The Outpatient Prescribing Pattern of Hyoscine-N-Butylbromide in Alkharj

Nehad J. Ahmed\textsuperscript{1}\textsuperscript{*} and Menshawy A. Menshawy\textsuperscript{2}

\textsuperscript{1}Department of Clinical Pharmacy, College of Pharmacy, Prince Sattam Bin Abdulaziz University, Alkharj, Saudi Arabia.

\textsuperscript{2}Department of Medicinal Chemistry, College of Pharmacy, Prince Sattam Bin Abdulaziz University, Alkharj, Saudi Arabia.

Authors’ contributions

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

ABSTRACT

Objective: This study aims to assess the prescribing pattern of hyoscine butylbromide in outpatient department in Al Saih.

Methods: This is a cross-sectional study that was conducted in in Al Saih city. The data were collected from electronic records retrospectively in the outpatient setting of a public hospital.

Results: A total of 784 patients received hyoscine butylbromide during the study period. More than half of the patients were in the age level of 20-39 years (51.53%). Hyoscine-N-Butylbromide was prescribed mainly as a tablet (91.71%) followed by syrup (7.91%). Most of the prescriptions were written by the emergency department (96.17%).

Conclusion: The present study showed that hyoscine butylbromide was commonly prescribed. It was uncommonly prescribed to elderly patients. A continuous assessment of its prescribing is required to prevent its adverse events and drug interactions.

*Corresponding author: E-mail: n.ahmed@psau.edu.sa, pharmdnehadjaser@yahoo.com;
Keywords: Gastrointestinal drugs; hyoscine butylbromide; outpatient; prescribing pattern.

1. INTRODUCTION

Antispasmodics are drugs that relieve, prevent, or lower muscle spasms, especially those of smooth muscle such as in the wall of the bowel [1]. They are a broad group of drugs that act on acetylcholine; a neurotransmitter [2].

Hyoscine butylbromide was first marketed in 1952 in Germany, and has since become available globally; as a prescription drug in some countries and as an over-the-counter medicine in many countries [3]. Hyoscine butylbromide is an antimuscarinic antispasmodic that relieves painful stomach cramps, including those linked with irritable bowel syndrome. It can also be used for period pain and bladder cramps and available as a tablet dosage forms [4,5]. This medicine works very quickly and may cause an effect within 15 minutes. It rarely causes side effects, but in some patients it may cause a dry mouth, blurred vision and constipation [5].

Inappropriate prescribing is highly prevalent and has become a worldwide healthcare problem because of its association with several negative health outcomes including hospitalization, adverse drug events and healthcare resource utilization [6]. The inappropriate prescribing of drugs impacts on health and economy of individual and the society negatively [7].

It is important to ensure that the medications are prescribed correctly; especially the most common prescribed drugs such as hyoscine butylbromide. Therefore, this study aims to assess the prescribing pattern of hyoscine butylbromide in out-patient department in Al Saih.

2. METHODOLOGY

This is a cross-sectional study that was conducted in Al Saih city. Al Saih is located in the southeast of the capital Riyadh. Prescription data was collected from electronic records retrospectively in the outpatient setting of a public hospital.

All patients who received hyoscine butylbromide between 1st of July till the 31st of December 2018 in the outpatient setting were included. So, the medical records of patients who didn’t receive hyoscine butylbromide and the records of patients in inpatient and other settings were excluded from the study.

3. RESULTS AND DISCUSSION

A total of 784 patients received hyoscine butylbromide during the study period. Most of them were females (54.59%). More than half of the patients were in the age level of 20-39 years (51.53%). Patients’ personal data are shown in Table 1.

Hyoscine-N-Butylibromide was prescribed mainly as a tablet (91.71%) followed by syrup (7.91%). Dosage forms of the prescribed Hyoscine-N-Butylibromide are shown in Fig. 1.

The prescriptions were written by residents (99.11%); only 0.89% of the prescriptions were written by a consultant or a specialist. The level of the prescribers is shown in Table 2.

Most of the prescriptions were written by the emergency department (96.17%) followed by general surgery department (1.53%). The prescribing departments are shown in Table 3.

Hyoscine butylbromide was prescribed commonly during the study period. Al-Faris and Al Taweel [8] reported that in Saudi primary health care, Hyoscine N-butylbromide was the most commonly prescribed medication for stomach disorders (32.7%) followed by antacids (24.1%). Devkota et al. [9] stated that the most frequently prescribed medications for pregnant patients were ranitidine, hyoscine butylbromide and paracetamol. Furthermore, another study found that the most frequently prescribed gastrointestinal drugs were omeprazole, metoclopramide, bisacodyl and hyoscine-N-butyl bromide [10].

Yezli et al. [11] reported that among outpatients during the Hajj mass gathering, Top of form Hyoscinebutylbromide prescribed for 1388 patients out of 37,367 patients (3.71%). Sharif et al. [12] conducted a study about the drug prescribing in a hospital in Dubai and reported that 11.5% of the prescriptions included gastrointestinal drugs and that hyoscine N butylbromide represented 28.1% of all gastrointestinal drugs.
In the present study, hyoscine N butylbromide was prescribed mainly for adult patients and about 5.74% only aged more than 59 years. Sah et al. reported that anticholinergic hyoscine butyl bromide represented 10.44% of the potentially inappropriate prescribing medications in elderly population [13]. They stated that according to Beers criteria, category A includes drugs those should be avoided in elderly and should not be prescribed and included several drugs including anticholinergic hyoscine butyl bromide [13]. The limitation of the study is that there was no diagnosis in the medical records.

A continuous assessment of its prescribing is required to prevent its side effects including dry mouth, constipation, blurred vision, and fast heart rate. In addition to serious side effects such as if the patients get a painful red eye with loss of vision or if find it hard to pee. Moreover, some patients may develop serious allergic reaction to it [5].

### Table 1. Personal data

| Variable | Category | Number | Percentage |
|----------|----------|--------|------------|
| Gender   | Male     | 356    | 45.41      |
|          | Female   | 428    | 54.59      |
| Age      | Less than 10 | 35  | 4.46       |
|          | 10-19    | 144    | 18.37      |
|          | 20-29    | 234    | 29.85      |
|          | 30-39    | 170    | 21.68      |
|          | 40-49    | 101    | 12.88      |
|          | 50-59    | 55     | 7.02       |
|          | More than 59 | 45  | 5.74       |

### Table 2. The level of the prescribers

| Level of the prescriber | Number | Percentage |
|-------------------------|--------|------------|
| Consultant              | 5      | 0.64       |
| Resident                | 777    | 99.11      |
| Specialist              | 2      | 0.25       |

**Fig. 1. Dosage forms of the prescribed Hyoscine-N-Butylbromide**

**Table 2. The level of the prescribers**
Table 3. The prescribing departments

| Department               | Number | Percentage |
|--------------------------|--------|------------|
| Emergency                | 754    | 96.17      |
| Gastroenterology         | 1      | 0.13       |
| General Surgery          | 12     | 1.53       |
| Internal Medicine        | 2      | 0.25       |
| Nephrology               | 6      | 0.77       |
| Obstetrics & Gynecology  | 6      | 0.77       |
| Pediatrics               | 2      | 0.25       |
| Urology                  | 1      | 0.13       |

4. CONCLUSION

The present study showed that hyoscine butylbromide was commonly prescribed. It was uncommonly prescribed to elderly patients. Health care professionals should avoid the use of anticholinergic hyoscine butylbromide in elderly patients. A continuous assessment of its prescribing is required to prevent its adverse events and drug interactions.

DISCLAIMER

The products used for this research are commonly and predominantly used products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

CONSENT

As per international standard or university standard, patients’ written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

The study was approved by the IRB ethical committee with a log number 20-131E. After collecting data, they were entered and analyzed using Excel sheet and were represented as percentages and frequencies.

ACKNOWLEDGEMENT

This Publication was supported by the Deanship of Scientific Research at Prince Sattam bin Abdulaziz University.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Rxlist.com. Definition of antispasmodic; 2019. Accessed 02 Dec 2020. Available: https://www.rxlist.com/antispasmodic/definition.htm
2. Drugs.com, Anticholinergics/antispasmodics; 2019. Accessed 02 Dec 2020. Available: https://www.drugs.com/drug-class/anticholinergics-antispasmodics.html
3. Tytgat GN. hyoscine butylbromide: A review of its use in the treatment of abdominal cramping and pain. Drugs. 2007;67(9):1343-57.
4. Patient.info. hyoscine butylbromide tablets; 2019. Accessed 02 Dec 2020. Available: https://patient.info/medicine/hyoscine-butylbromide-tablets-buscopan
5. NHS. Buscopan; 2020. Accessed 02 Dec 2020. Available: https://www.nhs.uk/medicines/buscopan-hyoscine-butylbromide/
6. O’Connor MN, Gallagher P, O’Mahony D. Inappropriate prescribing: Criteria, detection and prevention. Drugs Aging. 2012;29(6):437-52.
7. Adisa R, Fakeye TO, Aindero VO. Evaluation of prescription pattern and patients’ opinion on healthcare practices in selected primary healthcare facilities in Ibadan, South-Western Nigeria. Afr Health Sci. 2015; 15(4):1318-1329.
8. Al-Faris EA, Taweel AA. Audit of prescribing patterns in Saudi primary health care: What lessons can be
learned? Ann Saudi Med. 1999;19(4):317-321.
9. Devkota R, Khan GM, Alam K, Regmi A, Sapkota B. Medication utilization pattern for management of pregnancy complications: A study in Western Nepal. BMC Pregnancy Childbirth. 2016;16:272.
10. Aljarari NM, Sharif SI, Jaber AK, Garini AS, Awad AS, Hamed FA. Prescribing patterns of gastrointestinal drugs in private clinics in Benghazi-Libya. Int J Basic Clin Pharmacol. 2017;6(1):113.
11. Yezli S, Zaraa S, Yassin Y, Mushi A, Stergachis A, Khan A. Medication utilization pattern among outpatients during the Hajj mass gathering. Saudi Pharm J. 2020;28(9):1122-1128.
12. Sharif S, Al-Shaqra M, Hajjar H, Shamout A, Wess L. Patterns of drug prescribing in a hospital in Dubai, United Arab Emirates. Libyan J Med. 2008;3(1):10–12.
13. Sah AK, Jha RK, Sah P, Basnet S. Potentially inappropriate prescribing in elderly population: A study in medicine outpatient department. JCMS Nepal. 2017;13(1):197-202.

© 2020 Ahmed and Menshawy; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:
The peer review history for this paper can be accessed here:
http://www.sdiarticle4.com/review-history/63923