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## Short Term Medical Mission GERD and Ulcer Treatment Guideline

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## Short Term Medical Mission GERD and Ulcer Treatment Guideline

### Executive Summary

#### Introduction of the Problem

The United States conducts over 6,000 international medical mission trips annually (MacDonald, et al., 2020). Mission teams typically consist of medical and non-medical personnel such as doctors, physician assistants, nurse practitioners, nurses, pharmacists, and lay people. While these missions intend to do good, they have the potential to harm (Hawkins, 2013). The short-term nature of these trips, unfamiliarity with the patient population, language barriers, limited resources, and inadequate staff training are some of the factors that make it difficult to provide quality care (Hawkins, 2013). One way to avoid harming patients is to follow evidence-based guidelines when treating common conditions.

ER Abroad is a non-profit organization that provides medical exams and treatment to patients in developing countries, including Guatemala (ER Abroad, 2021). ER Abroad, like many medical mission organizations, face barriers to providing care. One such barrier is running out of first line, and/or second line, medications for treating various conditions. Two conditions that ER Abroad healthcare providers frequently diagnose on trips to Guatemala are gastroesophageal reflux disease (GERD) and peptic ulcers. An evidence-based protocol for the treatment of GERD and peptic ulcers, complete with appropriate substitutions for first line medications, was developed to increase the likelihood that patients with these conditions receive appropriate treatment.

#### Literature Review

Dainton, et al. (2016), reviewed 391 articles in journals from 2010-2015 to determine the use of evidence-based guidelines on medical service trips and found that the use of evidence-

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based guidelines was minimal. Most of the clinical information that guided treatment was anecdotal, and there were only a few examples of treatment decisions based on high-grade evidence. The literature has shown that the creation and application of evidence-based guidelines is an important strategy for standardizing care in various settings and promoting best practices (Dainton, et al., 2016). Guidelines also help to reduce errors, improve patient outcomes, lower costs, and improve the ability to analyze treatment data (Management Sciences for Health and World Health Organization, 2007). Thus, it would benefit ER Abroad to have a GERD and peptic ulcer treatment protocol to ensure treatment of these two diseases is in line with current clinical guidelines.

### **Project Methods**

This project was implemented in November of 2022 during a short-term medical mission (STMM) to a rural community in Escuintla, Guatemala. The purpose of this quality improvement project was to provide an evidence-based protocol for use on STMMs, that would guide providers and pharmacy staff on the treatment of GERD and peptic ulcer. Due to the limited availability and supply of certain medications, the protocol included appropriate substitutions for first-line medications. This project was implemented in a rural health clinic at the Land of Hope in Escuintla, Guatemala. Patients come here from nearby communities to receive basic health care.

A short pre and posttest was utilized to assess provider and pharmacy staff knowledge on the clinical presentation and treatment of GERD and peptic ulcer. Both tests were administered before the first clinical day of the trip. Specifically, the pretest was administered, followed by a 30-minute, interactive training session on the treatment protocol. In this session, providers and staff learned which medications for the treatment of GERD and peptic ulcer would be available

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in the pharmacy and in what volume. Then, prescribers and staff took a posttest that included all the questions in the pretest, plus additional open-ended questions aimed at soliciting feedback on the protocol and training. A laminated copy of the protocol was given to all clinical and pharmacy staff and a patient flyer outlining the lifestyle changes recommended for patients with GERD or peptic ulcer. On the last day of the trip, a post-implementation survey was administered to providers and pharmacy staff volunteers to assess the effectiveness and ease of use of the protocols during the four clinical days. The post-implementation survey also solicited feedback on how to improve the protocol.

### **Evaluation**

Fourteen volunteers participated in the pre and post-tests. The group consisted of one layperson, four nurse practitioners, five nurse practitioner students, three registered nurses, and one paramedic. Only 10 of the 14 volunteers completed the post-implementation survey.

The pre-test consisted of eight multiple-choice questions about the symptoms of GERD and peptic ulcer and how to treat both diseases. The posttest had the same eight multiple-choice questions with four additional 5-point, Likert-scale questions speaking to the effectiveness of the teaching provided on GERD and peptic ulcer symptoms and the protocol. The average score on the pretest was 56%, with a range of 7% to 93%. The average score on the posttest was 88%, with a range of 54% to 100%. In terms of the four Likert-scale questions on the posttest, 100% of respondents strongly agreed with the statement, “The training I received on the symptoms/treatment of GERD and peptic ulcer was clear and easy to understand.” For the statement, “The training I received on the symptoms/treatment of GERD and peptic ulcer increased my knowledge of these disease processes and their treatment,” 92% of respondents “strongly agreed” and 8% “somewhat agreed”. For the statement, “The training I received on the

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GERD/Peptic Ulcer protocol was clear and easy to understand”, 92% of respondents “strongly agreed” and 8% “somewhat agreed”. For the statement, “I feel the GERD/Peptic Ulcer protocol will help improve the care of these patients”, 92% of respondents “strongly agreed” and 8% “somewhat agreed”.

At the end of the posttest, the open-ended statement, “Please share any feedback on the training and protocol” invited participants to free text their thoughts. Responses included: “Robin’s project was clear and easy to understand”, “the presenter was very knowledgeable and answered questions thoroughly; she was well prepared for this presentation”, “very good”, “great job”, “well done”, and “very informative and clear.”

The post-implementation survey asked respondents to rate the following two questions on a 5-point Likert scale from Strongly Agree to Strongly Disagree: (1) “The protocols were easy to use” and (2) “The protocols helped ensure consistent, evidence-based care was provided to patients”. For the question, “The protocols were easy to use”, 90% of respondents “strongly agreed” and 10% “somewhat agreed.” For the question, “The protocols helped ensure consistent, evidence-based care was provided to patients”, 90% of respondents “strongly agreed” and 10% “somewhat agreed.” At the end of the post-implementation survey, respondents were invited to share any additional feedback on the protocols. Two comments were received: (1) “Robin’s protocols were very easy to follow and helped provide us the information we needed to provide appropriate, evidence-based care to our patients in Guatemala” and (2) “It was a perfect teaching tool and so timely. I used it many times on the trip.” Given the scores on the pre and posttests and the comments on the teaching and protocols, they were all helpful in providing evidence-based care for patients with GERD and peptic ulcer.

### **Impact on Practice**

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The implementation of this GERD/Peptic Ulcer protocol was effective in giving providers and pharmacy staff guidance in the diagnosis and treatment of these two diseases. The protocol was developed using evidence-based guidelines, ensuring that patients received appropriate care. Having this protocol at each provider station and in the pharmacy allowed providers and pharmacy staff to work efficiently to provide patient care. Providers could look at the protocol and prescribe the most appropriate medication, and the pharmacy staff could make substitutions without interrupting the providers. The implementation of the protocol was cost-effective, and it can be easily adjusted, should guidelines, or available medications, change. The patient flyer was also helpful, as lifestyle modifications are not likely to change much, and having pictures helped with the translation of what to do. Laminated copies of the protocol and patient flyer were left with ER Abroad for use on future mission trips in Guatemala and elsewhere.

### **Conclusions**

The GERD/Peptic ulcer treatment protocol and patient flyer were helpful in educating providers and pharmacy staff on the appropriate diagnosis and treatment of these two diseases. The cost of implementing this project was minimal, but the impact was felt immediately and will continue to help patients on future mission trips. Recommendations for future improvement efforts should include protocols for other diseases commonly seen on STMMs in Central America. These might include malnutrition, hypertension, parasitic infections, or metabolic syndrome as these were commonly seen on this medical mission. It would also be helpful to analyze EMR data on how many patients were seen with GERD or peptic ulcer and in what percentage of cases the protocol was followed. Currently, it is not possible to extract that type of data from the EMR that was in use on this trip.

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