Author's response to reviews

Title: Awareness and current implementation of drug dosage adjustment by pharmacists in patients with chronic kidney disease in Japan: a web-based survey

Authors:

Yuki Kondo (ykondo@kumamoto-u.ac.jp)
Yoichi Ishitsuka (y-zuka@gpo.kumamoto-u.ac.jp)
Eri Shigemori (yakuzaika2@373pc.co.jp)
Mitsuru Irikura (ikura@gpo.kumamoto-u.ac.jp)
Daisuke Kadowaki (d-kado@kumamoto-u.ac.jp)
Sumio Hirata (hirata@kumamoto-u.ac.jp)
Takeshi Maemura (yakuzaika@373pc.co.jp)
Tetsumi Irie (tirie@gpo.kumamoto-u.ac.jp)

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Author's response to reviews: see over
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Dear Professor McCabe,

Thank you very much for your review of our manuscript (Ms. No.: 5232630913207611), entitled “Awareness and current implementation of drug dosage adjustment by pharmacists in patients with chronic kidney disease in Japan: a web-based survey” submitted to *BMC Health Services Research*, and a kind letter of September 15, 2014. In reply to the comments raised by the editor and referees, we combined the comments where the answers are related. We hope that the revised version of our manuscript is now suitable for publication in *BMC Health Services Research* and we look forward to hearing from you at your earliest convenience.

Yours sincerely,
Yuki Kondo, Ph.D.

This manuscript was edited by Edanz Group Ltd.
Reply to the reviewer #1

We are grateful to you for the critical comments and useful suggestions that have helped us to improve our paper. We have taken all of these comments and suggestions into account in the revision of our paper.

Comment 1:
The text is somewhat difficult to understand, due to improper English # proofreading of a native speaker recommended

Response to the comment 1:
Thank you very much for your valuable comment. We corrected grammatical and spelling errors in our manuscript and prepared a revised manuscript. The revised manuscript was proofread again by English proofreading service, Edanz Group Ltd. (http://www.edanzediting.com/).

In the revised manuscript, the changes are noted in red. Inserted and deleted sentences are pointed out by underline and strike-through, respectively.

Comment 2:
Please comment on the portion of responding pharmacists as compared to the total number of hospital and community pharmacists in Japan # is the survey representative?

Response to the comment 2:
Thank you very much for your suggestion. We surveyed pharmacists in Japan using a web-based questionnaire. In this study, responding pharmacists were from all over Japan (40/47 prefectures in Japan). Therefore, we think the data reflect the opinions of pharmacists from all over Japan. Additionally, characteristics of our dataset seem to reflect the Japanese pharmacists population as follows: First, the ratio of community pharmacists to hospital pharmacists observed in this study resembled the data on the national statistics of pharmacists (Survey of Physicians, Dentists and Pharmacists 2012 by the Ministry of Health, Labour and Welfare). In the national statistics, the ratio of community to hospital pharmacists was 2.5:1 and the ratio of those in our dataset was 3:1. Second, the percentages of pharmacists categorized by degree of experience was similar. The estimated percentage of pharmacists with <5 years working experience is approximately 15.4 and 15.8%, respectively, in the national statistics and in this study. Thus, we think that the population of our dataset likely reflects the population of Japanese pharmacists. According to your suggestion, we described these findings on Page 5, Line 12, Page 6, Line 3, and Table 1 in the revised manuscript.

Conversely, this study has some related limitations. We did not investigate some
demographic characteristics of the respondents (e.g., gender, age, qualification of pharmacists and others.). Thus, it was difficult to evaluate whether our dataset fully matched the population of Japanese pharmacists. However, although further study will be needed to fully elucidate the matter, our study is sufficient to estimate pharmacists’ awareness of the implementation of adjustment of drug dosage according to renal function (ADDR). Therefore, we are planning an intervention study to prove the importance of pharmacists’ awareness. Additionally, a web-based questionnaire often has a self-selection bias. This survey might have a bias toward pharmacists who are concerned with or have an interest in ADDR. In contrast, with a web-based survey, individuals are more likely to respond because they avoid being stigmatized if they have not implemented ADDR. Thus, we chose a web-based survey as the most appropriate way to obtain responses from many pharmacists in Japan. In keeping with your suggestion, we have also described the limitations on Page 9, Line 12- in the revised manuscript.

Comment 3:
Please comment on the limitations of the study.

Response to the comment 3:
Thank you for your valuable suggestion. According to both reviewer comments, we have described the limitations of our study on Page 9, Line 12- in the revised manuscript.
Reply to the reviewer #2:
We are grateful for your critical comments and useful suggestions to improve our manuscript. According to your valuable suggestion, we proofread our manuscript. In the revised manuscript, the changes are noted in red. Inserted and deleted sentences are pointed out by underline and strike-through, respectively.

Comment 1
In fact I’m wondering why the authors wanted to compare two different practice settings i.e. what is the rationale of this comparison and its implications to the practice and policy. In fact the difference between these two sectors is documented in the literature and the authors stated that clearly in the introduction (page 4, lines 17-22): hospital pharmacists can easily obtain information about renal function from their patients’ medical record; they can contribute to reduction in the incidence of adverse drug events in patients with renal impairment. In contrast, it is relatively difficult for community pharmacists to obtain information about renal function; therefore their contribution to the total amount of ADDR is relatively limited in Japan and other countries.

Response to the comment 1:
Thank you very much for your suggestion. We were not able to explain well because of our difficulties with English in the first version of our manuscript. Tachi et al. (reference No.10) and Via-Sosa et al. (reference No.11) indicated that community pharmacists’ contribution to ADDR was relatively limited. However, they did not clarify the reasons in their studies. Even now, the reason for the limited contribution to the implementation of ADDR by community pharmacists is unclear. Therefore, this study was conducted to evaluate the factors influencing the implementation of ADDR by community pharmacists. In the revised manuscript, we corrected the sentences in the introduction on Page 4 Line 17 as follows: Hassan et al [6] reported that hospital pharmacists can contribute to a reduction in the incidence of adverse drug events in patients with renal impairment. Conversely, the contribution of community pharmacists to ADDR seems to be limited in Japan [10] and in other countries [11]. Although hospital pharmacists can easily obtain information about renal function from patient medical records, it may be more difficult for community pharmacists than for hospital pharmacists. Although we might expect a limited contribution to the implementation of ADDR by community pharmacists due to the unavailability of information on renal function in community pharmacies, the practical reasons still remain unclear.

Comment 2
More importantly, the methodology part needs to be presented with adequate details (e.g.
Response to the comment 2:
Thank you very much for your suggestion. We chose a web-based questionnaire because it has advantages including access to individuals in distant locations, the ability to reach difficult-to-contact participants, and the convenience of having automated data collection. The URL of the survey website consisted of a random character string, so general surfers of the internet could not access the site. In this study, we sent no reminders. Per your suggestion, we described the methods on Page 5, Line 2, and Line 9, in the revised manuscript.

Additionally, the questionnaire invitation was sent via a closed social network group and relevant pharmacist associations’ mailing lists. Since the exact number of invitees was unknown, we were not able to calculate a response rate and sample size. These points seem to be the weak points of this study, and therefore, we described the limitations of our study on Page 9, Line 12 in the revised manuscript. Additionally, we mistook the name of the web-based questionnaire system provided by Google, and corrected the mistake in the revised manuscript.

Comment 3
Some parts of the manuscript need to be revised e.g. the conclusion. The authors stated that “implementation of ADDR by community pharmacists is hindered by their limited awareness of the importance of patients’ renal function”. However by looking at table 4, it’s reported that community pharmacist considered aware of these aspects: median=4 (important). In fact the main hindrance is “Difficulty in obtaining information about renal function (e.g., serum creatinine)” as shown in table 5. Therefore the results need to be correctly interpreted.

Response to the comment 3:
Thank you very much for that critical suggestion. In our data, community pharmacists were mostly aware of the importance of patient renal function, with a median score of 4 (important). However, half of community pharmacists had not implemented ADDR. We think that there is an enormous gap between “important” and “very important”. Hence, we performed a subgroup analysis in community pharmacists to evaluate the relationship between awareness of the importance of patient renal function and implementation of ADDR. The result is shown as Supplemental Table 1. Thirty-two community pharmacists (37.6%) considered aware of the importance of patients’ renal function was “median=4 (important)
had implemented ADDR. In contrast, 67 community pharmacists (78.8%) considered aware of the importance of patients' renal function was “median=5 (very important)” implemented ADDR. This result supported our assumption that there is an enormous gap between “important” and “very important”.

However, it was difficult to understand our data presentation and explanation in the first version of the manuscript. Therefore, to promote greater understanding, we replaced Table 4 with Figure 2 in the revised manuscript. Additionally, we added the Supplemental Table 1 and described the explanation for these data on Page 6, Line 27-, and Page 7, Line 33-.

Comment 4
Demographic characteristics are lacking (e.g. gender, age, qualification e.t.c.)

Response to the comment 4:
Thank you very much for your suggestion. We did not determine gender, age, and qualification. To further clarify the state of implementation of ADDR, additional study will be needed.

We have added the lack of demographic characteristics as a limitation Page 9, Line 12- in the revised manuscript.