Author's response to reviews

Title: Medication-related problem type, severity, and appearance rate in ambulatory hemodialysis patients.

Authors:

Dr Harold J Manley (manleyh@umkc.edu)
Debra K Drayer (debra.drayer@dciinc.org)
Richard S Muther (richard.muther@dciinc.org)

Version: 2 Date: 8 Oct 2003

Thank you for your comments regarding our manuscript entitled "Medication-related problem type, severity, and appearance rate in ambulatory hemodialysis patients".

Below please find our replies to each raised concern. We trust that each concern is adequately addressed and look forward to hearing back from you in due course.

Sincerely,

Harold J. Manley, Pharm.D., BCPS

Review Comments:

1) The authors are not clear in what exactly are the goals of the study. Incidence of MRP or intervention testing, both?

The aim/goal of the paper was to determine the incidence of MRP in ambulatory HD patients. The introduction was rewritten to clarify this.

2) Overall, the paper is difficult to read. In a revised version the authors should aim to optimize the grammar and spelling especially in the first part of the article.

The manuscript has been rewritten to optimize grammar and spelling as suggested.

3) The abstract should be rewritten focusing on the aims and the message of the study.

The abstract has been rewritten as suggested.

4) The introduction has to be rewritten and better focused on the aims of the study. A clear rationale needs to be established leading up to the questions the authors plan to answer. First paragraphs of the discussion can be used for this purpose.

The manuscript has been rewritten to focus on the aims of the study as suggested. See reply to comment #1 above.

5) Methodology and results: I would like to see more information regarding the patient's sample selection (randomisation process, selection criteria, available population, etc.). How representative is this sample for the HD- population (this sample consists of 70 % blacks)? It is not clear how the study was performed: inclusion of patients during a 10 month period or inclusion and 10 month
follow up with interventions regarding MRP. 5,373 patients medication orders were reviewed in how many patients? Were the same patients included in the study more than once? If there was an intervention during the follow up then the reported overall incidence of MRP is biased and I would like to see data regarding the nature and effect of the interventions (pre-post).

Information on the patient's sample selection (randomization process, selection criteria, available population, etc.) is provided in Table 1 and revision of manuscript (see 1st paragraph of Patients and Methods section). The dialysis clinic is a classic "inner city" clinic; therefore the sample is primarily black and has diabetes. Regarding the 5,373 patients medication orders reviewed, this occurred in 66 different patients over the 10 month period. Regarding how any pharmacist intervention would bias the incidence of MRP, our results would be a conservative estimate (i.e., under estimation) of the MRP appearance rate. Although the outcome data of the pharmacist interventions would add significantly to this report, the data are to be reported elsewhere. Again the intent of this manuscript is to report the MRP appearance rate, not the clinical impact of pharmacist interventions as that has been reported by several different authors over the past 2 decades.

6) Conclusion: no data support the conclusion that medication compliance is improved. Conclusions not in line with reported results.

The statement about medication compliance is a discussion item, not a conclusion item. As you pointed out, we did not measure medication compliance. Nonetheless, Stoutakis et al (Stoutakis VA, Acchiardo SR, Martinez DR, Lorisch D, Wood GC: Role-effectiveness of the pharmacist in the treatment of hemodialysis patients. Am J Hosp Pharm 35: 62-65, 1978.) showed that pharmacist care improved patient medication compliance, assessed by pill-count, from baseline (61% to 84%; p < 0.001). Additionally, over a 4 month follow-up, medication compliance continued to improve with continuous pharmacist interaction as compared to patients that reverted back to services rendered by physicians and nursing (90% vs. 74%; p < 0.001).

7) Figures: figure two: title: Number of MRP / patient over time, x-axis: interventions / patient?

X-axis represents months of follow up; the y-axis represents the number of MRP/patient identified as noted on the figure.