

Editorial Article

The Choosing Wisely Initiative and Esomeprazole Over-Prescription

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Abstract: The choosing wisely initiative of the Aada program, in collaboration with the Ministry of Health (MoH), Kingdom of Saudi Arabia, aimed to improve physician-patient interaction to plan their care while avoiding the unnecessary and inappropriate tests, treatments, and procedures that increase the cost while adding no benefit in the health-related outcome of the patient. Of the many avoidable treatment medications, the one noted and selected is the over and misuse of esomeprazole, a proton pump inhibitor (PPI), used for gastroesophageal reflux disease (GERD), gastric ulcers, etc. The drug is commonly prescribed in clinical practice in general and over-the-counter in specific. As the published literature reports major adverse events associated with the drug, there is a need for a controlled prescription in selected cases to avoid its overprescription. In compliance with the choosing wisely initiative of Aada health, we surveyed a regional secondary care facility (Baish General Hospital) after a twelve-week rigorous health education program for physicians and patients and concluded a substantial reduction in the prescription of esomeprazole. The survey findings; indicate the beneficial effects of teaching programs on avoidable treatment options to opt for suitable alternatives which will be both productive and cost-effective.

Keywords: Esomeprazole, Overuse, Misuse, Choosing Wisely, Proton Pump Inhibitors.

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INTRODUCTION

Esomeprazole, a proton pump inhibitor (PPI), is the most commonly prescribed medicine in clinical practice worldwide like their counterpart. Other PPIs include; omeprazole, lansoprazole, pantoprazole, rabeprazole, and ilaprazole. As the name denotes: PPIs irreversibly bind with the proton pump (H⁺/K⁺-ATPase) in the gastric parietal cells, which inhibits acid secretion completely. Like other PPIs: esomeprazole is a pro-drug; and converted through protonation into an active derivative that irreversibly binds to and inhibits H⁺/K⁺-ATPase (proton pump), which in turn inhibits the release of gastric acid until the new H⁺/K⁺-ATPase, are synthesized. The common indications include; peptic ulcer disease, gastroesophageal reflux disease (GERD), Helicobacter pylori eradication therapy [1], and gastropathy secondary to non-steroidal anti-inflammatory drugs (NSAIDs). Its superior suppression of gastric acids over H₂-receptor blockers makes it the drug of choice; among physicians and patients, which leads to its overprescription and over-the-counter

(OTC) [2] use of almost all PPIs, including esomeprazole.

Besides its beneficial effects in treating gastric problems, widely prevalent among the general population, the drug is not devoid of risks and complications. Multiple adverse events; have been recorded; and grouped into short-term or primary reactions such as; headache, nausea, constipation, diarrhea, rashes, and long-term or secondary reactions [3]. The long-term effects of PPIs linked with their prolonged use: include acute and chronic renal injury, acute interstitial nephritis, hypomagnesemia, bone fractures, community-acquired pneumonia, *Clostridium difficile* infection, and increased risks of perianthoracic and gastric carcinomas and even death [4-7] possibly secondary to hypergastrinemia and achlorhydria [8]. Besides the untoward effects; of PPIs, there is high public expenditure associated with their overuse. PPI is one of the most frequently prescribed medicine globally. In the United States alone, there were 113 million prescriptions and a total cost of 13.9 billion dollars [9].

There is a need for updated knowledge of PPI among medical professionals to improve their rationality. The study of Luo *et al.*, [10], concluded that awareness among medical staff is lacking regarding the rationale use of PPIs in china, specifically nurses. In compliance with the Adaa program and choosing wisely initiative of the Ministry of Health (MoH), Kingdom of Saudi Arabia, the over-prescription of PPI like esomeprazole was among the many selected treatments that need to be streamlined both for the benefit of the patients and to reduce public spending. We conducted a twelve-week teaching program: including group discussions, individual meetings, and meetings with patients, and concluded a vast reduction in the esomeprazole prescription. (study yet to be published).

In conclusion: risk versus benefits should be weighed before prescribing PPIs including Esomeprazole and be reserved for selected cases. It will not only minimize overprescription but will decrease its related public spending. Thus there is a need for continuous health education among physicians and patients to emphasize the need for a mutual management plan and to opt for the cost-effective and safe alternative treatment where required.

Conflict of Interest

The authors have no conflict of interest to declare.

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Authors Contribution

H.A.A acquired the idea, reviewed and approved the manuscript. L.A.K acquired the idea, wrote and prepared the draft. H.A.D reviewed and edited the draft. All authors approved the final manuscript

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