Studierender Report

Titel: Comparative evaluation of different medication safety measures for the emergency department: physicians' usage and acceptance of training, poster, checklist and computerized decision support

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Studierender: Hanna Seidling

Studierender Report:

This paper aims at evaluating the acceptance of different medication safety measures, such as training courses, posters, checklists or the use of computerized decision support systems in an emergency department. Due to a high frequency of medication errors during the prescribing process, analysis of clinical support measures for physicians is an important research area to ensure and increase patient safety. Using both direct observation as well as questionnaires based on the advanced technology acceptance model (TAM2) seems to be a suitable method for its qualitative evaluation.

Major compulsory revisions:

Allgemeine Anmerkungen

In its current state, several minor issues make the paper in total not easy to read. Therefore, authors are invited to check the structure of the manuscript and potentially harmonize distinct sections while eliminating redundancies to increase the overall benefit of the paper:

1. The authors are invited to make the publication more concise, e.g. by avoiding redundancies in the different sections (e.g. the location of the posters is mentioned several times throughout the paper (p. 13/line 1; p. 16/line 16; p. 19/line 5), as is the study period.

2. The authors should check the general structure of the paper (e.g. no methods should be described in the “background” section (p. 6/line 7ff) or in the results section (p. 17/line 15ff), no “discussion” in the “results” section (p. 16/line 12ff, etc.).

3. The authors are invited to refine the manuscript with regard to coherence. For instance, in the methods sections, training, paper-based- and computer-based interventions are described as three distinct interventions, while in the result sections, training is only scarcely mentioned as single intervention but rather as part of paper-based and computer-based measures.

4. Moreover, authors are invited to check whether the manuscript could be shortened, e.g. with regard to the introduction of TAM and TAM2.

Spezifische Anmerkungen

5. Page 6 (Line 5 ff)
Please check whether you could finish the background with the objectives of the study. The following paragraph would suit very well in the methods section. The paragraph on the TAM2 as theoretical framework could potentially be shortened and included in the methods section in page 13, line 15 as well as a keyword in the background paragraph on page 5, line 19.

(6) Page 11 (Line 3ff)
It might helpful for the reader to know what exactly was the computerized intervention. If I understood it right, the computerized system with the electronic documentation was introduced beforehand and within the context of this study only the CDSS functionalities, i.e. the i-button and the medicheck should be evaluated?

(7) Page 15 (Line 11ff)
Please indicate how you dealt with missing values.

(8) Page 16 (Line 12ff)
This paragraphs may be read as discussion sections rather than as result section. Please check whether it should be moved to the discussion section.

(9) Page 19 (Line 17ff)
Please clarify the allocation of the values in the brackets. Which value refers to paper based- and which to computerized measures? Are there any results of the training programs available? If so, please consider including them in this paragraph and in table 4.

(10) Page 21 (Line 1-2) and Table 5 and 6
I was wondering whether there is enough statistical power to calculate a correlation, if you have only 9 questionnaire filled out?

(11) Page 24 (Line 1 and 2)
The explanation “In consequence, the measures were only used for up to 10 percent of prescriptions” differs from the result section, where the statement of 10% was linked with the subgroup of “high risk” drugs. Moreover, also for this subgroup, 2 of 9 physicians used clinical support up to 50% respectively 100% and 1 of 9 participants did not use any support.

(12) Discussion in general
In my opinion there is a large difference in observed and reported usage and acceptance of all medication safety measures. During your observation you identified that safety measures where scarcely used (p. 16, table 2), however, at least 50% of physicians stated in the questionnaires that they would use one or more safety measures. Hence, I believe it would be worthwhile discussing this difference, because it might potentially impact the results we obtain from any questionnaire focussing on implementation of safety measures.

Minor essential revisions
Page 4: Keywords
Please add “TAM2” as a keyword.

Page 5 (Line 11)
“Improvements will occur only if clinicians use them methodically.”
What does that adverb mean in this context?

Page 9 (Line 12 – 14)
Since you have outlined the objectives in the background it is probably not necessary to repeat them here.

Page 9 (Line 20)
Please specify that the study was conducted over a period of 5 weeks.

Page 10 (Line 8 – 9)
It might helpful for the reader to include a heading for that paragraph, like “measures” or “evaluated interventions”.

Page 10 (Line 5,6,7,16)
Please replace the footnotes by references

Page 12 (Line 20)
Was the observation really conducted anonymously? How could the authors allocate different cases to the same physician, if it was recorded anonymously? Isn’t it more likely that the observation was done pseudonymized and data were anonymized before analysis?

Page 23 (Line 22)
I thought that both the observation and the questionnaire would be employed to evaluate and compare the acceptance of different medication safety measure. This sentence, however, may be read as that the questionnaire was a logical consequence to a non-acceptance observed during observation? Wouldn’t also the observation as such offer important information on why measures might not be used (e.g. that the poster were not placed next to every patient bed?)

Level of interest: An article of importance in its field

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

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