

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Support for mobilizing medical students to join the COVID-19 pandemic emergency healthcare workforce – a cross-sectional questionnaire survey
AUTHORS	Astorp, Mike; Sørensen, Gustav; Rasmussen, Sten; Emmersen, Jeppe; Erbs, Alexander; Andersen, Stig

VERSION 1 – REVIEW

REVIEWER	LJM Mortelmans 1/ Dept Emergency Medicine ZNA Stuivenberg, Antwerp Belgium 2/ REGEDIM VUB Belgium
REVIEW RETURNED	20-Apr-2020

GENERAL COMMENTS	<p>The authors highlight a hot topic in this Covid outbreak with practical recommendations. Interesting for later pandemic planning.</p> <p>Some comments on how the manuscript can be optimized:</p> <p>P4 limitations: you include all students, one should mention that the young ones without clinical experience could have a different point of view than those who are "on the field".</p> <p>P5 introduction: you state that 1/4 physicians and senior students would abandon work. May I kindly refer you to a similar study we performed amongst senior Belgian medical students at the H5N1 pandemic (Prehosp Disaster Med. 2009 Sep-Oct;24(5):438-42. Are Belgian senior medical students ready to deliver basic medical care in case of a H5N1 pandemic? Mortelmans LJ et al) where only 17.7% would not respond. Also applicable in your interpretation section on P12 (European situation to compare with).</p> <p>P6 participants: it would help to specify what a Danish locum physician as 4th year student can do and how it's supervised, it's not the same nor applicable in other countries.</p> <p>Bias P8: Once again including all students, even the non clinical active (more than 1/3!), could bias the point of view.</p> <p>P11 Key results: you state that students find request for protection very important. It would be good to include that in your abstract and conclusion.</p> <p>P12 limitations: I have to congratulate you on the high response rate. These kind of studies use to have a much lower response rate so I would rather call this a strength than a limitation.</p> <p>P12 interpretation check remark higher (P5) to compare with European figures.</p> <p>P13 future research apart from the suggested point the impact of knowledge (or lack on it), factors impeding response and the concern on protection would be interesting to add.</p> <p>P17 Table 1: The figures on study year given in the % column don't add to a total of 100%, please check</p>
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	Overall interesting work and valuable contribution to the literature.
REVIEWER	Jørgen Kurtzhals University of Copenhagen, Denmark
REVIEW RETURNED	29-Apr-2020

GENERAL COMMENTS	<p>In this paper, Astorp and co-workers present data from a survey among medical students about their willingness to join the healthcare workforce during the COVID-19 pandemic. All medical students at the faculty of health at Aalborg University were invited to respond to a questionnaire about their choice to join the workforce and 11 predefined statements about motivational factors underlying their decision. The authors found that 80% of the respondents had joined or were willing to join the pandemic workforce and that main motivational factors included (among others) altruism, sense of duty and satisfaction, educational outcome and CV development, and a sense of being part of the health system and able to contribute. The majority of students also noted the importance of proper guidance and own safety and some added the need for institutional support. About 2/3 found it important to get paid for their presence in the clinic, presumably because the job experience did not directly contribute to the learning goals of their education. However, the authors do not elaborate on the alignment between the students contribution to the pandemic response and the learning goals of their education. The work is clearly presented in accordance with STROBE guidelines although some language editing would improve a final version of the manuscript.</p> <p>This is an interesting study, despite its quite narrow scope. I do have some points to consider that the authors should relate to in a revision of the manuscript.</p> <p>Major comments:</p> <ol style="list-style-type: none"> 1. There is a discrepancy between the way the research question is phrased in the abstract and in the introduction. In the abstract it should be made clear that this study only deals with the points perceived by the students to be important. ('What motivates them' as indicated in the introduction). It thus fails to address more complex questions relating to the roles of medical students in the pandemic workforce. Such questions include how the students are viewed, (e.g. are they seen as a potential source of infection so they should rather stay at home)? This would depend on how well aligned their competencies are with the needs of the health system. (And this, again could be viewed differently by patients, staff and the students themselves). 2. There is a high response rate, and the students tend to be overwhelmingly positive. However, looking at the questionnaire the focus has been very much on positive, motivating factors rather than reflections about possible problems associated with the recruitment. This worry was, in fact, raised by students. 3. Regarding patient and public involvement, I don't think the role of AE can be said to fully address this. As a quite outstanding and highly engaged medical student he is hardly representative of the general medical student and he wouldn't represent patients and the public. I think it would be fair to say that, given the urgency of conducting the study, this aspect did not receive a lot of attention. 4. To address some of the worries above it would have been useful to conduct focus group discussions or another form of
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	<p>qualitative study that could have added more aspects and secured better representation of relevant groups.</p> <p>5. There are some discrepancies between Table 2 and the questionnaire. First line 'Care: Help fellow humans' was (in the Danish version) phrased 'Samfundssind (altruisme)', i.e. 'Community spirit'. Second line ('Learn'): In the Danish questionnaire the question includes '..., jeg ellers ikke havde fået mulighed for', i.e. that the learning opportunity was unique. In the line, 'Needed', the statement in the table is 'My skills are needed' but in the questionnaire it is 'Jeg får at vide, at der er brug for mig', i.e. I get told there is a need for me. (Nothing about whether the student has skills to contribute). Care should be taken to present the questions as they were formulated in Danish. Please also clarify if the students only replied to the statement or if they also saw the heading, e.g. Community spirit, Learning etc.</p> <p>Minor comments:</p> <ol style="list-style-type: none"> 1. In the introduction, when referring to the illness use COVID-19, when referring to the virus use SARS-CoV-2. 2. Results and interpretation need to be better separated in the discussion. In 'Key results', for instance, the authors immediately go ahead with possible solutions to the problems raised rather than expanding on the findings and relating to the literature. 3. Table 1. % is ambiguous. For study year it shows percent of total student population in that year. Also, For the last two categories, total is missing. 4. Table 1. For the category, Joins pandemic workforce: Are there any data about how many actually did. This only shows their intention.
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VERSION 1 – AUTHOR RESPONSE

Reviewer: 1
Comments to the Author

The authors highlight a hot topic in this Covid outbreak with practical recommendations. Interesting for later pandemic planning.

Response:

Thank you for your time reading our manuscript and for providing very useful comments that have improved the understanding and clarity of the manuscript.

1. P4 limitations: you include all students, one should mention that the young ones without clinical experience could have a different point of view than those who are "on the field".

Response:

Thank you for pointing this out. We have conducted additional analysis and only "Salary" was given increasing priority with clinical experience ($p < 0.001$). This has been added in the results section of the main manuscript under the subheading "Differences among students" 1st paragraph, the last line.

2. P5 introduction: you state that 1/4 physicians and senior students would abandon work. May I kindly refer you to a similar study we performed amongst senior Belgian medical students at the H5N1 pandemic (Prehosp Disaster Med. 2009 Sep-Oct;24(5):438-42.

Are Belgian senior medical students ready to deliver basic medical care in case of a H5N1 pandemic?

Mortelmans LJ et al) where only 17.7% would not respond. Also applicable in your interpretation section on P12 (European situation to compare with).

Response:

Thank you for turning our attention to this highly relevant study. The results support the points made in the introduction as has been added to conclude the 3rd paragraph. Furthermore, the findings have been added under "Interpretation" in the Discussions section.

3. P6 participants: it would help to specify what a Danish locum physician as 4th-year student can do and how it's supervised, it's not the same nor applicable in other countries.

Response:

We agree that hospital work may be organized differently between countries and we have added further explanation on the work conducted by medical students as locum physicians in Denmark. This has been added in the Methods section under "Participants".

4. Bias P8: Once again including all students, even the non clinical active (more than 1/3!), could bias the point of view.

Response:

Thank you for this comment. Data and testing for differences are included for the variable 'study year' in table 2 as this incorporates a view on the inclusion of non-clinical active students. This information has now been added in the results paragraph in the abstract. We hope that this is satisfactory and we have reviewed the data to ensure full support for the point given above.

5. P11 Key results: you state that students find request for protection very important. It would be good to include that in your abstract and conclusion.

Response:

We agree and this has been added to the abstract and conclusion as suggested.

6. P12 limitations: I have to congratulate you on the high response rate. These kind of studies use to have a much lower response rate so I would rather call this a strength than a limitation.

Response:

This comment is much appreciated. We consider it likely that the timing of the survey influenced this high response rate and the "Strengths and limitations" in the Discussion section have been rephrased accordingly.

7. P12 interpretation check remark higher (P5) to compare with European figures.

Response:

We appreciate this comment that added to the overall quality of our manuscript and strengthens the arguments underlying the conclusions.

8. P13 future research apart from the suggested point the impact of knowledge (or lack on it), factors impeding response and the concern on protection would be interesting to add.

Response:

Thank you for this suggestion. The points have been added in the revised manuscript: "Future research" in the Discussion section. Regarding the impact of the knowledge a sentence regarding the clinical implications have been added under "Clinical implications" in the discussion section as the last sentence in this paragraph.

9. P17 Table 1: The figures on study year given in the % column don't add to a total of 100%, please check

Response:

Our reading of the table was logical to us and we appreciate the new view on this. We have revised the table according to the comment. We agree that this has improved the logic and flow when reading the table.

10. Overall interesting work and valuable contribution to the literature.

Response:

Thank you!

Reviewer: 2

Comment to reviewer-2:

We much appreciate your time put into the reading and commenting on our manuscript, and for providing constructive comments. These have been accommodated and we believe that this has improved understanding and clarity of the manuscript.

A. ... the authors do not elaborate on the alignment between the students contribution to the pandemic response and the learning goals of their education.

Response:

Thank you for this suggestion. We agree on the relevance of reviewing learning objectives in the undergraduate medical curriculum and analyse potentials for alignment with learning opportunities in the different tasks to be conducted by medical students in a pandemic healthcare workforce. We are not able to accommodate this aim using the data available here but it is an excellent suggestion for a future study. This has been added under "Future Research" in the Discussion section.

B. The work is clearly presented in accordance with STROBE guidelines although some language editing would improve a final version of the manuscript.

This is an interesting study, despite its quite narrow scope. I do have some points to consider that the authors should relate to in a revision of the manuscript.

Response:

Thank you for the comments. The manuscript has been revised with a focus on linguistic aspects.

MAJOR COMMENTS:

1. A: There is a discrepancy between the way the research question is phrased in the abstract and in the introduction.

B: In the abstract it should be made clear that this study only deals with the points perceived by the students to be important. ('What motivates them' as indicated in the introduction). It thus fails to address more complex questions relating to the roles of medical students in the pandemic workforce. Such questions include how the students are viewed, (e.g. are they seen as a potential source of infection so they should rather stay at home)? This would depend on how well aligned their competencies are with the needs of the health system. (And this, again could be viewed differently by patients, staff and the students themselves).

Response:

These are important points and both have been accommodated.

A: The revised manuscript aligns the research question in the introduction and the abstract.

B: This has been added to the abstract to clarify the focus of the manuscript.

2. There is a high response rate, and the students tend to be overwhelmingly positive. However, looking at the questionnaire the focus has been very much on positive, motivating factors rather than reflections about possible problems associated with the recruitment. This worry was, in fact, raised by students.

Response:

We appreciate this highly relevant comment. This point has been added to the initial strengths and limitations bullet point section and in a new paragraph under strengths and limitations in the Discussions section.

3. Regarding patient and public involvement, I don't think the role of AE can be said to fully address this. As a quite outstanding and highly engaged medical student he is hardly representative of the general medical student and he wouldn't represent patients and the public. I think it would be fair to say that, given the urgency of conducting the study, this aspect did not receive a lot of attention.

Response:

We agree that a medical student hardly represents the patients and the public. We took the advice of the reviewer. This has been presented in a new paragraph in the "Patient and public involvement" in the Methods section. Furthermore, this has been mentioned under limitations.

4. To address some of the worries above it would have been useful to conduct focus group discussions or another form of qualitative study that could have added more aspects and secured better representation of relevant groups

Response:

We agree that this method could have added relevant aspects and secured better representation. We were restricted in doing this as a result of a ban on public gatherings and considering the urgency of this paper it was not possible to do this. A note about this has been added to the main manuscript under the section: strengths and limitations.

5. There are some discrepancies between Table 2 and the questionnaire. First line 'Care: Help fellow humans' was (in the Danish version) phrased 'Samfundssind (altruisme)', i.e. 'Community spirit'. Second line ('Learn'): In the Danish questionnaire the question includes '..., jeg ellers ikke havde fået mulighed for', i.e. that the learning opportunity was unique. In the line, 'Needed', the statement in the table is 'My skills are needed' but in the questionnaire it is 'Jeg får at vide, at der er brug for mig', i.e. I get told there is a need for me. (Nothing about whether the student has skills to contribute). Care should be taken to present the questions as they were formulated in Danish. Please also clarify if the students only replied to the statement or if they also saw the heading, e.g. Community spirit, Learning etc.

Response:

We much appreciate this comment as the Danish questionnaire uploaded was an earlier version. The file has been reviewed by the authors and the revised version has been uploaded.

Regarding the translation from Danish to English, the questionnaire has been revisited and the translation has been revised to make it portray the Danish original as carefully as deemed possible.

The main manuscript as well as table 2 has been updated accordingly.

MINOR COMMENTS:

1. In the introduction, when referring to the illness use COVID-19, when referring to the virus use SARS-CoV-2.

Response:

Thank you for informing us. This has been corrected throughout.

2. Results and interpretation need to be better separated in the discussion. In 'Key results', for instance, the authors immediately go ahead with possible solutions to the problems raised rather than expanding on the findings and relating to the literature.

Response:

The Discussion's section was organised to comply with the requirements for structure that was provided, and we conformed to the recommendations. We have added points raised in all reviewer comments and suggestions, which has contributed to some structure. We hope that these additions support the point made here and that our manuscript is acceptable with these changes.

3. Table 1. % is ambiguous. For study year it shows percent of total student population in that year. Also, For the last two categories, total is missing.

Response:

Our reading of the table was logical to us and we appreciate the new view on this. We have revised the table according to the comment with inclusion of the missing totals. We agree that this has improved the logic and flow when reading the table.

4. Table 1. For the category, joins pandemic workforce: Are there any data about how many actually did. This only shows their intention.

Response:

We agree that these data are would be interesting but unfortunately not available. We did ask the administration for these data and they did not provide the numbers.

VERSION 2 – REVIEW

REVIEWER	Mortelmans LJM ZNA Stuivenberg, Antwerp, Belgium Regedim, Free University Brussels, Belgium Creec, Catholic University Louvain, Belgium
REVIEW RETURNED	02-Jul-2020

GENERAL COMMENTS	Thank you for dealing with the remarks on the first manuscript. I think this version could be accepted for publication. In case of any minor revision required i would suggest to rephrase the sentence on protection for themselves
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REVIEWER	Jørgen Kurtzhals University of Copenhagen, Denmark
REVIEW RETURNED	01-Jul-2020

GENERAL COMMENTS	All my points have been addressed.
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VERSION 2 – AUTHOR RESPONSE

Reviewer: 1

Reviewer comments to Author:

All my points have been addressed.

Response:

Thank you for your work in reviewing our paper! Your work has improved the article significantly. We much appreciate your time taken to help us review this manuscript.

Reviewer: 2

Reviewer comments to Author:

Thank you for dealing with the remarks on the first manuscript. I think this version could be accepted for publication.

Response:

Thank you for your work in reviewing our paper! Your work has improved the article significantly. We much appreciate your time used to enhance our manuscript.

In case of any minor revision required i would suggest to rephrase the sentence on protection for themselves

Response:

Thank you for your suggestion. The sentence has been rephrased.