

Original Research Article

Guaifenesin Use in a government hospital in Al-Kharj

ABSTRACT

Aim: The present study aimed to describe the pattern of using guaifenesin in a government hospital in Al-kharj.

Methodology: This is a retrospective cross-sectional study that was conducted in a government hospital in Al-Kharj. Prescription data was collected from outpatient electronic records.

Results: During the study period, 519 patients received guaifenesin syrup from the outpatient pharmacy of the government hospital. Most of the patients who used guaifenesin syrup were males (66.09%) and more than half of them were in the age group between 20-39 years old (55.10%). All of the prescriptions were written by residents (100%) and most of guaifenesin prescriptions were prescribed by emergency department (96.15%).

Conclusion: The present study showed that guaifenesin was frequently used in Al-kharj. Additional studies are needed to describe the frequency and pattern of using guaifenesin in different settings and also to describe the pattern of using other cough/cold medications.

KEYWORDS: Guaifenesin, Outpatient, Pattern, Use.

INTRODUCTION

Expectorant is a medicine that helps bring up mucus and other material from the lungs, trachea, and bronchi [1]. Guaifenesin is one of the expectorants that promote drainage of mucus from the lungs by thinning the mucus, and lubricate the irritated respiratory tract [1].

Guaifenesin is an ingredient in numerous over-the-counter cough/cold medications. Furthermore, it has a secondary indication for use in stable chronic bronchitis [2]. Guaifenesin approved formally by the Food and Drug Administration (FDA) in 1952 and it is the only expectorant on the market in the United States that FDA have approved [3,4]. It comes alone and in combination with other cough suppressants, antihistamines, and decongestants [5].

Generally, cough and cold products have not been shown to be safe or effective in children [6]. Nonprescription cough and cold combination products that include medications such as guaifenesin, can cause serious side effects or death in young children. So, children younger than 4 years of age should not use these products [5].

The main side effects of using guaifenesin include headache, dizziness, skin rash, vomiting, and nausea [7,8]. Moreover, guaifenesin may interact with other drugs including other over-the-counter medicines, prescription medicines, herbal products, and vitamins [9].

There are few studies about the frequency and pattern of using guaifenesin in Al-kharj. So, the present study aimed to describe the pattern of using guaifenesin in a government hospital in Al-kharj.

METHODOLOGY

This is a retrospective cross-sectional study that was conducted in a government hospital in Al-Kharj. Prescription data was collected from outpatient electronic records.

The patients who received guaifenesin in the outpatient department between 1st of January till the end of June 2018 were included. So, the inpatient records and the medical records of patients who didn't receive guaifenesin were excluded from the present study.

The study was approved by the ethical committee in the hospital with a log number 20-131E. The data then were collected using Excel sheet from the medical records. After that, the data were analyzed and the results were represented as percentages and numbers.

RESULTS and DISCUSSION

During the study period, 519 patients received guaifenesin syrup from the outpatient pharmacy of the government hospital. Most of the patients who used guaifenesin syrup were males (66.09%) and more than half of them were in the age group between 20-39 years old (55.10%). The personal data of the patients are shown in table 1.

Table 1. The personal data of the patients.

Variable	Category	Number	Percentage
Gender	Female	176	33.91
	Male	343	66.09
Age	4-10	11	2.12
	10-19	82	15.80
	20-29	184	35.45
	30-39	102	19.65
	40-49	55	10.60
	50-59	54	10.40
	60-69	15	2.89
	More than 69	16	3.08
Nationality	Saudi	424	81.70
	Non- Saudi	95	18.30

Table 2 shows the duration of use of guaifenesin syrup. Most of the patients used guaifenesin for 5 days (50.48%) or for 7 days (37.38%).

Table 2. The duration of use of guaifenesin syrup.

Duration	Number	Percentage
3 Days	31	5.97
4 Days	32	6.17
5 Days	262	50.48
7 Days	194	37.38

Table 3 shows the number of guaifenesin prescriptions from January/2018 to June/2018. Most of the prescriptions were prescribed in February (24.28%), January (23.12%) and March (18.88%).

Table 3. The number of guaifenesin prescriptions in different months.

Month	Number	Percentage
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January	120	23.12
February	126	24.28
March	98	18.88
April	82	15.80
May	49	9.44
June	44	8.48

Table 4 shows the level of the prescribers who prescribed guaifenesin. All of the prescriptions were written by residents (100%).

Table 4. The level of the prescribers.

Prescribers Level	Number	Percentage
Specialist	0	0.00
Resident	519	100.00
Consultant	0	0.00

Table 5 shows the departments that prescribed guaifenesin. Most of guaifenesin prescriptions were prescribed by emergency department (96.15%).

Table 5. Prescribing departments.

Department	Number	Percentage
Emergency	499	96.15
Chest	5	0.96
Cardiology	1	0.19
Internal Medicine	5	0.96
Nephrology	9	1.74
Total	519	100

The prescribing of guaifenesin was common in Al-kharj. It is commonly found as part of over-the-counter combination medications to treat allergy, flu, cough, and cold [9-11]. Albrecht et al reported that guaifenesin is a common ingredient in prescription and over-the-counter medicines for respiratory conditions [2]. Furthermore, Caporusio stated that the most commonly available expectorant in over-the-counter (OTC) medications is guaifenesin [4,12-14].

Most of the patients used guaifenesin for 5 days or for 7 days. It is used usually used for several days to treat cough and If the medication is ineffective, or used for more than 7-10 days the patient should be referred to his prescriber [15,16].

Several patients who visited emergency department from different age groups have cough, so it is rational that more than 96% of the prescriptions that contained guaifenesin in the present study were prescribed by emergency department.

In the present study, all of the prescribers who prescribed guaifenesin were residents and this is rational also because it is an over-the-counter medicine and is generally safe so it could be prescribed by residents.

The main limitation for the study was that the outpatient electronic files contained information about the medications and the laboratory results but the files didn't contain information about the diagnosis and the past medical history of the patient.

CONCLUSION

The present study showed that guaifenesin was frequently used in Al-kharj. Additional studies are needed to describe the frequency and pattern of using guaifenesin in different settings and also to describe the pattern of using other cough/cold medications.

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