

## Original Research Article

### Bromhexine use in the Outpatient Department in a Public Hospital in Al-Kharj

#### ABSTRACT

**Aim:** This study was conducted to demonstrate the prescribing pattern of bromhexine in a public hospital in Alkharj.

**Methodology:** This is a retrospective study included evaluating outpatient antibiotic prescriptions from 1<sup>st</sup> of January/2018 to 30<sup>th</sup> of June/2018 in a public hospital Al-kharj. The collected data were the personal data of the patients, the prescribing' departments, the duration of bromhexine use, and the level of the prescribers.

**Results:** Most of the patients were in the age group of 20-29 (32.35%) followed by 10-19 (20.59%). About 73.53% of the prescriptions were written by emergency department followed by chest department (20.59%). All of the prescriptions were written by residents. Most of the patients used bromhexine for 5 days (76.47%) followed by 1 week (20.59%).

**Conclusion:** The present study showed that bromhexine use in the outpatient setting was uncommon. More studies are needed to explore the frequency of prescribing other mucolytic agents.

**Keywords:** Bromhexine, Mucolytic, outpatient, prescribing,

#### INTRODUCTION



Mucolytics are medications that make the mucus less thick and sticky and easier to cough up [1]. These agents are usually prescribed for patients who have a chronic cough such as patients with chronic obstructive pulmonary disease (COPD) and patients with cystic fibrosis [1]. Mucolytics exert their effect on the mucus layer lining the respiratory tract with the motive of enhancing its clearance [2].

Bromhexine is an over the counter medicine that is used to manage cough and chest congestion [3]. This medicine comes in a liquid form and a tablet form. The use of bromhexine could cause several side effects include rash, nausea, diarrhea, pain, and vomiting [3].

The outpatients setting provides services or treatments for patients who don't require hospitalization. The location itself doesn't define whether each patient is an outpatient or inpatient. The duration of stay, not the type of establishment, determines patients' status [4].

In order to promote the rational prescription pattern and to improve the prescription quality, there is a need to explore the different factors that affect prescribers' prescribing patterns. This study was conducted to demonstrate the prescribing pattern of bromhexine in a public hospital in Alkharj.

## **METHODOLOGY**

This is a retrospective study included evaluating outpatient antibiotic prescriptions from 1<sup>st</sup> of January/2018 to 30<sup>th</sup> of June/2018 in a public hospital Al-kharj.

The data were collected in the first half of 2018 from January to June after getting the IRB committee Approval. The collected data were the personal data of the patients, the prescribing' departments, the duration of bromhexine use, and the level of the prescribers.

The data were collected and analyzed using Microsoft Excel Spreadsheet and the descriptive data were represented by numbers and after that the percentages were calculated for each variable.

## **RESULTS and DISCUSSION**



During the study period from Jan/2018 till June/ 2018, only 34 patients received bromhexine. More than 85% of the patients were male patients. Most of the patients were in the age group of 20-29 (32.35%) followed by 10-19 (20.59%). Table 1 shows the personal data of the patients who used bromhexine during the study period.

**Table 1.** The personal data of the patients.

Variable	Category	Number	Percentage
Gender	Male	29	85.29
	Female	5	14.71
Age	10-19	7	20.59
	20-29	11	32.35
	30-39	5	14.71
	40-49	4	11.76
	50-59	1	2.94
	60-69	2	5.88
	More than 70	4	11.76
Nationality	Saudi	30	88.24
	Non- Saudi	4	11.76

Table 2 shows the departments that wrote bromhexine prescriptions. About 73.53% of the prescriptions were written by emergency department followed by chest department (20.59%).

**Table 2.** The prescribing' departments.

Department	Number	Percentage
Chest	7	20.59
Cardiology	1	2.94
Emergency	25	73.53
Nephrology	1	2.94

Table 3 shows the duration of bromhexine use. Most of the patients used bromhexine for 5 days (76.47%) followed by 1 week (20.59%).

**Table 3.** The duration of bromhexine use.

Duration	Number	Percentage
2 Weeks	1	2.94
1 week	7	20.59
5 Days	26	76.47

Table 4 shows the level of the prescribers who prescribed bromhexine. All of the prescriptions were written by residents.

**Table 4.** The level of the prescribers.

Prescribers Level	Number	Percentage
Specialist	0	0.00
Resident	34	100.00



Consultant	0	0.00
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More than half of the patients were less than 30 years and were male patients. Most of these patients used bromhexine for 5 days. Bromhexine should be used for several days and if the patients need it for long period, he should use it under medical supervision [5]. Saudi Food and Drug Authority stated that the duration of treatment should be determined on an individual basis depending on the indication and the course of the disease and that bromhexine tablets should not be taken for more than 4 - 5 days without medical advice [6].

All of the prescriptions that include bromhexine were written by residents and this is rational because bromhexine is an over the counter medicine. Bromhexine is generally safe but could cause an occasional and mild side effects such as dizziness, bloatedness, headache, indigestion, diarrhea, nausea, sweating and skin rashes [7]. Nonetheless, it can cause some serious side effects and can lead to some serious health problems [8]. Bhagat and Rachana reported that bromhexine is generally well tolerated and can also be given to children of different ages [9]. Moreover, Bürgi reported that this compound is accepted well as it has a low level of toxicity [10].

Most of the prescriptions were written by emergency department followed by chest department and this is rational because it is a mucolytic used mainly for patients with respiratory conditions and these conditions are common in emergency and chest department. Previous studies informed that bromhexine is used as a secretolytic expectorant for the effective treatment of cough with phlegm [11,12]. Additionally, bromhexine also has antioxidant properties used in upper as well as lower respiratory tract infections such as broncho-pneumonia, bronchiectasis, acute and chronic bronchitis, sinusitis, mixed respiratory conditions, diseases like allergic asthma, and obstructive airway diseases that are complicated by infections. [13-20].

## CONCLUSION

The present study showed that bromhexine use in the outpatient setting was uncommon. This could be due to the availability of several alternative to bromhexine. More studies are needed to explore the frequency of prescribing other mucolytic agents.

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