Author's response to reviews

Title: Women doctors and their careers in a large university hospital in Spain at the beginning of the 21st century.

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Author's response to reviews: see over
Dear Editor in Chief,

Enclosed please find our revised manuscript (ID 7855605031338074) entitled “Women doctors and their careers in European university hospitals: what now in the 21st century?” which we submit to Human Resources Health for consideration for publication. We submit one copy in which the changes have been entered (underlined). Please also find the answers to the reviewer’s questions on separate pages.

Thank you for the opportunity to resubmit our work to your journal. Please do not hesitate to contact the corresponding author if any questions arise.

Sincerely yours,

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ANSWERS TO THE REVIEWERS:

REVIEWER 1:

It is an honor to have had the manuscript reviewed by Professor Goldacre. Thank you very much. Since 2005 I have been reading his extensive scientific production. In accordance with your suggestions, we have re-written the manuscript.

1. He suggests that the title should be changed and the Discussion should focus more precision what was found in this hospital and no generalization.
   The study was conducted in one hospital.
   Following the recommendation of the reviewer the title is now “Women doctors and their careers in a large university hospital in Spain at the beginning of the 21st century”
   The Discussion had been re-written to avoid generalizations and now focuses on the findings in the hospital and includes data from other European hospitals (the end sentence in second paragraph in previous version).

2. The substantial increase in the proportion of medical graduates who are female in recent years means that quite a substantial proportion of women doctors have not been qualified for long enough to have reached very senior positions. Thus ‘years since qualification’ could be an important variable in the analysis of career achievement comparing men and women. But in front of difficulty to obtain this data, the reviewer emphasizes the age of women and men in attaining senior positions. One of the findings in reference 12 (the McManus paper) was “The [low] proportion of women in hospital career posts was largely explained by the rapidly increasing proportion of women entering medical school during the past three decades.”

   We observed that doctors in higher levels of hierarchal positions achieve hierarchy 13 years greater and doctors in lower levels of hierarchal positions achieve hierarchy 8 years greater the doctors in permanent non-hierarchal positions. But no significant differences were found regarding age according to sex among the similar hierarchal position. Please see Results; subsection Hierarchal Career Progression, paragraph 3.

   Our analysis not mentioned in the manuscript included the box plots of age of men doctors (A), women doctors (B) according to hierarchal level, and the box plots of age of men doctors (C), women doctors (D) according to professional career promotion throughout the study period.

A:
B:

C:

D:
Following your suggestion regarding the data of McManus IC, Sproston KA “Women in hospital medicine in the United Kingdom: glass ceiling, preference, and prejudice or cohort effect?” published at 2000, reference 12 in the first version; we have prioritized the reference of professor Allen reported later.

3. As a related point, the study population is a mixture of new appointments and of people already in post in 1996. Have the authors analysed the results separately for these two populations, to ensure that bringing them together does not hide important findings? Presumably many of the doctors in senior positions are in the pre-1996 appointments.

We agree with the reviewer.
The formal hierarchy is recognition of careers previous to 1996. This data was a milestone for advancing with in the career with a different system.
Since 1996 the Professional Career (PC) system has allowed the promotion of medical staff to executive management hierarchal positions as is explain in Background, paragraphs 5 and 6.
Our aim in order the differences between women and men in the advances achieved in their careers was if the formal hierarchical status different from the professional recognition of women in medicine. In order to determine the differences between women and men in the advances achieved in their career we studied whether the formal hierarchical status differed from the professional recognition of women in medicine.

4. Page 5, first paragraph, comments about the reluctance of European countries to provide data on the careers of women compared with men. The authors seem to be unaware of a very large body of information from my group, the UK Medical Careers Research Group, which has published on careers and comparisons of women and men in the UK for many years, see for example first three papers with pubmed links below. There are also papers from other European countries, see fourth link below. The authors could search pubmed for ‘women career medicine Switzerland’ (as I did for the fourth link) and put in Sweden, Norway, and other European countries to see what they get.
I apologize for not having mentioned your work in this manuscript. Several of your studies have been referenced in previous articles published by our group:


First article which I read is included as reference 5 in the new version:


According to the reviewer’s suggestion these articles have now been included in the revised manuscript such as reference (6), (7) and (15).

**There are also reports from European professional societies, see for example**
This reference has now also been included in the text.

5. There are some places where, because of the English, it is hard or impossible to know what the authors mean. It would be good if the authors could ask for advice from a colleague who speaks/writes with English as their first language.

Thank very much by your comment. Donna Pringle, a native English proofreader of medical texts, has revised the new version.

6. The authors use the term ‘call’. Does this mean ‘application’? E.g. on
You are right. Following your recommendation we have replaced call for application throughout the manuscript revised.

7. The authors define the ‘femininity index’ (page 6) as the number of women and men. It is the ratio of women to men.

Yes. Thanks for your comment. We have replaced ‘femininity index’ by the ratio between number of women and men, which adds clarity.

8. The authors state that the ‘age of institute and department chairs was 13’ (page 9). They cannot mean this; but I do not know what they do mean.
The age of institute and department chairs to achieve promotion was 13.13 ± 0.82 (mean ± standard deviation) years greater, and that of the section or unit heads was 8.33 ± 0.66 years greater compared to doctors in permanent non-hierarchal positions ($F = 266.53$, $p < 0.001$). However, no significant differences were found regarding the age of achieving promotion according to sex among hierarchal positions.

9. Page 16, sentence about ‘first analyses [for] 13 years. It is not e.g. see 4 above.

This sentence has now been deleted in the revised version.
Furthermore, according to the suggestion of the reviewer three whole subsection Limitations of this study have been deleted.

It was a mistake on my part for not having referenced their work.

10. Legend for Figure 1 – ‘ratio between proportions’ should presumably be ‘ratio of women to men’; and

No. The ratio is between the proportion of women and the proportion of men according to hierarchal medical positions.
The proportion of women was calculated as the number of women in a specific position divided by the total of women in the year of study in the numerator.
The proportion of men was calculated as the number of men in a specific position divided by the total of men in the year of study in the denominator.

‘throughout the study period’ should presumably be ‘in each period of the study’.

Yes. Following your question, the legend for Figure 1 is “Ratio between proportion of women and proportion of men according to the hierarchal medical positions in each year of the study” in the new version.

11. Figure 3 – comments as for Figure 1.

No. The ratio is between the proportion of women and the proportion of men according to grade of professional career promotion.
The proportion of women was calculated as the number of women in a grade of professional career promotion divided by the total of women in the year of study in the numerator.
The proportion of men was calculated as the number of men in a grade of professional career promotion divided by the total of men in the year of study in the denominator.

Yes. Following your question, the new version includes “Figure 3. Ratio between proportion of women doctors and proportion of men doctors according to the grade of professional career promotion in each year of the study”.

12. The authors quote beta coefficients in the Abstract and Results. It would help non-statistical readers to explain how these should be interpreted (at least in the Results), e.g. “This means that …”
Following the suggestion of the reviewer, the beta coefficients and the significance values have been deleted in the Abstract. Additionally, we added the explanation: “On comparing the two genders using a statistical model, the probability of continuous promotion decreased with the year of the application and the age of the applicant, except in women” as last sentence in the Results in the abstract of the revised version.
REVIEWER 2:

Thank you for the careful review of the text. In accordance with the reviewer’s suggestions, we have re-written the manuscript.

Major Compulsory Revisions

1. Authors investigate the position of women doctors and their careers in European university hospitals. Their study is, however, conducted in Catalonia, part of Spain. Thus I suggest changing the title with narrowing the scope, e.g. “Women doctors and their careers in Spanish university hospitals”.

   The study was conducted in one hospital.
   According to the suggestion of the reviewers, the title in the new version is “Women doctors and their careers in a large university hospital in Spain at the beginning of the 21st century”

2. During the observation period were there institutions or departments closed down or merged that would alter the number of positions available?

   Hierarchical recognition existed before 2006.
   Since 1996 the Professional Career (PC) system has allowed the promotion of medical staff as well as the promotion of executive management hierarchical positions, paragraph 5 in Introduction. In addition to this the hospital was reorganized into nine clinical institutes and two supporting centres for general biological testing and diagnostic imaging. The reorganization has not changed during the study period nor has it reduced the number of doctors.

3. The trends of women being less promoted in medicine along with feminisation are observed widely. Due to the latter it can be expected that women will be promoted at an increasingly higher ratio in many fields of medicine in the future. The same may be true if costs were cut the number of jobs may also be cut.

Minor Essential Revisions

1. Introduction is a bit too long I suggest shortening it.

   The Introduction has been shortened as recommended.

2. Sentences are too long. Due to this and some language errors correction by a native English speaker is advised.

   Thank very much by your comment. Following your recommendation Donna Pringle, a native English proofreader of medical texts, has revised the new version.

3. Can culture and traditions affect the degree of male dominance in countries?

   We believe so.
   Beyond the different rates of promotion between men and women in medicine there is a subtle cultural factor of confidence in the not unrelated female capacity to its historical role. This has been discussed in the Discussion, paragraphs 6 and 7.
Discretionary Revisions

1. The number of children of women may also be important as women in leading positions may have less children than the average in the general population, hospital female doctors with no leading positions (or frequently no children at all). This would be worth to include.

We agree that this may be important.
Unfortunately we do not have these data. It should however be considered in a future study as suggested in sentence 3 in last paragraph in Discussion “Further evaluation of the underlying factors must be carried out by medical institutions”...
REVIEWER 3:

It is an honor to have our manuscript reviewed by Flora de Pablo, Professor in CSIC, who was Director in ISCIII and Founding President in Association of Women Researchers and Technologists (AMIT) in Spain.

I have read your extensive scientific production regarding the topic of gender and profession. In accordance with the reviewer’s suggestions, we have re-written the manuscript.

1. The title should be more precise, since this is not a review paper. I suggest “Women doctors and their careers in a large university hospital in Spain at the beginning of the 21st century.”

The title has now been changed as suggested.

2. One author affiliation missing (5) should be provided or the number corrected.

This has been clarified in a separate line in the new version as: 5 Hemotherapy-Hemostasis Department, CDB. Hospital Clinic. Barcelona, Spain.

3. Only Figure 1 is large enough to be correctly visualized. In Fig. 2 the lettering is too small and the whole figure should be replotted and enlarged. In Fig. 3 the groups of columns for each year should be separated.

Following your recommendations three new figures have now been included.

4. The Figure legends are mislabeled, the second corresponds to Fig. 3. They should be rewritten, for ex. Fig. 1 legend could say “Ratio between proportions of women and men doctors according to their hierarchical position throughout the period studied.”

Figure 1. Ratio between proportion of women and proportion of men according to the hierarchal medical positions in each year of the study.
Figure 2. Number and percentage of women and men doctors with and without hierarchal position according to the medical specialty.
Figure 3. Ratio between proportion of women doctors and proportion of men doctors according to the grade of professional career promotion in each year of the study.

5. Abstract: the background should number the first sentence or leave the numbers out. The results do not need to include statistical significance numbers.

Following your recommendation, the Background in Abstract in the new version is: “The feminization of medicine has risen dramatically over the past decades. The aim of this article was to compare the advance of women with that of men and determine the differences between hierarchical status and professional recognition achieved by women in medicine”.

The beta coefficients and the level of significance have been deleted. Additionally, we have added the explanation: “On comparing the two genders using a statistical model, the probability of
continuous promotion decreased with the year of the application and the age of the applicant, except in women” as last paragraph in Results in the new version.

The conclusion paragraph is too long, making speculations not supported by the study (...women doctors...they have much to offer…).

This paragraph has now been shortened.

7. The discussion is too long. The extrapolation to other European hospitals is speculative. They should quote other studies or the Academic She Figures 2012 of the EU for comparison.

Following your request, the Discussion is now less speculative. We have focused on the findings in our hospital with some data from other European hospitals (the last sentence in the second paragraph in previous version).

They probably should leave out the paragraph on salaries, is marginally related to their study.

As suggested this paragraph has now been omitted.

They should alto delete the paragraph on “Limitations of this study” since they are obvious

This has been done.

8. The conclusions three paragraphs are repetitive with discussion. Make a shorter single paragraph, perhaps just leaving the first one, emphasizing the need to review selection criteria.

We appreciate your comment and we agree. Your recommendation has been taken into consideration in the new version.

We hope the new version will now be found suitable for publication.
Thank very much.
Sincerely yours,