Reviewer's report

Title: Educating on professional habits: Attitudes of medical students towards diverse strategies for promoting influenza vaccination

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Reviewer: Tadeusz M Zielonka

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General Comments
Is the question posed original, important and well defined?
Despite unambiguous recommendations of CDC and ECDC [1,2], share of medical staff and medical students regularly vaccinated against influenza remains very low in Europe [3,4]. Appropriate education could increase the share of vaccinated members of medical personnel [5]. We need effective method of education in this special group. The research question of paper is original and important. However, the aim of the research is not well defined. The most important is real vaccination, not intention to be vaccinated. Previously, it has been demonstrated that more students declared intention to be vaccinated against influenza than to do it in practice [6]. Medical staff and medical students know that they must to be vaccinated, but frequently they not do it due to laziness or lack of the time [6].

Are the data sound and well controlled?
Examined group consisted of 421 students with control group 128 students. However, many subgroup are few (5-12 students). In these groups conclusions are not reliable. The percentage of students vaccinated is no clearly presented, although it was the most important factor associated with intention to be vaccinated.

Is the interpretation (discussion and conclusion) well balanced and supported by the data?
Discussion is too narrow thus becoming the major weakness of the work, failing to consider many aspects having impact upon intention to be vaccinated. Authors analyse impacts of three intervention types (Web, video, brochure) upon declaration to take vaccination while obviously such declarations are made under various other factors, not discussed in the work. Some students were vaccinated before interventions; hence they did it under influence of other, undetermined interventions or motivations. As earlier vaccination (experience) constituted the strongest factor associated with intention to be vaccinated, it would be interesting to understand these motivating factors. What was it that developed this intention? Furthermore, authors fail to consider the presentation of vaccination problem by university teachers. Discussion is separated from earlier education before interventions. This could suggest why that students participating in clinical study classes may be more ready to take up vaccination. This could have been an
effect of specific courses in University – not interventions examined. Interventions presented in the work are not unique motivation to declare intention to be vaccinated.

Authors should have highlighted conclusions more clearly. Conclusions boil down to a statement that students prefer websites as information source over video and, specifically, brochures. Research results demonstrated negative impacts of the tri-fold brochure since a lower number of persons declared their intention to take vaccination that in the reference group, and less students declared willingness to educate colleagues. Therefore, preparation of brochures and video presentations for students does not make much sense since, as shown by survey results, it would be only a waste of time and resources. This is an important practical conclusion.

Are the methods appropriate and well described, and are sufficient details provided to allow others to evaluate and/or replicate the work?

Methods are well-described, however some details are not presented. Did authors verify the extent to which students became familiar with information provided by brochures, video presentations or websites? Have they been able to absorb knowledge provided by these 3 sources?

It is unclear why the authors examined if considered hospitals counted on them for vaccination promotion? This element seems to be unnecessary as it hardly provides any practical information and these results are not discussed.

Moreover, authors failed to describe what risk groups represented examined students (5-8% in each group)?

What are the strengths and weaknesses of the methods?

The work is a part of a broader survey; hence, presentation of only one aspect without considering the entire background constitutes its weakness.

The knowledge about vaccination of the medical staff and the intention of the medical student to be vaccinated before and after intervention were not evaluated. It would be a better determinant of effectiveness of examined interventions. An optimum solution would involve determining the share of vaccinated students before and after each intervention.

Can the writing, organization, tables and figures be improved?

Probably is an error in table 1. Number of female 12 in the group with Web is not 60.3%. The presentation of data in tables in not clear.

When revisions are requested?

I recommended better justification of the results. The clarity of the paper needs to be improved.

Are there any ethical or competing interests issues you would like to raise?

No

Finally decision

Accept after revision
I declare no competing interests.
I agree to open peer review.

References