Author’s response to reviews

Title: Migration Intentions of Asian and African Medical Students Educated in China: A Cross Sectional Study

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Author’s response to reviews:

Response to Reviewers:

Reviewer #1: This is potentially an interesting article, but it needs more work before it's ready for publication
* The aim of the article needs to be clarified and overall the connection between the background, methods and discussion/conclusion needs to be strengthened. There are several issues raised for the first time in the discussion, which should be introduced earlier in the paper.

Response:
Thank you so much for your interest in our work and for giving us valuable suggestions. We have made revisions according to your advice.

Since students’ home countries have shortage of physicians, the return of international medical students to their home countries can help to alleviate the shortage of the health workforce of such countries. On the other side, high-income countries also embrace the migration of high-end foreign medical professionals and regard them as an essential source of medical workforce and dispensable primary care providers. Hence, according to your suggestions and the above-mentioned reasons, we have clarified the aims in the revised manuscript as follows:

“to explore the return intentions and the intentions to go to high-income countries of China-educated international medical students after graduation and their preferred destination countries outside the home country and

- to provide data on the characteristics of China-educated international medical students most likely to return to home country or migrate to high-income countries, aiming at supplying useful information for healthcare workforce planners.”

We also followed your suggestions and introduced some background information concerning the issues we mentioned in the discussion section. In the background section, we gave a basic introduction about the medical education provided to international students in China, such as course level, length of schooling, etc. We also introduced visa issues concerning international medical students’ study and work in China.

The methods, discussion and conclusion sections were also written in line with the aims, making the connection between the background, methods and discussion/conclusion stronger.
An issue which needs to be discussed from the outset (background) is whether international medical students require visas to study in China? And how easy it would be for these student visas to be converted into working visas post-graduation, i.e. is remaining on to work in China an option for these international medical students? Would language be an issue for them in seeking to obtain work in China post-graduation, given that their medical studies are in English? Are they opting to study in China (via English) and then to migrate onwards to an English speaking country?

Response:

Thank you for your suggestions.

International medical students are coming to China to study medicine mainly due to the medical education opportunities and lower tuition fees, and they are required to hold a study visa (X visa) to study in China. If they intend to work in China, they should acquire a work visa (Z visa). However, the huge language barrier causes a big impediment for them to communicate in a hospital setup and to obtain the medical license in China, so China is viewed more as a place to study medicine than a place to practice medicine by the international medical students.

The information about visa issues in China has been added in the background section, and the language issues have been discussed according to the results of our study in the discussion section.

It is true that working in China is an option for international medical students after graduation, but practicing as a physician is extremely hard for them. To practice medicine legally in China, all the candidates must pass the medical licensing examination which is administered in Chinese. Even if they pass the examination, they will have to communicate with patients and colleagues in Chinese, who may speak local dialects.

Moreover, in order to obtain a work permit, a prerequisite to acquire Z visa in China, international medical students are required to attain a master’s degree or above and be hired within one year after graduation. However, to attain a master’s degree in clinical medicine in China never comes easy: firstly, international medical students have to pass Chinese Language Proficiency Test in order to be a qualified applicant for postgraduate in clinical medicine; secondly, they have to write the graduation thesis and defend it in Chinese.

So it’s true that migrating to an English-speaking country is an option for them, but not the major one. The main reason why China provides the clinical medicine program taught in English to international students is that English is a universal language, which can be used as an effective tool to learn western medicine. According to the previous studies conducted in China, the majority of China-educated international medical graduates went back to their home countries, and only a few migrated to an English-speaking country, such as UK, USA, and Canada.

This is mentioned on P11L45, but has a huge bearing on the onward migration plans of these internationally trained students! Needs to be discussed in greater detail in the background of the article.

Response:

Thank you for your suggestions. The study and work visas in China and the Chinese language issues were explained in the above section, and discussed in detail in the background and discussion sections of the revised manuscript.

You need to discuss this migration in terms of the fact that these students are moving from lower income countries to China, an upper middle income country and whether this move is a 'stepping' stone to a higher income country?

Response:
Thank you for the suggestion and the question.

For international medical students who are unsuccessful in obtaining admission to their domestic medical schools, China provides them a chance to study medicine. Besides, students who intend to migrate to a high-income country also get a chance to realize their dreams after receiving undergraduate education in China. According to two retrospective surveys conducted by Tianjin Medical University and Guangxi Medical University investigating the whereabouts of China-educated international graduates from these universities, it is true that some graduates went to higher income countries, such as UK, USA, and Canada, but the majority of the graduates returned to home countries. We have added some discussions concerning this issue in the background section.

Terminology
* Throughout the article, it's important to clearly define what you mean by each term and use the same terms throughout:
  - Developed/underdeveloped countries. Perhaps be more specific using terms like higher income/lower income countries according to World Bank or similar?
Response:
  Thanks for the good suggestion. We changed the terms “developed/underdeveloped countries” into “high-income countries (HICs)/low- and middle-income countries (LMICs)”. And due to the change of the terms, the classification approach of foreign country choices has changed. In the old manuscript, foreign country choices were categorized into developed countries and developing countries, but now the choices were categorized into high-income countries and low-and middle-income countries, and these changes altered the result of relevant data analysis.

  - Donor/recipient countries. Source/destination often used, but again important to define.
Response:
  We changed donor countries and source countries into home country, recipient countries and destination countries into destination country.

  - Foreign destination/abroad-staying
Response:
  Foreign destination and abroad-staying all refer to countries outside the home country.
  We changed abroad-staying students into students who expressed an intention/interest to stay outside the home country.

  - Mobile talents' migration choices: do you mean the migration choices of migrant doctors or migrant health workers or internationally trained medical students?
Response:
  Sorry, we should have explained ourselves more clearly. “Mobile talents' migration choices” means “international medical students’ migration choices”. We have already amended this expression in the article.

  - Abroad-educated or overseas medical students or IMGs?
Response:
  Sorry for confusing these terms. They all referred to the international students studying medicine in China in our paper.
We have changed all of them into “China-educated international medical students” in the revised manuscript.

Abstract: Is your aim to profile internationally trained medical students in China? Is the idea also to see whether they plan to remain in China post-graduation, or migrate onwards? This articles by Hawthorne might be of relevance here:


https://journals.sagepub.com/doi/10.1177/011719681001900102

Response:
Thank you so much for giving us the relevant articles for reference. Aims of this article are:
“to explore the return intentions and the intentions to go to high-income countries of China-educated international medical students after graduation and their preferred destination countries outside the home country and
to provide data on the characteristics of China-educated international medical students most likely to return to home country or migrate to high-income countries, aiming at supplying useful information for healthcare workforce planners.”

Background:
P4L10: paying lower tuition fees than where? Home country?
Response:
Some countries, such as China, Bangladesh and the Philippines, charge lower tuition fees for medical studies than their home countries or high income countries.
We changed “lower tuition fees” to “low tuition fees”.

P4L51: input years instead of 'so far'
Response:
We changed ‘so far’ to “By 2018”.

P4L53-59: what other options exist? And what does your article add to this literature on overseas medical students in China?
Response:
The two surveys conducted by Tianjin Medical University and Guangxi Medical University investigating their international graduates’ locations revealed that the majority of the graduates went back to the home country, and the rest stayed in China or moved on to other countries including the UK, the USA, Canada, Australia and Saudi Arabia.

These studies were retrospective surveys and conducted in 2012 and 2009. Several years have passed and situations have greatly changed. However, these studies did not specify whether the international graduates were enrolled for postgraduate education or working in those countries; neither did these studies provide data on the international medical students’ factors which informed their migration choices. By comparison, our study is a predictive study and reflects the latest situation about China-educated international medical students’ migration intentions, which could play a guiding role for the medical workforce planners when making relevant policies. It also investigated the students’ migration intentions from short-term stay (further education/training or temporary employment) and permanent
stay (stable job and life) perspectives and provided data on the students’ characteristics associated with their return intentions and intentions to go to a high-income country.

Methods:
Include details of research ethics approval
Response:
We have added this part in the Methods section.

What was the response rate?
Response:
Of 301 students who were given the questionnaire, 268 completed the survey, translating to a response rate of 89.04%. Data from 2 third-year students who had not decided where to go after graduation was excluded from data analysis, so a total of 266 effective responses were analyzed.
We mentioned this in the Demographics part of the Results section.

How did you negotiate access to the medical school?
Response:
We are working in the School of International Education at Xuzhou Medical University. Our university is supportive for this study, because the study will help with its enrollment policy towards international medical students and the university could design the curriculum according to students’ migrating destinations.

P5L56: how many international students are in this university? How many did you distribute the survey to?
Response:
There are a total of 436 international students in this university, including 361 clinical medical undergraduate students, 34 nursing undergraduate students and 41 postgraduate students. It was mentioned in the Demographics part of the Results section that 301 students were given the survey, all of whom were clinical medical undergraduate students.

P6L12: future migration choices or migration plans, post-graduation?
Response:
This refers to the international medical students’ migration plans/intentions for the future.

P6L41: by grade do you mean year of medical training. How long is medical training in China? Are these students studying medicine via undergraduate or postgraduate programme?
Response:
By grade, we mean the year of medical study. We have changed 2nd to 6th grade students in our article into second-year to sixth-year students.
Medical schools in China provide a six-year undergraduate program taught in English medium to international medical students, which consists of 5-year courses including theoretical and practical studies, and 1 year of bed-side studying in major clinical specialties. If students qualify in all the six years’ studies, they are awarded a bachelor degree in medicine.
International students study medicine via undergraduate programme.
Response:

Although 268 responded, 2 had not made their minds whether to return home or not. Therefore, we excluded these 2 responses, which left us with a total of 266 effective responses. We demonstrated this point at the end of Demographics part of the Results section. To avoid the misunderstanding, we changed “Of the 266 responses” into “Of the 266 effective responses” in the abstract.

Response:

The concept of “countries with health crisis” was put forward by World Health Organization, and it referred to countries with crisis in human resources for health.


Results

Response:

In China, all medical students are required to have bed-side studying in major clinical specialties during the whole final year, which was informally called as “internship” or “clinical rotations”. In our revised manuscript, we have replaced “internship” with “bed-side studying”.

Medical schools in China provide a six-year undergraduate program taught in English medium to international medical students, which consists of 5-year courses including theoretical and practical studies, and 1 year of bed-side studying in major clinical specialties. If students qualify in all the six years’ studies, they are awarded a bachelor degree in medicine.

Response:

“Migration intentions” in our article means intentions post graduation.

Response:

Thank you for your questions.

International medical students come to China to study medicine mainly due to the medical education opportunities available and low tuition fees, and they are required to hold a study visa (X visa) to study in China. If they intend to work in China, they should acquire a work visa (Z visa). However, the huge language barrier causes a big impediment for them to communicate in a hospital setup and to obtain the medical license in China, so China is viewed more as a place to study medicine than a place to practice medicine by the international medical students.

It is true that working in China is an option for international medical students after graduation, but
practicing as a physician is extremely hard for them. To practice medicine legally in China, all the candidates must pass the medical licensing examination in Chinese. Even if they pass the examination, they will have to communicate with patients and colleagues in Chinese, who may speak local dialects.

Moreover, in order to obtain a work permit, a prerequisite to acquire Z visa in China, international medical students are required to attain a master’s degree or above and be hired within one year after graduation. However, to attain a master’s degree in clinical medicine in China never comes easy: firstly, international medical students have to pass Chinese Language Proficiency Test in order to be a qualified applicant for postgraduate in clinical medicine; secondly, they have to write the graduation thesis and defend it in Chinese.

Discussion: There are several issues raised for the first time in the discussion, which should be introduced earlier in the paper. There needs to be a better connection between the abstract/background/methods/findings and the discussion/conclusion.
Response:
Thank you so much for the suggestions. We have added more information to strengthen connections between sections.

Reviewer #2: There are many issues with basic linguistic clarity, which can easily be remedied.
Of deeper concern, however, are the many inaccuracies with regards to Africa's regional classification.
(1) Review usage of the term "sub-saharan Africa"
Response:
Thank you so much for reminding us of the usage of the term "sub-saharan Africa". We have already changed the term into “Africa” or “African countries” in our revised manuscript.

(2) The Sub-Saharan African Medical School Study: actual website
Response:
Thank you for giving us this website. It is very informative. We have read it carefully and learned a lot.

Response:
Thank you so much for pointing this for us. We also note that it does not load any more, but last time when we got access to this website, it loaded successfully. We don’t know why this happens. We guess there might be a technical problem with the website. We have replaced this reference with a new one.
Here is the new reference:
Then, also about references - I don't think that NDTV can be used as a credible reference - are there university or government sources with better credibility in the medical field?

https://www.ndtv.com/india-news/students-willing-to-study-mbbs-abroad-may-have-to-clear-neet-1811322
Response:
Thank you for pointing this for us. We have already changed this reference to