Author's response to reviews

Title: Impact of periodic health examination on surgical treatment for uterine fibroids in Beijing: a case-control study

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Author's response to reviews: see over
Dear Dr. Melissa Norton:

I am sending you the revised manuscript, "Impact of periodic health examination on surgical treatment for uterine fibroids in Beijing: a case-control study," for consideration for possible publication in the Research Article section of BMC Health Services Research. We’ve also provided 2 copies of the questionnaire used in this study (a copy of the original Chinese-language version and a copy of translated English-language version) as an additional file.

Attached is the point-by-point response to Reviewers’ comments.

Sincerely,

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Reply to Reviewers’ Comments

Reply to Dr. pierluigi B benedetti panici’s comments:

Please, could you add in the manuscript, how many histological findings of unsuspectable carcinomasarcoma you had? in both groups.

1. **Histological examination was routinely performed in all the 4 hospitals involved in our study. Of the 224 cases, postoperative pathological exam found endometrial carcinoma in one; cervical cancer in two, but no sarcoma was found. Adenomyosis was found in 26 cases. Because of the word limit, we did not describe these findings in our manuscript.**

Could you spell out the singular cause of surgery (for example menorrhagia, ureter obstruction, rapidly growing myoma)

2. **There is no guideline for fibroids treatment in China. The size of the fibroids rather than symptoms seemed to be the most important reason for physicians’ decision to perform surgery, because almost two thirds of the cases reported mild or no fibroids related symptoms in our study subjects.**

Reply to Dr. Andreas Hackethal’s comments:

1. Is the question posed by the authors well defined?

Yes, but “Therefore, we conducted a pilot case-control study, choosing
uterine fibroids as a ‘model disease’, to assess the impact of PHE at HEC on health care demands and utilization in China. “ is not specific, as the study assesses only uterine fibroids. This should be changed.

We’ve changed the background section according to Prof. Andreas Hackethal’s comment.

2. Are the methods appropriate and well described?

The method part is rather long and complicated to follow. A diagram or figure or table should summarize information and ease the reader to follow the methods.

We’ve shortened the methods section. We tried to give some background information of China’s unique medical care system to the readers. It seems to us that it’s difficult to organize this information into table or figure.

3. Are the data sound?

Yes.

5. Are the discussion and conclusions well balanced and adequately supported by the data?

What do the authors want to show? Is their main object to show, that PHE are resulting in more and expensive surgeries for uterine fibroids, that are not necessary? Interestingly the authors state, that their study was granted by the Chinese society of health. Might there be a conflict of interest?

Yes, we hypothesized that the widespread practice of commercialized
“health examination” might be one of the contributing factor for the rapidly rising surgical treatment for fibroids under a fee-for-service health care system in China.

The Chinese Society of Health Management was established in 2006 (of which one of the authors, Dr. Haiyun Wu chaired the “Education and Training Group”). Its mission is to promote “detection, assessment and control of health risk and disease screening”. In spite of the name, most of its members are actually physicians or businessmen from “health examination centers”.

A major weakness is: The controls did not have a diagnosis of fibroids in 90.2%, which gives rise to the question, therefore they would tend to not associate symptoms to this disease, which they don’t know they have.

We’ve discussed this question in the revised “Discussion section”.

6. Are limitations of the work clearly stated?

Not to my understanding. A statistical review should be carried out.

We’ve added discussion in the revised “Discussion section”.

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?

8. Do the title and abstract accurately convey what has been found? s.a.

9. Is the writing acceptable?

Yes, the writing is acceptable, even though some sentences should be checked for understanding. This sentence is rather difficult to follow:
“Unlike that practiced in western countries, where PHE are usually performed by primary care physicians, today in China, annual PHE are usually organized by government institutes and public or private enterprises for their employees and performed at HEC, for the purpose of screening of disease risk factors and sub-clinical illness, and HEC, whether those hospital-based or those privately-owned, stand-alone HEC, provide PHE almost always as a for-profit service.”

We’ve deleted this sentence in the revised “Discussion section”.

Reply to Dr. Mark Shapley’s comments:

Major revisions

1. Methodology

I’m afraid I found the first paragraph confusing and this may have been due to a typo error as it is initially stated that there are 48 level-1 hospitals but then they randomly chose from 48 level-3 hospitals. I suspect they mean level 1. This needs clarification.

Yes, this is a type error. We’ve corrected it into Level-1.

The method of random selection was not stated. 29 declined to participate but no reason is given and no data concerning their characteristics (e.g. age if available) to indicate if they differed from the participants.

The hospitals and controls (if more than one were available) were
chosen by using random number table. Most of the 29 patients who declined to participate because they were not in Beijing; some claimed they were too busy or not interested in participating. Related information has been added in the revised manuscript.

I did not follow why a woman could not be matched with one from the same work unit. The reason for this introducing bias or confounding should be stated.

We did not select controls from woman in the same work unit for several considerations. As stated in the manuscript, currently in China, PHE is often organized by ‘work unit (institute or enterprise)’. We presume that colleagues’ decision in medical treatment, unlike that of neighbors (who often don’t know each other), has strong influence to each other. Women from the same “work unit” also often seek medical care from same hospital in China.

There is no information regarding the development, piloting and validation of the questionnaire used.

We consider this one of the major weaknesses of our study. Because no similar questionnaire was available with established sensitivity, reliability and validity, we developed a questionnaire for this study without piloting study and validation, although we had referenced several English language disease-specific symptom questionnaire for fibroids (e.g., The UFS-QOL developed by Spies, et al. Obstet Gynecol
We’ve provided copies of the Questionnaire we used for further reviewing, including the original Chinese-language version and the translated English-language version.

Minor revisions

1. PHE/HEC

The introduction suggests that these are “screening” examinations for individuals who consider themselves asymptomatic. I feel that there needs to be a further discussion in the introduction concerning the function of these centres and as to whether they deal with symptomatic or asymptomatic individuals. If they are providing a primary care service for symptomatic individuals then the results might suggest an under-utilisation of health care by those not in these scheme rather than an over-use the conclusions seem to point to although the multivariate analysis argues against this.

**HEC in China, whether those set up by public hospitals or those by private enterprises, are direct-to-consumer facilities providing various “examinations” but not medical treatments to anyone who pay, including symptomatic or asymptomatic individuals. To avoid misunderstanding, we’ve revised the introduction.**

2. RMB

It would be helpful to give a US dollar equivalent.

*This information has been added in the “Background” section.*
Reply to Dr. Joanna Stewart’s comments

Major

The study design was a 1:1 matched case control study but the statistical methods reported do not read as if a matched analysis was performed. All analyses should be done so as to adjust for the pairing (eg a conditional logistic regression or mixed model analysis) or if this has already been done then the methods need to be rewritten to make the methods used clear. The cases were also sampled by hospital so this variable also needs to be included, either as a fixed or random effect.

We are sorry for the errors in the “Statistic analysis” section in the 1st draft of our manuscript. We used the CHISS software that was developed by my colleagues at the Chinese PLA General Hospital for Chi square test. Because we do not have licensed SAS software in our hospitals, we sent our data set to Professor He Liyun at the China Academy of Chinese Medical Science for further statistical analysis. Conditional logistic regression was used for the calculation of ORs but we failed to describe it clearly. We’ve rewritten this section.

We found no significant difference among the 4 hospitals regarding the proportions of case subjects who had PHE (52/84, 40/68, 24/38, 22/34), so we did not treat “hospital” as a variable in the statistical analysis. As a cardiologist myself, I am not very familiar with statistical methods (all
authors of this manuscript are physicians), so we would appreciate it very much for further suggestions and comments from statisticians.