Author’s response to reviews

Title: The impact of dialysis therapy on elderly patients with advanced chronic kidney disease: a nationwide population-based study

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Author’s response to reviews: see over
1 September, 2014

*BMC Medicine*

Dear Editor-in-chief:

We sincerely thank the reviewers for their valuable comments on our manuscript entitled “The impact of dialysis therapy on elderly patients with advanced chronic kidney disease: a nationwide population-based study” (Manuscript ID: 9217527421376900). We have listed the point-to-point responses to all comments in the following pages, and made relevant changes in our manuscript accordingly. For the convenience of the reviewers, we have marked the revised parts of the manuscript in red type. We do hope the revised manuscript will fulfill the requirements for publication in the *BMC Medicine*. Your candid consideration to accept our revised manuscript will be much appreciated.

Sincerely yours,

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Reviewer's report

**Title:** The impact of dialysis therapy on elderly patients with advanced chronic kidney disease: a nationwide population-based study

**Version:** 1  **Date:** 18 August 2014

**Reviewer:** Giovanni Cancarini

**Reviewer's report:**

In my opinion the changes made by the Authors make the paper suitable for publication.

**Quality of written English:** Needs some language corrections before being published

=>**Response:** Followed. The revised manuscript has been edited by a native English-speaking editor.

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests
Reviewer's report

Title: The impact of dialysis therapy on elderly patients with advanced chronic kidney disease: a nationwide population-based study

Version: Date: 21 August 2014

Reviewer: Paul Komenda

Reviewer's report:

This manuscript reports an observational, retrospective population based study based in Taiwan comparing elderly CKD patients who started dialysis vs those who did not. The primary outcome is mortality and secondary outcome is CKD related costs from the health care pay or perspective. The manuscript is well written, the methods are sound and well described and the results clearly presented. This is an important public health question to aid in elderly patient decision making of whether to start dialysis or not. This is the largest cohort to date examining this question and the universal Taiwanese health care system in which nobody is denied care or dialysis based on ability to pay is an ideal setting for this study. The propensity matched analysis further strengthens this analysis and helps make the case that the signal being observed cannot be explained away by obvious confounders.

Major Revisions

1. The justification for why patients needed to be receiving an ESA to qualify for
the study needs further explanation. There are many patients who quite appropriatively do not receive ESA's with late stage CKD. Those who do are likely at higher comorbidity. Is this simply a surrogate for "nephrologist" CKD care?

Response: We appreciate this comment. According to the reimbursement of National Health Insurance (NHI) in Taiwan, the prescription of ESAs to non-dialyzed CKD patients is limited to those with a serum creatinine level > 6 mg/dl (approximately equivalent to estimated glomerular filtration rate < 15 ml/min/1.73 m$^2$) and hematocrit < 28%. ESAs could be prescribed by nephrologists or non-nephrology physicians if CKD patients fulfilled the above criteria. The prevalence of ESA utilization is relative low among CKD or ESRD patients in the US [1, 2]. However, the report from Taiwan Department of Health in 2012 showed that 85% of patients with stage 5 CKD who had not yet commenced dialysis were treated with ESAs. It is mainly due to convenient medical access and minimal financial barrier of health insurance in Taiwan.

The median hematocrit value at the initiation of dialysis was 24.2% (interquartile range 20.6% to 27.5%) in Taiwan [3]. Thus, the vast majority of advanced CKD patients not undergoing dialysis were anemic and required ESA therapy. Accordingly, our elderly patients receiving ESA therapy were qualified for being ideal candidates for those with advanced CKD (page 8, lines 8-10 & 12-14).

References:


2. Mortality on dialysis is significantly influenced by timing of dialysis initiation (i.e. starting at lower eGFR is associated with better survival). I recognize the eGFR at dialysis initiation is likely not available using administrative data, but some discussion surrounding this issue as a potential confounder/limitation might enhance the manuscript.

*Response:* We agree with this comment and have added it as a limitation (page 18,
3. I have an issue with dialysis costs being a secondary endpoint. It is a truism that not performing procedures or interventions like dialysis are a less costly option than more intervention. There is nothing novel in this finding and reporting this as an "outcome" of the study seems to detract from the paper's main message of survival. Perhaps costs could be mentioned as an aside, not an "outcome". The obvious opportunity cost here would be the ability to provide more robust palliative CKD care for those not choosing dialysis. This might make the reporting of cost more palatable to the reader.

Response: We agree with your suggestion. The issue of cost has been mentioned as an aside, not an "outcome" accordingly (page 3, lines 13-14; page 4, lines 2-3; page 9, lines 10-14; page 13, lines 14-15 & 18-20; page 14, lines 1-2; page 15, line 6 & 8; page 17; lines 4-7).

Minor Revision p. 16 "among US nursing _____ residents" - forgot home?

Response: Sorry for this omission. We have added the missing words (page 16, line 13).
Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests