

ABSTRACT

It is estimated that 20% of Medicare patients have over five chronic conditions and that half of these patients are on over five medications. The BEERS Criteria is a peer reviewed list of potentially inappropriate medications for use in older adults. Our goal was to review current medications, deprescribe any unnecessary medications, avoid prescribing cascades, consider nonpharmacological approaches, reduced dosages, and simplify dosing schedules. We evaluated the effect of a BEERS Criteria lecture on the number of patients receiving BEERS Criteria medications in the LSU Family Medicine resident clinic. First, we measured how many patients over sixty-five years old were prescribed drugs on the BEERS list over the past two months prior to starting our project. We then delivered a lecture targeting several strategies against polypharmacy during resident didactics. Finally, we measured how many patients over sixty-five in the resident clinic were receiving these medications over two months following the lecture. Three hundred and twenty-nine adults over sixty-five years old were seen in the resident clinic two months prior to the educational intervention, while three hundred and seventeen were seen in the following two months. While the number of PPIs, sulfonylureas, benzodiazepines, and muscle relaxers did increase, the percentage of patients on each of these medications within our practice remains relatively low. Overall, polypharmacy is still a common issue placing our vulnerable elderly population at risk for adverse events.

BACKGROUND

The use of a greater number of medications have been shown to be associated with increased risk of hospitalizations, especially in the elderly. Polypharmacy, which is defined as the use of 5 or greater medications has also been associated with decreased physical and cognitive capability. The elderly are also at a higher risk of "prescribing cascades", which occur when an adverse drug effect is misdiagnosed as a new medical condition and treated with a potentially unnecessary drug. Our aim is to deliver a lecture reviewing the BEERS criteria and emphasizing various strategies in targeting polypharmacy. Through this intervention, we hope to reduce the amount of selected BEERS criteria medications from our residency clinic.

METHODS

The four medications tracked were benzodiazepines, muscle relaxants, sulfonylureas, and PPIs. Patients over the age of 65 that were prescribed these medications were recorded two months prior to the intervention lecture. There were a total of 329 patients seen in clinic that met this criteria during the pre-intervention period. The intervention lecture consisted of strategies of reviewing medications listed on BEERS criteria, discontinuing unnecessary medications, techniques to avoid prescribing cascades, and emphasis on promoting non-pharmacologic approaches to chronic diseases. Patients were then tracked for two months post the intervention lecture. There were a total of 317 patients meeting criteria seen during the post-intervention period. Using the "SlicerDicer" tool in EPIC, the use of selected BEERS medications were analyzed pre and post intervention. The total number of patients on the selected medications as well as the percentage change post intervention period was graphed and can be seen on Figures 1 and 2.

RESULTS

Number of Patients by Medications (Pre-Intervention Period)

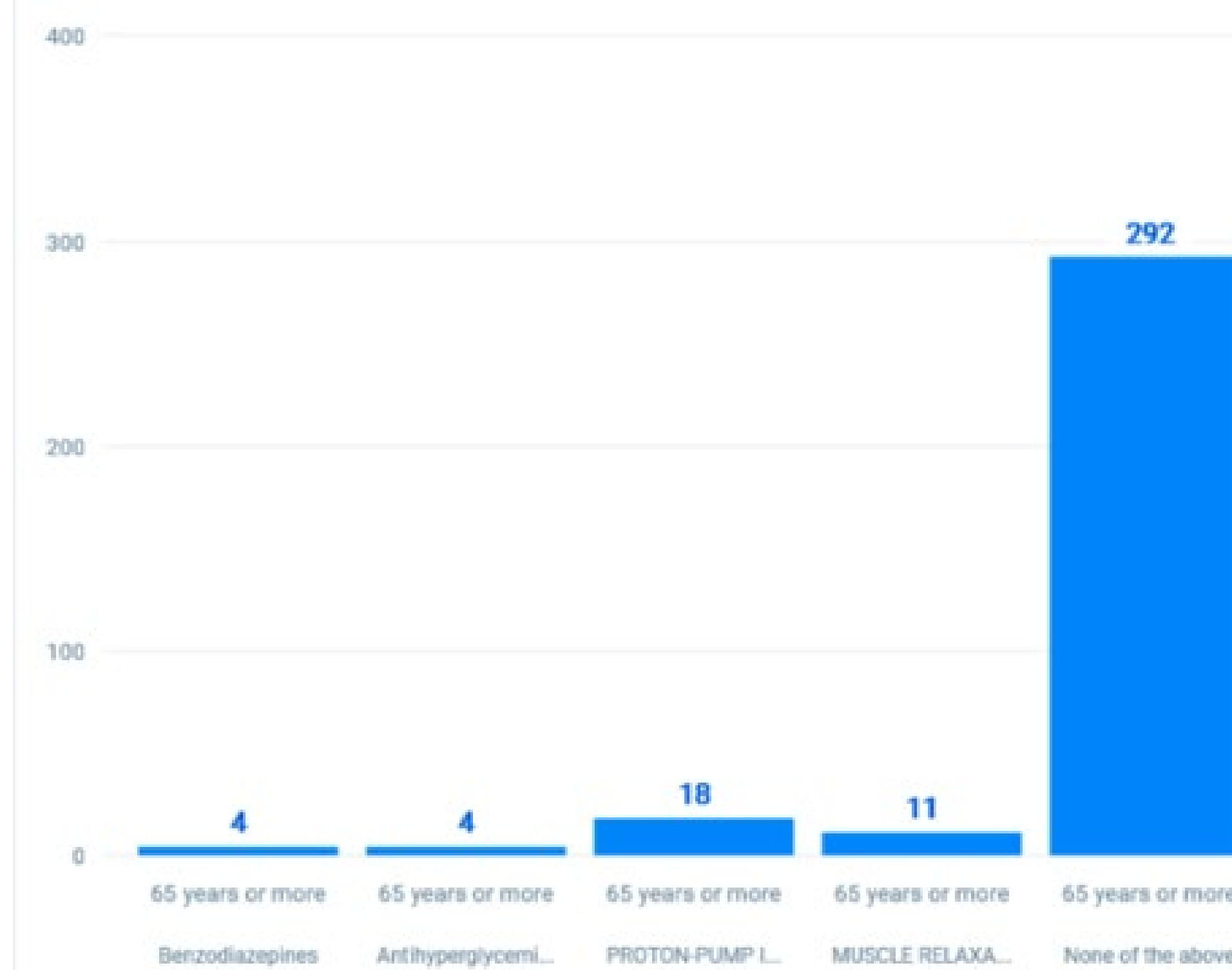


Figure 1. Total number of patients prescribed selected BEERS criteria medications seen during the pre-intervention period. There were a total of 329 patients age >65 seen in clinic during the pre-intervention period.

Number of Patients by Medications (Post-Intervention Period)

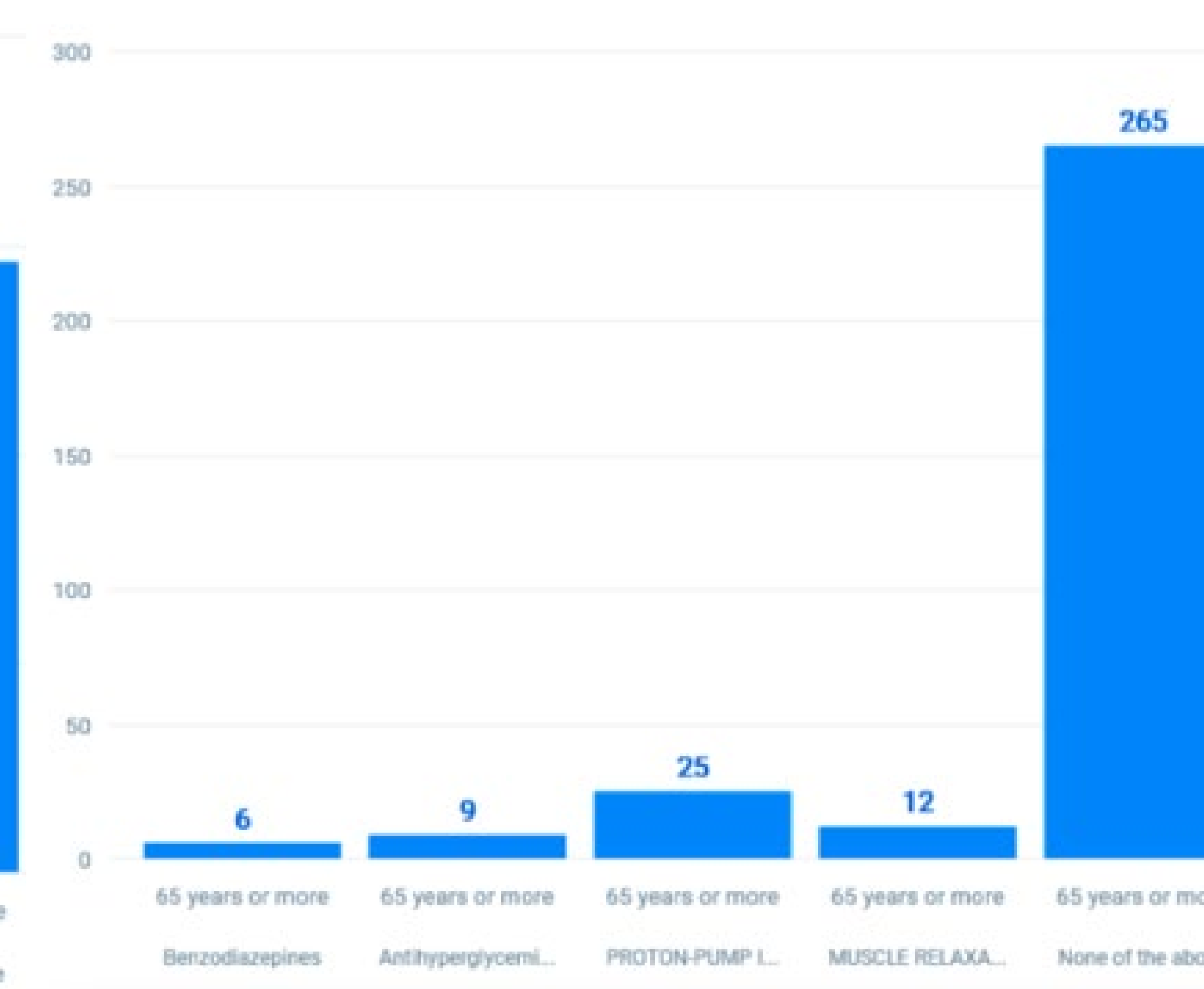


Figure 2. Number of patients age >65 seen during the post intervention period prescribed selected BEERS criteria medications. Based on the data, there was an overall increase in all four targeted medication prescriptions.

DISCUSSION

After compiling the data from the post-intervention group, there were increases seen in the amount patients on selected BEERS criteria medications. Even though there were no reductions in medications after the intervention, it was reassuring to see the number of patients on benzodiazepines still relatively low within the practice. Benzodiazepines are associated with increased risk of falls, fractures, and overdose and must be used judiciously with the elderly. Also, PPIs have tended to be inappropriately prescribed to elderly population groups which lead to an increased risk of several adverse events. This events include osteoporotic-related fractures, community-acquired pneumonia, kidney disease, and dementia. Sulfonylureas, a common class of diabetes medications, has been shown to increase risk of hypoglycemia related hospitalizations in the elderly. Based on these results continuing medical education may be a practical method and needed to keep physicians aware of the issue and encourage deprescribing of unnecessary medications. Potentially with further educational lectures and workshops, continued efforts can be made in reducing polypharmacy in our elderly population.

CONCLUSION

BEERS criteria medications prescribed to the elderly is prevalent in many primary clinics. Providing additional reminders for safe alternatives to these medications may also be beneficial to providers. Overall, multiple educational attempts to providers will likely be needed to reduce polypharmacy.

RESOURCES

1. (2019), American Geriatrics Society 2019 Updated AGS Beers Criteria® for Potentially Inappropriate Medication Use in Older Adults. J Am Geriatr Soc, 67: 674-694. <https://doi.org/10.1111/jgs.15767>
2. Uptodate.org
3. Deprescribing.org