

PPIs: A Balanced approach to Prescribing and Deprescribing

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Introduction

Within the outpatient clinical setting, proton pump inhibitors are often prescribed to treat symptoms of acid reflux, commonly known as "heart burn". A relatively benign drug-also available in over-the-counter preparations-, patients often get recurring refills on these medications from their treating clinicians, often without clear indication for continuation of long-term therapy, consideration of alternative treatment options or a planned termination date. According to one study, 25-75% of patients on continuous PPI therapy have no appropriate indication for long term treatment¹. It is imperative for clinicians to understand the indications for long term PPI therapy and to make every attempt to de-prescribe these medications when appropriate to lessen pill burden, decrease polypharmacy and to abate the possible risks/side effects associated with long term treatment. The purpose of this quality improvement project was to educate clinicians and patients regarding the appropriate use of PPIs and their possible side effects associated with long term therapy; as well as to encourage providers to de-prescribe this class of medications when their use is no longer medically indicated.

Methods

Phase 1

- Chart review was conducted on the resident team's patient panels.
- Patients were included in the project if they had been prescribed a PPI >6 months and were >60 years old
- Of the patients included, they were asked if they were aware of the reason for PPI therapy and how long they had been taking PPIs.
- Of the patients included, they were asked if symptoms were well controlled. And if they had other testing done such as EGD.
- Patients that were found to have no clear indication for long term therapy and who agreed to try alternative therapy were transitioned to an H2 blocker, educated on dietary changes, or referrals were sent for GI specialist for possible EGD testing if symptoms persisted while taking PPI.

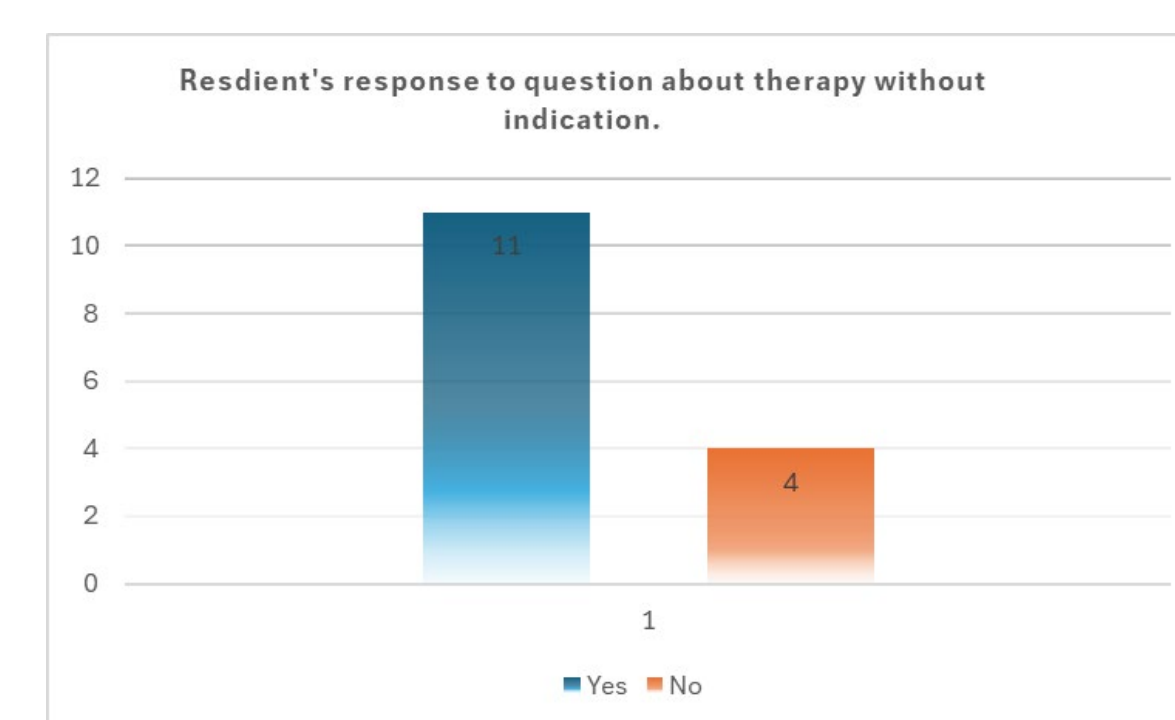
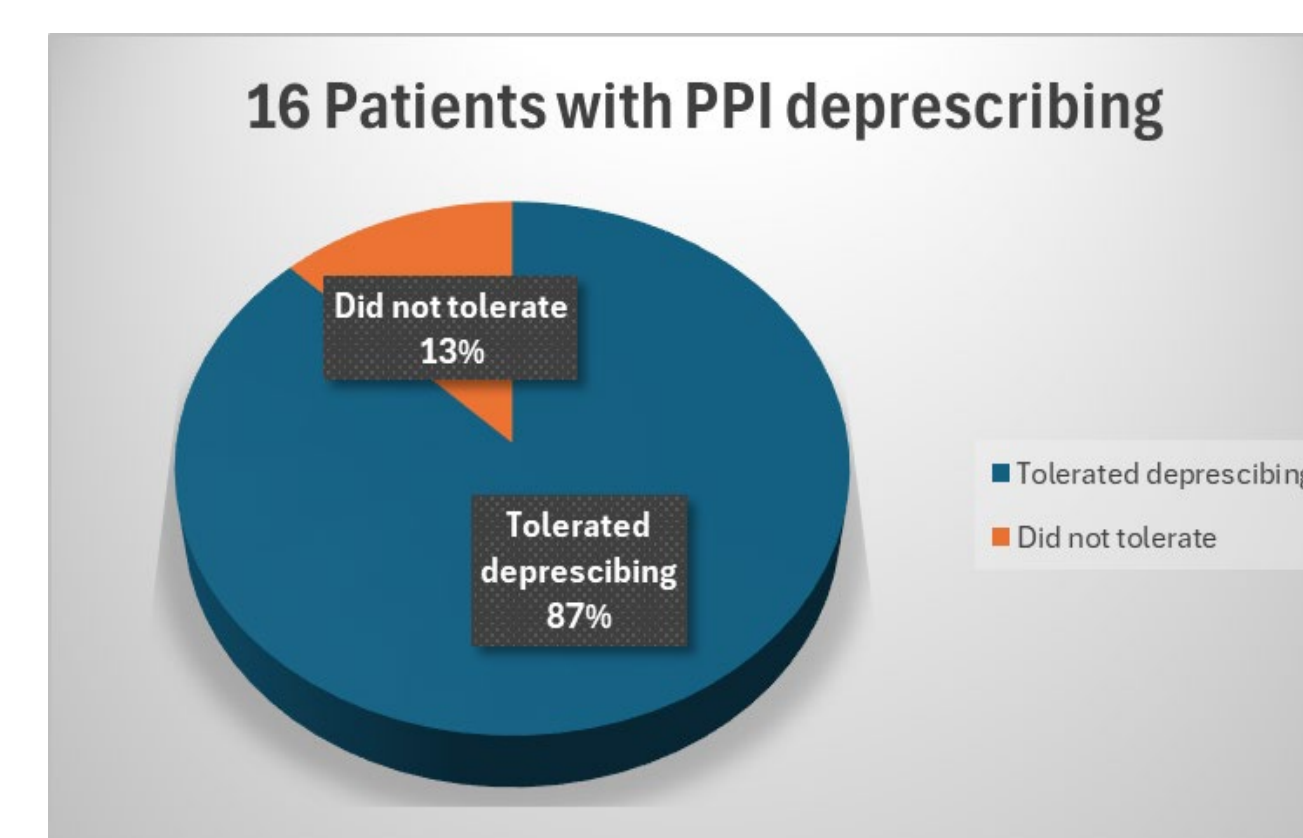
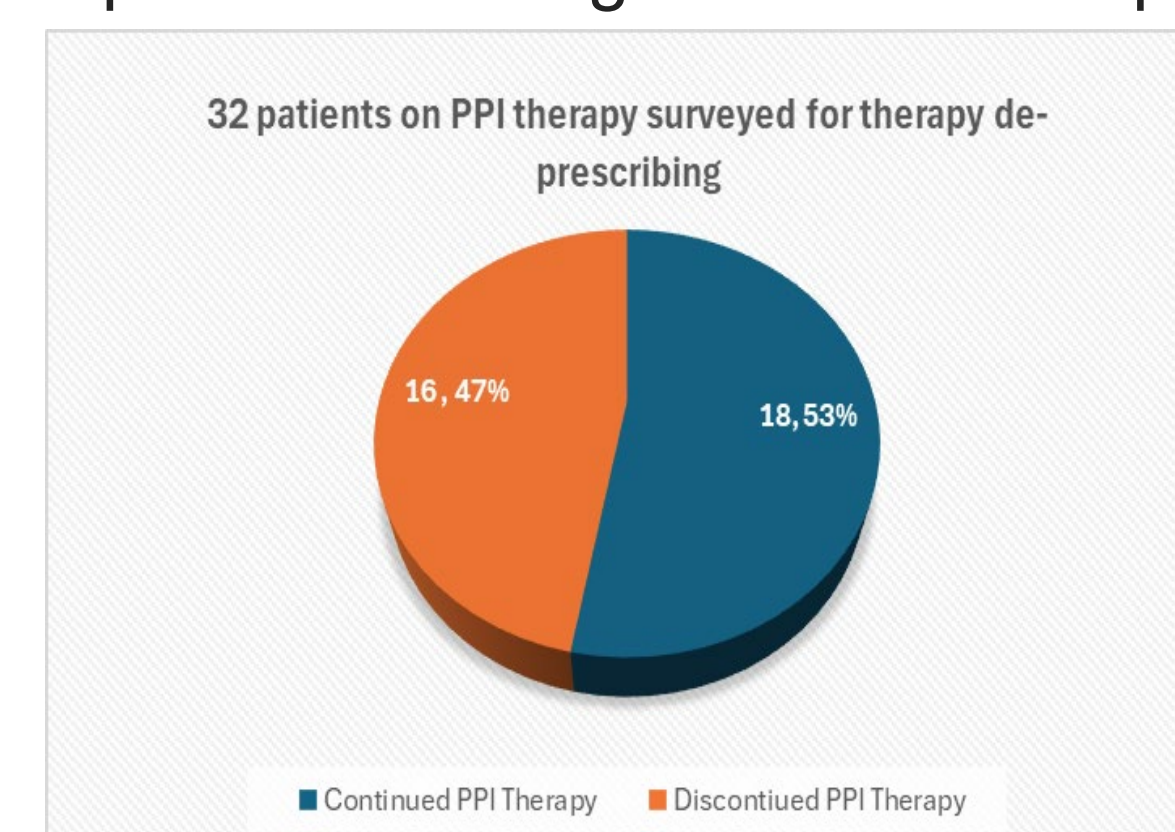
Phase 2

- Survey was distributed to the family residents to evaluate current knowledge of PPI indications for long term therapy, guidelines regarding treatment duration, and adverse effects associated with long term use.
- Residents will be educated on indications for long term PPI therapy, guideline treatment durations, and adverse effects.
- Residents will be encouraged to continue de-prescribing PPIs when their use is no longer clinically indicated
- Post education survey will be sent to family medicine residents to evaluate post intervention knowledge and if they were successful de-prescribing PPIs in their patient panels.

Results

32 patients over 60 years of age receiving PPI therapy for at least 6 months were surveyed. Nine were male and 23 were female. Among these patients, the average duration of PPI therapy was 6 years, and the most associated diagnosis was acid reflux. Of the 32 patients included, 14 patients (47% of panel) tolerated discontinuation of therapy. 2 out of the 14 patients who initially tolerated discontinuation of PPI therapy (13%) required resumption of PPI therapy after discontinuation. Hence 12 out of 14 (87%) tolerated permanent discontinuation of PPI therapy.

15 family medicine residents were also surveyed regarding indications and if they were aware of possible adverse effects of long-term PPI therapy. All 15 answered yes. Residents identified Osteonecrosis, hypomagnesemia as some of adverse effects of long-term PPI therapy. 11 out of 15 stated they are also aware that most patients on long term PPI therapy are without actual indications.



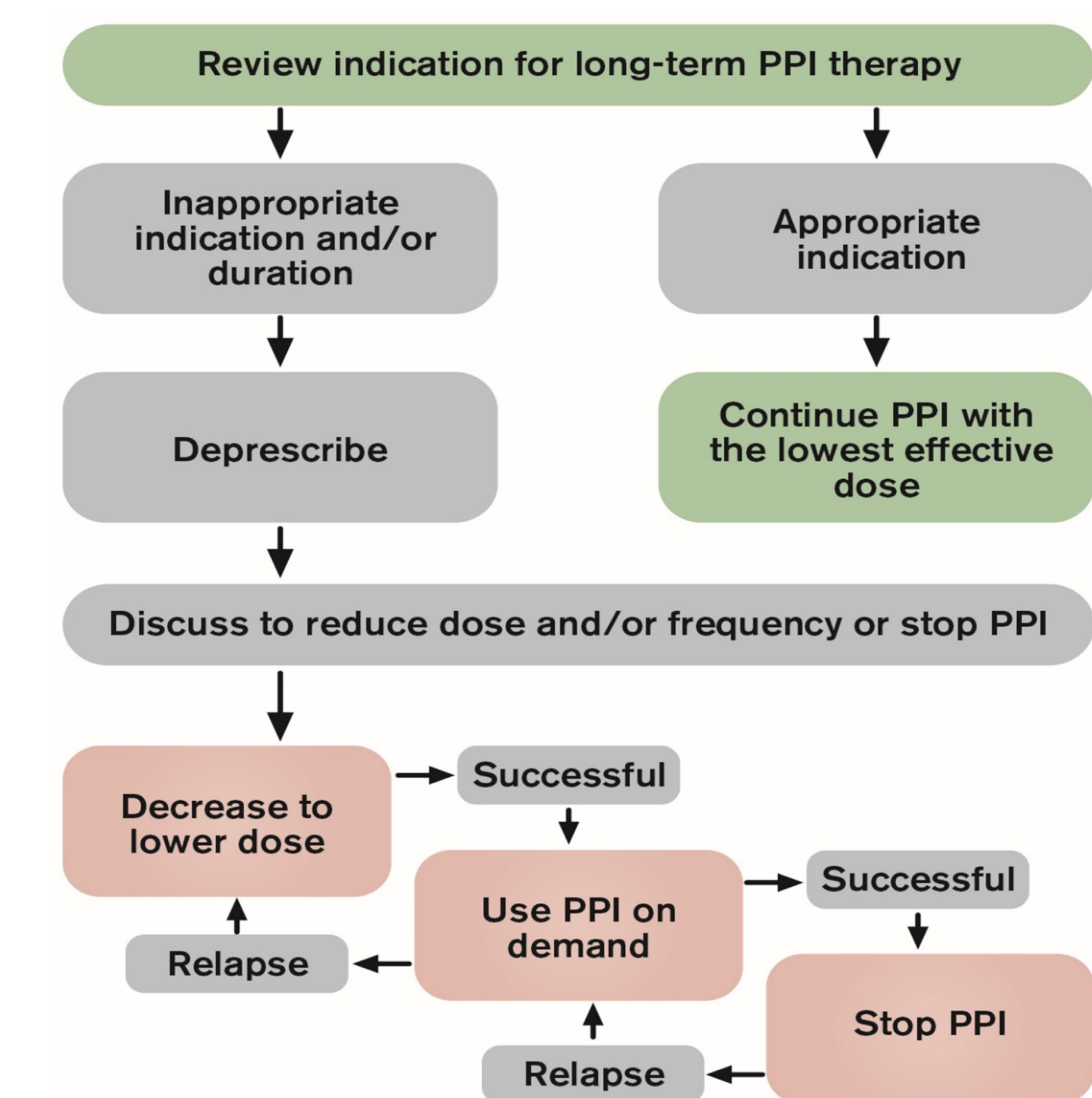
Discussion

Residents also identified some of the indications including but not limited to GI bleed or intolerance to H2 blocker. A presentation discussing the indications, side effects, and the process for safe de-prescribing will be given to the residents. Information was compiled from the AAFP archive regarding PPI therapy and de-prescribing. Post-intervention survey were conducted.

PPI deprescribing involves the process of reducing and/or stopping the PPI therapy after consideration of therapeutic indication, benefits and risk. Although deprescribing process can be difficult, the purpose of deprescribing in most cases is to reduce medication burden and potential adverse effects while maintaining quality of life. On the next frame is a model deprescribing algorithm proposed and published in Canada and Australia. This approach recommends deprescribing of PPIs in adults who are symptom free after a minimum of four-week PPI therapy for GERD or upper GI-symptoms. There is no evidence-based method of stopping or reducing PPIs.

Discussion (cont'd)

A model algorithm of PPI de-prescribing.



Conclusion

Our QI project has shown that within our patient panels, there are numerous patients on long-term PPI therapy without a proper indication, such as GERD. Patients were prescribed PPIs for multiple years, some with continued symptoms despite long-term treatment. The project revealed the need for continued medication reconciliation and the importance for further testing if symptoms persist despite treatment and adequate guideline-directed duration. It highlights informed shared decision making with patients. When presented with the potential side effects of nutrient malabsorption, infections (C. diff and CAP), dementia and worsening of renal disease, patients were more open to discontinuation of therapy. It should also be of utmost importance amongst providers to discuss with patients regarding alternative treatment options such as a trial of conservative management with dietary modifications, other medication options such as H2 blockers, or evaluation by a gastrointestinal specialist for refractory cases.

References

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- Lehault, W. B., & Hughes, D. M. (2017). Review of the Long-Term Effects of Proton Pump Inhibitors. *Federal practitioner : for the health care professionals of the VA, DoD, and PHS*, 34(2), 19–23.