

## Original Research Article

### Metoclopramide Prescribing Pattern in Al-Kharj

#### ABSTRACT

**Aim:** The present study aimed to describe metoclopramide prescribing pattern in Al-Kharj.

**Methodology:** This was a retrospective study that was conducted to know the prescribing pattern of metoclopramide in a public hospital in Alkharj. The data were collected from the electronic prescriptions in the hospital in the first half of 2018.

**Results:** The outpatient pharmacy dispensed metoclopramide to 160 patients during the first half of 2018. More than half of the patients were female patients (51.25%). The age of 36.25% of the patients was between 29 and 29 years old and the age of 25.00% of them was between 30 and 39 years old. Most of the prescriptions were prescribed for 3 days (68.13%) followed by 5 days (20.00%). Emergency department prescribed about 96.25% of the metoclopramide prescriptions.

**Conclusion:** The present study showed that metoclopramide was used commonly in Al-kharj. Further studies are needed to describe the frequency and pattern of using metoclopramide and also to describe the pattern of using other antiemetic medications in different settings.

**KEYWORDS:** Metoclopramide, Outpatient, Pattern, Prescribing

## INTRODUCTION

Vomiting and nausea are frequently encountered symptoms with numerous causes. These include cancer, infections, adverse effects of several drugs, and pregnancy. Vomiting and nausea are treated by using a class of medications known as antiemetic drugs [1]. The classes of antiemetic drugs include antagonists of dopamine, neurokinin, serotonin, acetylcholine, and histamine [1]. Metoclopramide is a dopamine antagonist used as an antiemetic [1].

Metoclopramide was initially approved in 1980 by the Food and Drug Administration [2]. Metoclopramide works by speeding the movement of food through the stomach and intestines [3]. This product is available in several dosage forms: tablet, disintegrating tablet, and solution [4]. Metoclopramide has been approved specifically to treat nausea and vomiting in patients with diabetic gastroparesis or gastroesophageal reflux disease by increasing gastric motility. Furthermore, it is used to control vomiting and nausea in chemotherapy patients [5]. Additionally, metoclopramide can be given prophylactically to prevent vomiting and nausea in postoperative patients when nasogastric suction is unavailable or contraindicated and has shown surprising success in managing migraines [5].

All medicines including metoclopramide can cause unwanted side effects though not everyone experiences them [6]. Common metoclopramide side effects may include lack of energy, feeling restless, nausea, feeling drowsy or tired, headache, vomiting, insomnia, and confusion [7]. Metoclopramide shouldn't generally be taken for more than five days in a row in order to reduce the chances of experiencing these side effects [6].

Some patients may have a serious allergic reaction to metoclopramide [8]. Metoclopramide can be taken by children aged 1 year and over and adults [8]. It isn't recommended for use in children due to an increased risk of serious side effects including uncontrolled muscle movements/muscle spasms [9].

Metoclopramide can interact with many drugs including cyclosporine, acetaminophen, glycopyrrolate, digoxin, levodopa, insulin, cabergoline, lurasidone, desvenlafaxine, and citalopram [7,10]. Some of these interactions are minor and the others are major or intermediate interactions.

There are few studies about the frequency and pattern of using metoclopramide in Al-kharj. So, the present study aimed to describe metoclopramide prescribing pattern in Al-Kharj.

## METHODOLOGY

This was a retrospective study that was conducted to know the prescribing pattern of metoclopramide in a public hospital in Alkharj. The data were collected from the outpatient electronic prescriptions in the hospital in the first half of 2018.

The outpatient prescriptions that included metoclopramide in the first half of 2018 were included in the present study. So, the prescriptions before or after the study period, the inpatient prescriptions, and the prescriptions that didn't include metoclopramide were excluded.

The data were collected after the approval of the study by independent ethics committee.

These data include demographic data, the number of metoclopramide prescriptions in different months, the duration of metoclopramide use, and the departments that prescribed metoclopramide. The results were represented as frequencies and percentages.

## RESULTS and DISCUSSION

The outpatient pharmacy dispensed metoclopramide to 160 patients during the first half of 2018. More than half of the patients were female patients (51.25%). The age of 36.25% of the patients was between 20 and 29 years old and the age of 25.00% of them was between 30 and 39 years old.

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

| Variable    | Category     | Number | Percentage |
|-------------|--------------|--------|------------|
| Gender      | Female       | 82     | 51.25      |
|             | Male         | 78     | 48.75      |
| Age         | 10-19        | 28     | 17.50      |
|             | 20-29        | 58     | 36.25      |
|             | 30-39        | 40     | 25.00      |
|             | 40-49        | 14     | 8.75       |
|             | 50-59        | 13     | 8.12       |
|             | 60-69        | 4      | 2.50       |
|             | More than 69 | 3      | 1.88       |
| Nationality | Saudi        | 117    | 73.13      |
|             | Non- Saudi   | 43     | 26.87      |

All of the prescriptions were prescribed by residents (100.00%). The prescriptions were prescribed mainly in March (25.63%), February (19.38%), and April (16.87%). The number of metoclopramide prescriptions in different months during the study period was shown in table 2.

**Table 2.** The number of metoclopramide prescriptions in different months.

| Month    | Number | Percentage |
|----------|--------|------------|
| January  | 20     | 12.50      |
| February | 31     | 19.38      |
| March    | 41     | 25.63      |
| April    | 27     | 16.87      |
| May      | 17     | 10.62      |
| June     | 24     | 15.00      |

Table 3 shows the duration of metoclopramide use. Most of the prescriptions were prescribed for 3 days (68.13%) followed by 5 days (20.00%).

**Table 3.** Duration of metoclopramide use.

| Duration          | Number | Percentage |
|-------------------|--------|------------|
| 2 Days            | 7      | 4.38       |
| 3 Days            | 109    | 68.13      |
| 5 Days            | 32     | 20.00      |
| 1 Week            | 7      | 4.38       |
| 10 Days           | 1      | 0.62       |
| 2 Weeks           | 1      | 0.62       |
| 1 Month           | 1      | 0.62       |
| More than 1 Month | 2      | 1.25       |

Table 4 shows the departments that prescribed metoclopramide. Emergency department prescribed about 96.25% of the metoclopramide prescriptions and gastroenterology department prescribed 1.88% of the prescriptions.

**Table 4.** The departments that prescribed metoclopramide.

| Department              | Number | Percentage |
|-------------------------|--------|------------|
| Gastroenterology        | 3      | 1.88       |
| Emergency               | 154    | 96.25      |
| Cardiology              | 1      | 0.62       |
| Obstetrics & Gynecology | 1      | 0.62       |
| Pediatrics              | 1      | 0.62       |

The outpatient pharmacy prescribing of metoclopramide was common in Al-Kharj. It is commonly used to treat and prevent vomiting and nausea to help with emptying of the stomach in people with delayed stomach emptying, and to help with gastroesophageal reflux disease [11]. Similarly, Flake et al stated that metoclopramide is used commonly in patients with nausea caused by intestinal stasis [12]. Sun et al informed that metoclopramide is an antiemetic drug used widely to treat nausea and vomiting of pregnancy [13]. Tianyi et al stated that metoclopramide is one of the

most commonly used anti-emetic drugs [14]. Furthermore, Dahl and Diskin reported that metoclopramide is frequently used to treat vomiting caused by acute gastroenteritis and seasickness [15].

Most of the prescriptions were prescribed for 3 days or for 5 days. This is rational because metoclopramide shouldn't normally be taken for more than five days in a row [6]. National Health Service and European Medicines Agency informed that metoclopramide should be taken for only a short time (up to 5 days) [8,16].

Most of metoclopramide prescription were prescribed by the emergency department (96.25%) followed by gastroenterology department (1.88%). This is rational because numerous patients who visited emergency department or gastroenterology department from different age groups have vomiting and nausea.

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

## **CONCLUSION**

The present study showed that metoclopramide was used commonly in Al-kharj. Further studies are needed to describe the frequency and pattern of using metoclopramide and also to describe the pattern of using other antiemetic medications in different settings.

## **COMPETING INTERESTS DISCLAIMER:**

Authors have declared that no competing interests exist. The products used for this research are commonly and predominantly use 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.

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