Author’s response to reviews

Title: A Population-based study on the Association between Acute Renal Failure (ARF) and the Duration of Polypharmacy

Authors:

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Version: 4 Date: 31 July 2012

Author's response to reviews: see over
Dear Editor:

We appreciate both referees’ effort to review our manuscript. Our manuscript was edited by Edanz (www.edanzediting.com/bmc1) as you recommended. We also revised editorial points as you suggested. The following are our revisions according to referees’ comments.

For referee Dr. Nobili, his comments and our responses are:

1. The aim of the study is not explicitly defined nowhere in the text.
   Our response:
   We stated our aim of this study on page 3 paragraph 3 line 1-3.

2. No specific analysis evaluated whether some classes of drugs may influence the correlation between ARF and polypharmacy.
   Our response:
   We included a new variable, number of days taking NSAID or triamterene drugs, in our analysis. NSAID or triamterene drugs are suggested by Beers’ list of inappropriate medication for they may cause renal failure for patients with kidney problems. Our analysis found that the odds ratio of number of days taking NSAID and triamterene drugs was not significant to be included in the multiple logistic regression model because this variable might be highly correlated with the duration of polypharmacy.

3. The duration of polypharmacy was defined as the number of days that patients took more than five prescription medications on a single day, then it was divided in four categories: < 30 days, 31-90 days, 91-180 days, and >181 days. Was the exposure to the drugs during these periods “continuous” or was it calculated as the number of days of exposure during the analyzed year? Could the authors specify?
   Our response:
The duration of polypharmacy in our study was defined as the number of days that patients took more than five prescription medications on a single day. It was calculated as summation of single days, not continuous days. We revised this definition on page 5 line 7-9.

4. What were the criteria and the rationale used to select the comorbidities and the “site of operation” included in table 1 and table 2? Please specify?
   Our response:
We include comorbidity and site of operation in our study was because we found these factors were highly associated with acute renal failure as many literature suggested. We further added three studies, 24-25, for references on page 12.

Discretionary Revision:
1. In the “introduction”, the section in which the authors explain the characteristics of the NHI should be rewritten more clearly.
   Our response:
   We revised this section for further explaining characteristics of Taiwan’s National Health Insurance in page 3, paragraph 3, line 3-10 and line 1-7 in page 4.

2. Should the authors provide more information on the types of data available in the National Health Insurance Research Database?
   Our response:
   We added some description of types of data contained in NHIRD in page 4 line 1-9. However, our references 18-19, provided more details, in format, of variables collected by the NHIRD and how it was used for conducting similar studies which were published in various types of journals.

3. The tables are too long and should be shortened.
   Our response:
   We shortened both tables by removing some categories of the variables.

4. The legend at the end of the table 2 is not related to any content: please revise.
   Our response:
   We revised as the referee requested.

For referee Dr. Musso, his comments were “better its title and its writing”. Since we we used the editing service as the editor suggested. We think writing of this manuscript should be improved significantly.