Author's response to reviews

Title: Does doctors' workload impact supervision and ward activities of final-year students?

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Author's response to reviews:

Dear Editor,

Thank you for passing on the reviewers' comments on our manuscript „Does doctors’ workload impact supervision and ward activities of final-year students?” We were pleased that both reviewers were positive about the topic and appeared to appreciate the value of this study. Please find enclosed the revised version of our manuscript. We have modified the paper according to yours and the reviewers' suggestions and would like to thank the reviewers for their constructive criticism.

Editorial request:
1. Inappropriate additional files: Additional files should not include letters to the editor, response to reviewers, copies of the manuscript in foreign languages, copies of other articles, identifiable patient information etc.

Authors' answer:
We revised the additional files as requested.

First Reviewer's report

This paper has some interesting and useful findings in relation to workload issues and the importance of supervision and opportunities to practice. It provides another demonstration of how specific learning environments affect learning. The paper would benefit from being better grounded in the literature, especially that relating to workplace learning. The main weakness is that it makes a number of assumptions which are not justified by the authors. In particular, there are a number of implicit assumptions about learning and doctors' work which are open to challenge.

Authors' answer:
We expanded the introduction by additional paragraphs on current workplace-learning literature [page 3 and 4]. Please also see the answers to the second review, as they address in the implicit assumptions.

Second Reviewer's report
Introduction:
The paper addresses a common problem: the balance between patient care and education, although the suggested problem of students being exploited for non-medical activities is unknown to me.
Authors’ answer:
According to the current literature, a heavy workload and a difficult balance between patient care and education is a common problem in many countries. We cite some more references in the revised Introduction. We assume that the term “exploitation” may have sounded too hard for the assignment of younger doctors to unambitious administrative and organizational jobs as listed in our paper. We rephrased the sentence [page 3]

Second Reviewer's report
The aim of the study: to test the commonly held opinion that patient work load might influence education negatively, is highly relevant. The authors in their design chose to keep history taking and physical examination exempt from the study. It is difficult to understand this argument, as this is the very core that medical students should learn and therefore be supervised on.
Authors’ answer:
We analyzed history taking and physical examination separately and included the data in the revised results [page 10] and discussion section [page 12]. In our study we aimed at activities
- that are usually exclusively performed by physicians
- that are usually not or only partially covered by the medical school curricula
- thus have to be learned from physicians during clerkships
- which students are expected to be able to perform from the day of their graduation
We agree with the reviewer that history taking and physical examination represent the core of physicians’ activity. For this reason, they are usually covered by the most Medical Schools’ curricula and the probability that the students practice both tasks is quite high. We now have explained the aim of our study more precisely in the introduction [page 5] and the methods section [page 9] and show the data on history taking and physical examination in the results section [page 11]

Second Reviewer’s report
Methods: Two variables were combined and thus critical to the study: activities
and workload. Several questions result from reading the manuscript, especially to these variables:

Activities recorded by the students:

Is the difference between medical – and non-medical activities always clear-cut. As I see them described, some of the non-medical activities might have educational implications, have a function of socializing the students into the department, or providing them with an opportunity to learn about other health care personnel.

Authors’ answer:
We definitely agree with the referee that activities classified by us as „non-medical“ are important and sometimes difficult and demanding. We defined these „non-medical“ activities as tasks that are not exclusively performed by physicians and can thus be learned from other staff as well.
We explained this more clearly in the revised methods section on page [9].

Second Reviewer’s report
How was the diary constructed? Did all activities fit into the diary? How was it made sure that the students filled out the diary correctly?

Authors’ answer:
The diary was constructed after some in-depth discussions with former final year students, and the diary was adapted according to these reports prior to our study.
The students who filled and the diaries were sent weekly reminders per email and received a voucher for a bookshop for a completed diary.
We added this information in the methods section page [7].

Second Reviewer’s report
The scale used is intuitively logical but were there mixes, i.e. performing a procedure independently but getting feedback afterwards?

Authors’ answer:
The students were instructed to count every activity as supervised if they received constructive feedback either during or after the task. We added this information in the methods section [page 9].

Second Reviewer’s report
The authors chose to count activities but were differences in workload between activities accounted for?

Authors’ answer:
We discussed this question quite extensively with the former final year students and the colleagues who estimated what factors have an influence on the workload and to what extend. It was commonly agreed that the circadian activity profiles on the individual wards were quite constant. For example: on the
hemato-oncologic ward, bone marrow aspirations are performed quite frequently, while arterial blood gas analyses are typical activities for the pulmologic ward. The workload for bone marrow aspiration is usually higher than for arterial blood gas analysis. Thus we compared the workload only intraindividually for each separate ward, and not between different wards. We clarified this in the revised methods section [page 8].

Second Reviewer's report

Workload index:

This index was constructed on the basis of informal interviews. How was the index validated and reliability assured?

Authors’ answer:

After the diaries were filled in, we asked the individual ward residents on which days in the last three weeks they had perceived the workload as exceptionally high and low, respectively. The correlation between the calculated workload and the subjectively perceived workload was .78. We used this survey for our internal validation, but since the residents were asked to remember individual days of a quite long period, the data were considered rather weak and therefore not included into the final manuscript.

Second Reviewer's report

One could imagine that the perception of workload also had an individual component. How was this accounted for?

Authors’ answer:

This aspect was not covered in our study. We discuss this weakness in our revised discussion [page 13-14]. Of course, the individual workload is also determined by research and teaching activities, conferences, moods, etc. In our investigation we wanted to concentrate solely on the workload arising from patient care. The influence of the subjectively perceived workload from all sources on student supervision is an important question that should be addressed by a future study. We mention this topic now in the discussion on page 14.

Second Reviewer's report

Other specific remarks concern:

Resident’s motivation to teach: how was it measured?

Authors’ answer:

The resident’s motivation to teach was judged by their “clients”, the final year students on the corresponding wards. We added this information in the methods section [page 10].

Second Reviewer’s report

In the result section, “actively performed activity” is a variable: does this comprise
everything: observing, assisting, and performing? Also the variable “qualified” activity is used: is this all medical activities?

Authors’ answer:

With „actively performed activity“ we subsume “performed with or without supervision”. “Watched” and “assisted” do not count as actively performed. We now explain this more precisely in the methods section [page 9]. The term „qualified“ has been replaced by „medical“.

Second Reviewer’s report

• Discussion: presents data/results first time which confuses reading (i.e. data on student satisfaction)

Authors’ answer:

The revised discussion underwent major changes in regard to the wording and its structure. We hope that these corrections have improved the discussion section [page 12-14].

Second Reviewer’s report

Overall judgment of the manuscript is that it addresses a highly relevant question and that it systematically and well accounts for how things were done. The problems in the manuscript stem from the overall design. First, student activities should be thought through and the underlying distinction between non-medical, medical, and history related activities should be thought better through as should the validity and reliability of the measurement instrument (= the diary). Second, the validity and reliability aspects of the workload index instrument needs careful consideration. Finally, reflections should be done when it comes to the character of the relationship between index and student activities: is it causal or???

Authors’ answer:

We are conscious about the fact that our data only show associations, but do not prove causal relationships. We changed the wording accordingly in the discussion section [page 14].