any, the effect on airway inflammation. It is not suitable to use OTC asthma drugs unless prescribed by a physician knowledgeable in the management of asthma [23].

4. CONCLUSION

Although there is a high prevalence of respiratory diseases, the inhalers prescribing and dispensing aren't common. This may be due to the use of some of these inhalers as OTC drugs. The role of pharmacists should be to dispense the regular medications only by prescriptions and to counsel patients about the information regarding the use of inhalers. Moreover, the pharmacists should attend continuous medical information courses regarding the appropriate use of inhalers.

CONSENT

As per international standard or university standard, patients' consent has been collected and preserved by the authors.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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