Impact of an Evidence-Based Guideline to Prevent Inappropriate Albumin Administration in a Tertiary Care Teaching Hospital in Yazd, Iran

Golnaz Afzal[1*], Danial Dehghani Firouzabadi[2], Reyhane Taati[2],
Hossein Falahzadeh[1], Seyed Mojtaba Sohravardi[1], Amir Hossein Karimi[2]

[1]Department of Clinical Pharmacy, School of Pharmacy, Shahid
Sadoughi University of Medical Science, Yazd, Iran
[2]Student Research Committee, Shahid Sadoughi University of Medical Sciences, Yazd, Iran

*Corresponding Author:
Dept. of Clinical Pharmacy, School of Pharmacy, Shahid Sadoughi University of Medical Science, Yazd, Iran

ABSTRACT

Introduction: Albumin is an expensive non-blood plasma substitute with limited availability that is reported to be inappropriately used in healthcare settings. Hence, interventions are recommended to control its misuse. This study aimed to compare the impact of an evidence-based guideline to prevent inappropriate albumin administration in the Shahid Sadoughi Hospital in Yazd, Iran.

Methods and Materials: In this prospective study, 382 patients were enrolled at Shahid Sadoughi Hospital in two phases. The patient's medical records were reviewed to gather demographic data, indication for albumin use, duration of albumin therapy, and appropriateness of albumin indication in the pre-intervention phase. In the post-intervention phase, albumin was administered following the American Society of Health-System Pharmacists (ASHP) guidelines. After the post-intervention period, demographic parameters, albumin indication, albumin therapy duration, and appropriateness of indication were compared among groups. The data were analyzed using SPSS 21 software and descriptive statistics.

Results: In this study, 382 patients were analyzed to investigate the consumption of albumin drugs before and after implementing guidelines. The gender distribution shifted from 51% male and 49% female to 61.1% male and 38.9% female, with significant differences. The percentage of patients with indications increased from 43.8% to 72.6%, showing a statistically significant difference. In the first phase, the average albumin level was 2.55 g/dL; in the second phase, it dropped to 2.2 g/dL. According to the Mann-Whitney test, this difference is significant. The average number of albumin vials consumed increased from 11 in the first phase to 14 in the second phase, which is also significant. The increase in vial consumption is attributed to a rise in indications. When controlling for indication in the regression model, the results show a decrease of five units in vial consumption between the two phases.

Conclusion and Discussion: This study demonstrated that in the Shahid Sadoughi Hospital, albumin was prescribed inappropriately in most cases based on ASHP guidelines. Implementing the albumin prescription and administration guidelines in the hospital setting and clinical pharmacist intervention significantly reduced inappropriate albumin use and associated costs. Albumin prescriptions should be monitored carefully by clinical pharmacists.