Author's response to reviews

Title: Patient Severity Matters for Night-shift Workload for Internal Medicine Residents in Taiwan

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Version: 10  Date: 26 September 2014

Author's response to reviews: see over
Cover letter

Dear editor and reviewers:

Attached please find our revised manuscript entitled “Clinical Severity Matters for Night-shift Workload for Internal Medicine Residents in Taiwan.” that we are submitting to be considered for publication in your prestigious Journal.

We appreciate the reviewer's positive attitude and comments on our work, and we are pleased to respond again to each point to make the manuscript better.

Reviewer: Lena Y Ansmann

#Minor revisions:

1. Thanks for clarifying the difference between reasons for call and sources of call. I recommend the authors to add the definition provided in the response to the reviewer into the manuscript to clarify it for all readers.

Reply: As you reminds, we are pleased to describe more explicitly to the readers.

Page 5, line 6: We revised the original statement to: "The reasons of calling on-duty residents have been extensively studied in several different settings, but the sources of calls which could be helpful in predicting workload were rarely mentioned. Calls from stable, ...
critically ill patients, or patients in other special conditions, may lead to different pattern of care.

2. Thanks also for the explanation on the assessment of nurse satisfaction, which is clear to me now, but might still be unclear to other readers. Could you please add some information on that aspect in the measurement section, e.g. satisfaction with what?

**Reply:** As you suggest, we are pleased to revise our statement as follows.

→Page 9, line 15: "The night shift nurses who participated in our study were requested to complete an informed consent process by the institutional review board of NTUH, and their satisfaction with on-duty resident's management was measured using a Likert scale that included five levels of satisfaction: very satisfied, satisfied, unsure, dissatisfied, and very dissatisfied."

3. I still think that many of the presented studies in the discussion should have been explained in the introduction, not just by citing them, but by summarizing them in short. Hence, the reader would have a better overview about the state of research from the beginning and the authors could draw back on those studies in the discussion.

**Reply:** We try to move some of the literature review in the discussion section to the introduction section.
We explained details regarding reference 9 and 10: "Libby and coworkers investigated the importance rating of beeper calls to interns, and revealed that nearly 60% of the calls were not relevant to patient care and 37% interrupted teaching or patient-physician interactions. Some researchers also revealed that nurses and doctors exhibited different patterns of paging."

4. Concerning comment 21 I am still a bit confused about the term "medical patients". What exactly is meant by that? Aren’t all patients medical patients?

Reply: Similar terms were used including "medical interns" (page 13, line 18) and "medical patients" (page 13, line 19), which mean interns who work in the medical department and patients cared on the medical service. In the literature, "medical patients" often referred to patients who were receiving medical treatment rather than surgical interventions.

Examples:


5. Thank you for responding to my comment on assessing time as a workload indicator
I think the idea to assess workload via time spent for patient care during night-shifts in future studies would be worth mentioning in the discussion or conclusion.

**Reply:** Thanks.

Page 19, Line 3: We added a statement in limitation section: "Forth, time spent on patient care should be an important endpoint in assessing physician workload, but we could not address it based on our data. Time spent on managing the patient's call is highly related to the resident's training and personality, which have been classified into "provider factors" in Horner's framework and warranted further research."

6. Thanks for adding a definition of hospitalists in the methods section. However, in the definition the authors still use the term “physician”, although they have stated before that in this study all physicians are residents. Could the authors please clarify that?

**Reply:**

Hospitalists are qualified attending physicians (visiting staff), rather than residents. In our system, hospitalists directly take care of inpatients in day and evening shifts, while residents take care of inpatients in night shifts under the supervision by night shift hospitalists.

7. Wouldn’t some of the information the authors provided in their response to comment nr. 15 also be relevant for the discussion section? I think it might be interesting and helpful for
understanding the results.

**Reply:**

Page 12, Line 1: We added a paragraph to describe the percentage of bedside visit among different patients: "Residents' responses to calls depended on the situation of calls and were therefore complex. Although patients had been labeled as "unstable" in the beginning of the night shift, the nurses might call the resident just to clarify an order or request a sleep pill. It was shown that only 62.1% of calls from unstable patients were due to abnormal vital signs, which may explain why only 50.6% calls required bedside visit by on-call residents. Compared to "stable" patients who only required 33.8% bedside visits by residents, patients labeled as "unstable" produced higher workload."

8. I am not sure whether the authors got my point described in comment nr. 18. What I was trying to say was that assessing the residents’ responses to calls might not just capture resident workload but rather the residents’ patient management, i. e. how patient care is organized. That might be interesting to keep in mind when interpreting the results. Thus, it could be worth mentioning in the discussion section.

**Reply:** We are pleased to mention it in the discussion section.

Page 17, Line 19: We added: "In addition, it also worth recording the detailed managements done by residents after the calls. How patient care is organized and what resources are needed
are essential for patient safety at night shifts.

In the revised manuscript we have done efforts to clarify our study finding and point out future study direction. The final text page was 17. All of the authors have read and approved the final revised manuscript. We hope that our manuscript will meet your standards for review and publication. Thank you very much and we look forward to hearing from you soon.

Best Regards,

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