Comparison of Beers Criteria, Stopp/Start criteria and Priscus list during identification of potentially inappropriate medications amongst elderly nephrology patients

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Background Use of potentially inappropriate medications (PIMs) in the elderly contributes to their unplanned hospitalizations and re-hospitalizations. Whilst there are a number of instruments used to identify PIMs in the elderly, there is a lack of comparison between the tools.

Purpose This study aimed to compare three commonly tools used commonly during identification of PIMs: Beers criteria, Stop/Start criteria and Priscus list in nephrology elderly patients.

Method This is a prospective cohort study conducted in nephrology department of Kosovo’s University Clinical Centre. The LACE index was used to predict the readmission risk among patients included in the study. In order to identify PIMs, patient's medication list was compared against three main criteria: the 2015 Beers, PRISCUS, and STOPP criteria. PIMs were analysed at point of patient admission and discharge. We analysed the correlation between LACE index score and PIMs according to each criteria. Descriptive statistics and chi-square testing were performed to analyse the data whereas linear regression modelling was employed to estimate relationship between variables.

Findings Of the 184 admitted to nephrology department between August and October 2016, 85 patients met our inclusion criteria. The data suggested that nephrology patients had a median of three medications at admission and four at discharge. They were are at high risk of hospital readmission with median LACE score being 11. PIM prevalence at admission according to Beers, STOPP, and PRISCUS criteria were 29%, 20%, and 12%, respectively. PIM prevalence at discharge according to Beers, STOPP, and PRISCUS, were 38%, 23%, and 21%, respectively. For all three tools, the number of PIMs identified at hospital admission was positively associated with the number of PIMs at discharge. There was a significant association between patients length of hospital stay and identified PIMs when Beer’s criteria (p =0.015), but this was association was not observed when using Stopp/Start criteria or Priscus list. In this study, common drugs causing PIMs were also identified, as evaluated by all three tools.

Conclusion Beers, STOP/Start criteria and Priscus list can result in varying prevalence of PIMs and agents identified highlighting the need for careful consideration by hospital pharmacists with the view of optimising patient’s safety and reducing hospital readmissions.