



MEDICATION MANAGEMENT FOR GI DISORDERS IN THE JORDANIAN ROYAL MEDICAL SERVICES: EMPHASIS ON PROTON PUMP INHIBITORS AND HISTAMINE-2 RECEPTOR ANTAGONISTS IN OUTPATIENT CARE

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ABSTRACT

1. Introduction:

Gastrointestinal (GI) disorders represent a significant healthcare burden globally, affecting millions of individuals and imposing substantial economic costs on healthcare systems. Proton pump inhibitors (PPIs) and histamine-2 receptor antagonists (H2RAs) are commonly prescribed medications for the management of GI conditions. Understanding how these medications are being prescribed is crucial for optimizing patient care and healthcare resource allocation. This paper focuses on investigating the prescribing of GI drugs among outpatients of the Jordanian Royal Medical Services (JRMS) during the calendar year 2021.

2. Objective:

The primary objective of this study is to analyze the utilization of Esomeprazole, Omeprazole, Rabeprazole, And Famotidine, key medications for GI disorders, among outpatients of the JRMS. Specific aims include determining the frequency of prescriptions for each medication and identifying any prescribing preferences.

3. Methodology:

A retrospective analysis of prescription data will be conducted using electronic medical records from the JRMS outpatient records on Hakeem Health System. The study will encompass a sample of 4205 prescriptions issued during the calendar year 2021. Descriptive statistics will be employed to examine and identify exciting prescribing preferences, frequencies and percentages.

KEYWORDS: Gastrointestinal disorders, GI drugs, Outpatients, Prescribing patterns, Proton pump inhibitors.

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1. INTRODUCTION:

With millions of sufferers and heavy financial costs for healthcare systems worldwide, gastrointestinal (GI) illnesses represent a major global healthcare concern. These illnesses, which range from common conditions like GERD to more serious ones like peptic ulcers, can have a significant impact on patients' everyday lives by causing discomfort, a decline in quality of life, and in certain situations, problems that call for medical attention. Global healthcare delivery systems must prioritize the effective management of gastrointestinal illnesses due to their high prevalence and potential for consequences^[1,2].

Like many other countries, Jordan has a high prevalence of GI problems and like other populations, Jordanians struggle with lifestyle factors like stress, nutrition, and environmental factors that can exacerbate GI disorders or cause them to develop^[2]. In order to fulfill the needs of those with these illnesses and reduce the associated morbidity and mortality, it is imperative that those who need them have access to adequate healthcare services, including accurate diagnosis and effective treatment.

Key drugs in the treatment of GI issues are histamine-2 receptor antagonists (H2RAs) and proton pump inhibitors (PPIs). PPIs reduce stomach acid output and aid in the repair of GI mucosal injuries by permanently blocking the gastric proton pump. H2RAs, on the other hand, reduce the formation of acid and relieve symptoms by blocking the effects of histamine on stomach parietal cells. These drugs are frequently prescribed to treat a variety of illnesses, including GERD, peptic ulcers, gastritis, and esophagitis. They are essential in reducing symptoms and averting consequences related to these conditions^[3,4].

Regarding Jordanian healthcare, the Jordanian Royal Medical Services (JRMS) is an essential healthcare provider that meets the medical requirements of the nation's civilian and military populations. Being a well-known medical facility, the JRMS is essential to providing top-notch treatment and controlling a variety of illnesses, including GI ailments.

Comprehending the GI drug prescribing practices in the JRMS outpatient context is crucial for multiple reasons. First of all, it sheds light on the drugs that are preferred for treating GI disorders in this specific healthcare context by offering insights into the prevalent treatment methods and preferences among healthcare providers. Second, it makes it possible to spot any gaps or inconsistencies in prescription procedures, giving medical practitioners the information they need to address any areas that might need to be improved in order to maximize patient care. Thirdly, it makes it easier to compare prescribing practices with global standards of care and guidelines, guaranteeing that they are in line with the best practices and evidence-based recommendations in the medical field.

In light of this, this study aims to investigate and evaluate the GI medication prescribing practices among Jordanian Royal Medical Services outpatients, with a particular focus on Rabeprazole, Omeprazole, Esomeprazole, and Famotidine. We hope to learn more about current treatment approaches, pinpoint areas for development, and ultimately improve patient care and outcomes in the management of GI illnesses in the JRMS healthcare setting by looking at these prescribing patterns.

2. METHOD:

Using electronic medical records from the JRMS outpatient records on Hakeem Health System, a retrospective analysis of prescription data was carried out. The prescription patterns for the year 2021 were covered by the study. The analysis comprised 4205 prescriptions in all, encompassing a varied range of patients.

The primary objective was to assess the frequency of prescriptions for Esomeprazole, Omeprazole, Rabeprazole, and Famotidine. Descriptive statistics, including frequencies and percentages, were utilized to summarize the prescribing patterns.

3. RESULTS:

The analysis revealed notable prescribing patterns of GI drugs among JRMS outpatients in 2021 (Table 1):

Table 1: The prescribing patterns of GI drugs among JRMS outpatients in 2021

| Drug | Frequency | Percentage |
|--------------|-----------|------------|
| Esomeprazole | 165 | 3.92% |
| Famotidine | 1897 | 45.11% |
| Omeprazole | 2118 | 50.37% |
| Rabeprazole | 25 | 0.59% |

Omeprazole emerged as the most frequently prescribed GI drug, with 2118 prescriptions, constituting 50.37% of all prescriptions, Famotidine followed closely behind, with 1897 prescriptions, accounting for 45.11% of total

prescriptions, Esomeprazole was prescribed 165 times, representing 3.92% of all prescriptions and Rabeprazole had the lowest prescription frequency, with only 25 prescriptions, accounting for 0.59% of total prescriptions (Figure 1).

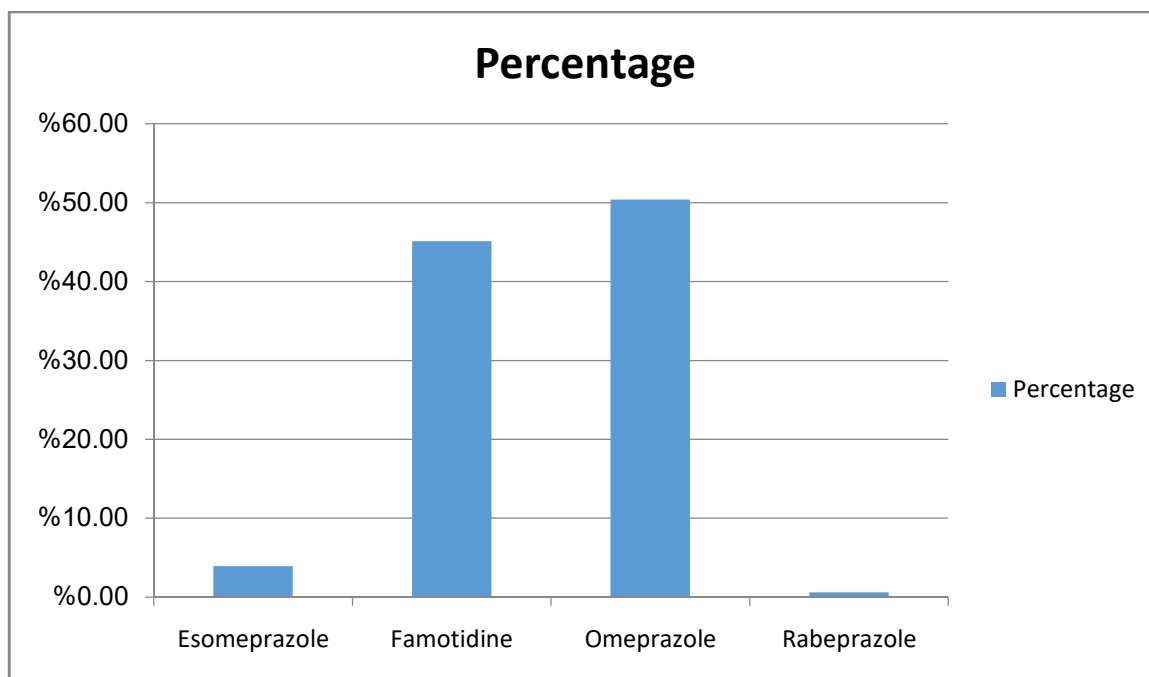


Fig 1: Percentage of prescribed medicines for patients with GI disorders

4. DISCUSSION:

The results of this study regarding the gastrointestinal (GI) medication prescribing patterns in Jordanian Royal Medical Services (JRMS) outpatients in 2021 lay the groundwork for an extensive discussion on a range of topics related to the management of GI disorders, medical procedures, and possible areas for advancement within the JRMS healthcare system.

4.1 Prescribing and Preferences

The prevalence of prescriptions for Omeprazole and Famotidine among JRMS outpatients emphasizes the importance of these drugs in the treatment of GI illnesses at the facility^[5]. As a proton pump inhibitor (PPI), Omeprazole is a first-line treatment for disorders like peptic ulcers and gastroesophageal reflux disease (GERD) because of its well-established effectiveness in lowering gastric acid output and fostering mucosal repair^[8]. Similar to that, Famotidine, a histamine-2 receptor antagonist (H2RA), is frequently administered due to its ability to decrease acid production and alleviate symptoms associated with disorders such as gastritis and GERD^[6,7].

The high rates of Omeprazole and Famotidine prescriptions may be attributed to the doctors' familiarity with these drugs as well as their perceived safety and efficacy. Additionally, in the JRMS outpatient context, prescribing decisions may be influenced by variables like availability, patient desire, and cost-effectiveness.

4.2 Utilization of Esomeprazole and Rabeprazole

More research on the use of Esomeprazole and Rabeprazole in the JRMS is warranted given their comparatively lower prescription rates when compared to Omeprazole and Famotidine. For patients who might not react well to conventional PPI therapy, Esomeprazole a more recent generation PPI is frequently considered an alternative. It may have better pharmacokinetic characteristics than Omeprazole. Similar to this, Rabeprazole provides an alternate course of therapy with a unique pharmacokinetic profile and possible benefits in specific patient groups^[9,10].

A thorough investigation is necessary to determine the cause of the decreased use of Rabeprazole and Esomeprazole in the JRMS context. This discrepancy could be caused by variations in drug

availability, formulary limitations, financial concerns, and prescriber preferences, among other things. Additionally, the choice of particular GI drugs in various healthcare settings may be influenced by differences in clinical indications, patient groups, and therapeutic outcomes.

4.3 Clinical Considerations and Patient-Centered Care

Variations in prescribing habits were found across various patient demographics and therapeutic indications based on subgroup studies. To maximize treatment results and reduce side effects, prescribing decisions must be customized based on specific patient characteristics, such as age, gender, comorbidities, and presenting symptoms. In addition, implementing a patient-centered approach to care entails including patients in joint decision-making and taking into account their treatment objectives, beliefs, and preferences while choosing GI drugs.

Healthcare professionals working in the JRMS outpatient context should make an effort to make sure that their prescription practices follow evidence-based standards and recommendations in order to give patients with GI disorders with high-quality, personalized care. Healthcare personnel might benefit from ongoing education and training programs that expand their understanding of best practices in prescription, which can help the institution, develop a continuous quality improvement and evidence-based medicine culture^[11].

4.4 Opportunities for Quality Improvement

It is imperative to pinpoint opportunities for enhancement in the JRMS outpatient GI drug prescribing practices in order to maximize healthcare resources and improve patient care. Standardizing prescribing procedures, reducing prescription errors, and using electronic decision support tools are some examples of quality improvement projects. Other strategies include doing routine medication reviews, adhering to clinical recommendations, and using electronic decision support systems.

To provide patients with GI illnesses with complete and integrated care, multidisciplinary healthcare teams comprising doctors, pharmacists, and allied health workers must work together. Care coordination can be streamlined and care continuity can be guaranteed across various healthcare

settings by using electronic health records to promote communication and information sharing among healthcare professionals^[11].

4.5 Future Directions and Research Implications

In the future, investigations should seek to expand on the results of this study and fill in any knowledge gaps about GI drug prescribing practices and how they affect patient outcomes in the JRMS healthcare system. In this context, comparative effectiveness studies and pharmacoeconomic evaluations—longitudinal studies that evaluate the safety and efficacy of various gastrointestinal medications—can offer important insights into the best ways to manage GI illnesses.

Furthermore, the underlying variables impacting patient preferences and prescribing decisions for GI drugs can be clarified by qualitative research approaches including surveys and interviews with patients and healthcare providers. Future research activities can help develop customized treatments and strategies targeted at enhancing the appropriateness and quality of GI medication prescribing practices within the JRMS by integrating stakeholder input and a range of views.

5. CONCLUSIONS:

In summary, this study offers insightful information about the GI medication prescribing practices of JRMS outpatients in 2021. The most commonly recommended drugs were omeprazole and famotidine, which makes sense given their well-established functions in the treatment of GI diseases. Nevertheless, more investigation is required to comprehend the factors influencing these prescribing practices and guarantee that JRMS patients receive superior, evidence-based care.

LIMITATIONS OF THE STUDY:

It is important to recognize a number of limitations, such as the analysis's retrospective nature and dependence on recorded prescription data. Furthermore, it's possible that the study's exclusive emphasis on Jordanian Royal Medical Services healthcare facilities will restrict how broadly the results can be applied. In order to give a thorough picture of GI drug prescribing practices in Jordan, future research initiatives should strive to overcome these constraints by adding larger sample sizes and taking other clinical variables into consideration.

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