

## PEER REVIEW HISTORY

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### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	The Relationship between Job Satisfaction, Work Stress, Work-family Conflict, and Turnover Intention among Physicians in Guangdong, China: A Cross-Sectional Study
<b>AUTHORS</b>	Lu, Yong; Hu, Xiao-Min; Huang, Xiao-Liang; Zhuang, Xiao-Dong; Guo, Pi; Feng, Li-Fen; Hu, Wei; Chen, Long; Zou, Huachun; Hao, Yuantao

### VERSION 1 - REVIEW

<b>REVIEWER</b>	Saad Ahmed Ali Jadoo International Center for case-mix and clinical coding (ITCC), National University of Malaysia Kuala Lumpur, Malaysia
<b>REVIEW RETURNED</b>	19-Nov-2016

<b>GENERAL COMMENTS</b>	<p>It was good attempt to explore the impact of job satisfaction, work stress and work-family conflict on turnover intention based on available official data from Fifth National Health Service Survey in Guangdong Province, China. Although turnover intention is well reported in the literature, however this paper seems to add new insight to this area when authors tried to validate (the questionnaire) and to test the model in the same study.</p> <p>In general the manuscript is well crafted and nicely written. Overall grammar throughout the paper could be improved with editing. Statement began from line 56 page 4 to lines 4, 5 page5, need to be rewrite. Line 14: assess or access?. Lines 45-49: it is better to justify the turnover intention results and compare your findings with regional or international findings. Some tables need to put the precise percentages, such as Annual income =102.8%?</p> <p>It was my pleasure to review this article.</p>
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<b>REVIEWER</b>	Fang Pengqian School of Medicine and Health Management, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, China
<b>REVIEW RETURNED</b>	08-Dec-2016

<b>GENERAL COMMENTS</b>	<p>This paper focus on the relationship between Job Satisfaction, Work Stress, Work-family conflict, and Turnover Intention, and the article addresses an interesting and current issue that is being studied in most countries around the world. The characteristics of this region of China, makes it attractive as an example and/or a comparison with many other regions and countries.</p> <p>However, there are some significant issues that need to be concerned.</p>
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	<p>1. The authors present the research “this study was first to investigate the turnover intention of physicians in Guangdong after the inception of health system reforms in 2009”, but, there is a lack of relative discussion about the results and health system reforms.</p> <p>2. In the introduction part, there is an inadequate description about similar research in other areas of China. More relative references should be recommended in that part.</p> <p>3. In the methods part, the authors present that “the random selection”, it might be appropriate to indicate that which method was used.</p> <p>4. The authors used the “0.5” as the measurement to evaluate the corresponding dimensions, clarify the reason you chose 0.5.</p> <p>5. In the data collection, the description is too simple, it is appropriate to illustrate the details during the collection, for instance, how to insure the response quality of the questionnaires.</p> <p>6. In the test of study models, there is a lack of explanation about Table 6.</p> <p>7. It is interesting that there is no funding to support the large-scale sample research. How the authors manage the costs during the research?</p> <p>8. Since the limitation of the study is causal relationships between influence factors and turnover intention could not be identified, the authors could include ideas and opportunities for future research.</p>
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<b>REVIEWER</b>	Siying Wu Department of Epidemiology and Health Statistics, School of Public Health, Fujian Medical University
<b>REVIEW RETURNED</b>	30-Dec-2016

<b>GENERAL COMMENTS</b>	<p>The topic is meaningful in the world including in China. The data are reasonably analyzed, displayed and explained. The results and conclusions of the study are of reference value in the field. However there are some reversions in need on Introduction and discussion.</p> <p>1、 The author also needs to show statistics about the turnover rate of medical staff in China as well.</p> <p>2、 Work stress only includes four items, feel great pressure from work, feel a high level of tension from work, trouble falling asleep because of work, feel nervous because of work. Indeed, an assessment of work stress based only four items could be questionable. It is best to contain work stress source.</p> <p>3、 The author also need to elaborate further on the framework itself with various theories in Introduction part.</p> <p>4、 Implication of the study should be strengthen with applying recent issues happened globally in healthcare industry in the discussion part.</p> <p>5、 The references are not up-to-date.</p>
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<b>REVIEWER</b>	Ping Zhou Fudan University, School of Public Health, Shanghai, P.R. China
<b>REVIEW RETURNED</b>	05-Jan-2017

<b>GENERAL COMMENTS</b>	<p>An article of excellence and importance in its field.</p> <p>Thanks for the opportunity to review this manuscript. The authors aimed to investigate the relationship between job satisfaction, work stress, work-family conflict, turnover intention, and to explore the influential factors on turnover intention among Chinese physicians in Guangdong Province. The topic is significant for healthcare human resource management. The survey was well executed. The sample (N=3563) was sufficiently large, representing a response rate of 89.91%. The hypotheses were clearly stated, the statistical analysis was sound, the research process was well documented, and the findings appropriately reported.</p> <p>I have some questions and suggestions below which are offered to authors to consider.</p> <ol style="list-style-type: none"><li>1. This study focused on the issue of physicians' turnover intention in Guangdong with the context of the new health system reforms in China. P4, line 56- p5, line 10. The authors particularly referred to the salary reform, which had a significant influence on physicians. But they only mentioned the salary reform of primary hospitals and the cited document also focused on rural healthcare institutions. What compensation reform measures were carried out among the secondary or tertiary hospitals in Guangdong Province, because the study samples also included these healthcare organizations?</li><li>2. One purpose of this study was to assess the turnover intention of physicians in Guangdong after the recent reforms. Could the authors report some data or give some information of the turnover intention of physicians in Guangdong before in order to make some comparison?</li><li>3. The variables were based on a number of scales such as the Job Descriptive Index for "job satisfaction", work stress scale used in one mental health promotion report (Hassard, et al., 2013), and turnover intention items developed by Cammann et al. For these scales, it is not known whether the authors translated the original questions (in English) into Chinese or adopted translated versions used in other Chinese studies. More details would be helpful. Although the authors reported satisfactory internal consistency and good construct validity.</li><li>4. I have some questions about "intention to leave." This measure was based on the average of the scores of four items: thought of leaving the organization you served now, thought of leaving this</li></ol>
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	<p>industry, looking for a new job recently, looking for a new job next year (p7, lines 10-14). Since at least the first one and the second one are very different decisions, does it make sense to average these types of career decision? Wouldn't it be different result if to conduct analysis separately for them?</p> <p>5. The medical education system in China is quite different than those in other countries. It would be helpful if the authors could briefly explain what "Bachelor's degree", "Junior college", "other" in education background, and "other" in professional status [see Table 3] mean (possibly in a footnote).</p>
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### VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

Reviewer Name: Saad Ahmed Ali Jadoo

Institution and Country: International Center for case-mix and clinical coding (ITCC), National University of Malaysia

Kuala Lumpur, Malaysia

Please state any competing interests: The reviewer has declared that no competing interest exists.

Please leave your comments for the authors below

It was good attempt to explore the impact of job satisfaction, work stress and work-family conflict on turnover intention based on available official data from Fifth National Health Service Survey in Guangdong Province, China. Although turnover intention is well reported in the literature, however this paper seems to add new insight to this area when authors tried to validate (the questionnaire) and to test the model in the same study.

Response: Thank you very much for your valuable comments.

In general the manuscript is well crafted and nicely written. Overall grammar throughout the paper could be improved with editing.

Response: Thank you for your suggestion. We had a native English speaker proofread the revised manuscript.

Statement began from line 56 page 4 to lines 4, 5 page5, need to be rewrite.

Response: We revised the statements. "The reform involved the increment of health insurance coverage, the introduction of an essential drug list, a fixed salaries set for health workers by local government, and improvement in the delivery of public health services in primary care [48, 49]. One priority of the reform was to provide medical insurance to at least 90 percent of the population in China [50]. The reform also aimed to improve medication availability, quality, rational use, and to establish a national essential medicines system. Although the reform made health resource more available, there was an increase in workload for physicians. Before the salary reform, drug sales were

the main source of income for medical institutions and physicians' income was directly related to the profits of their prescription. After the salary reform in 2009, a fixed basic salary set and performance-based bonus were introduced to replace the previous income sources. According to Wu et al. and Zhou et al. [48, 49], after the reform, physicians in poor areas might be able to enjoy higher income and financial stability, and those in wealthy areas might have serious salary reduction. However, salary in poor areas was still lower than that in wealthy areas. It is necessary to investigate the turnover intention after the health system reform.”

Line 14: assess or access?

Response: Thanks for pointing out this typo. We have checked the revised manuscript carefully to avoid any typo.

Lines 45-49: it is better to justify the turnover intention results and compare your findings with regional or international findings.

Response: Thank you for your comment. We have justified the turnover intention results and added the comparison between the findings of our study and other studies conducted in other regions in the Discussion Section of the revised manuscript.

Although different measuring instruments for turnover intention have been used in the literature, the mean scores and the percentages of high perception of turnover intention could be used as a reference to the potential turnover behavior [14]. In our study, the scores for the four items in the turnover intention were smaller (i.e. 2.79, 2.83, 2.21) than or close (3.01) to the median 3 in the 6 range scale, i.e. 1-strongly disagree, 2-disagree, 3-slightly disagree, 4-slightly agree, 5-agree, 6-strongly agree and the mean score of overall perception of turnover intention was 2.71 (lower than slightly disagree). The overall perception of turnover intention exceeded “I prefer to stay” (score 2) and approached “I have half a mind to stay” (score 3). A score greater than 3.5 is considered a high score, the percentages of higher scores for each item of turnover intention were 30.3%, 38.3%, 33.7% and 16.9%, respectively. Based on the results, 2697 (75.7%) participants had low turnover intention, but 866 (24.3%) participants had high turnover intention. About a quarter of physicians had high turnover intention in Guangdong Province. Compared to the investigations made in Hubei Province (e.g. 36.8% of the village doctors had turnover intention in Xiangyang City [19], turnover intention to be 3.18 out of 5 [20]), the turnover intention in Guangdong was relatively smaller. However, the turnover intention of physicians in Guangdong was still higher than that in Taiwan [21]. Generally, for the areas with better medical welfare, such as Finland [23,24] and Madrid [25], the turnover intention of physicians was low. However, due to serious working and security conditions, the turnover intention of Iraqi doctors was very high (55.2%) [15]. Based on our study, more attention should be paid to the physicians in Guangdong to reduce their turnover intention.

Studies conducted in other countries or areas mentioned a series of influencing factors of turnover intention. In China, Fang et al. [19] showed that income satisfaction, “the way organization policies are put into practice”, “my pay” and “the amount of work I do”, promotions and the work environment had impact on turnover intention of village doctors. Zhang and Feng's [20] study disclosed that several dimensions of both job satisfaction and burnout syndrome were influence factors of physicians' turnover intention. Liu and Quan [27] revealed organizational commitment had an indirect effect on the turnover intention of doctors through the mediating effect of job satisfaction and self-expectation. In other countries, Heponiemi et al. [23, 24] performed two studies showed that

physicians who had on-call duty, high demands, and experienced physical violence were more likely to have higher turnover intention. Moreno-Jiménez et al. [25] carried out a study indicated commitment had a negative effect, and difficult patients had a positive effect on turnover intention of physicians. Tziner et al. [26] showed that work stress and burnout had positive effect on turnover intention and job satisfaction had negative effect on turnover intention. Income satisfaction, promotion, job satisfaction and work stress were also mentioned in our study and the results were in line with the previous studies.

Some tables need to put the precise percentages, such as Annual income =102.8%?

Response: Thank you very much. We have corrected the number 19.6 in the item of annual income 60000~79999 to 16.9 in Table 3 in the revised manuscript. We have also proofread the revised manuscript carefully to avoid any misspelling and typo.

It was my pleasure to review this article.  
Kind Regards

Response: Thank you very much.

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Reviewer: 2

Reviewer Name: Fang Pengqian

Institution and Country: School of Medicine and Health Management, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, China

Please state any competing interests: None declared

Please leave your comments for the authors below

This paper focus on the relationship between Job Satisfaction, Work Stress, Work-family conflict, and Turnover Intention, and the article addresses an interesting and current issue that is being studied in most countries around the world. The characteristics of this region of China, makes it attractive as an example and/or a comparison with many other regions and countries. However, there are some significant issues that need to be concerned.

Response: Thank you very much. We have revised the manuscript according to the reviewer's comments and suggestions.

1. The authors present the research "this study was first to investigate the turnover intention of physicians in Guangdong after the inception of health system reforms in 2009", but, there is a lack of relative discussion about the results and health system reforms.

Response: Thank you for your comments. We have revised the descriptions on the health system reforms in the Introduction Section in the revised manuscript.

The reform involved the increment of health insurance coverage, the introduction of an essential drug list, a fixed salaries set for health workers by local government, and improvement in the delivery of public health services in primary care [48, 49]. One priority of the reform was to provide medical insurance to at least 90 percent of the population in China [50]. The reform also aimed to improve medication availability, quality, rational use, and to establish a national essential medicines system. Although the reform made health resource more available, there was an increase in workload for physicians. Before the salary reform, drug sales were the main source of income for medical institutions and physicians' income was directly related to the profits of their prescription. After the salary reform in 2009, a fixed basic salary set and performance-based bonus were introduced to replace the previous income sources. According to Wu et al. and Zhou et al. [48, 49], after the reform, physicians in poor areas might be able to enjoy higher income and financial stability, and those in wealthy areas might have serious salary reduction. However, salary in poor areas was still lower than that in wealthy areas. It is necessary to investigate the turnover intention after the health system reform.

Based on the results of our study, turnover intention of physicians was significantly associated with job satisfaction, work stress, work-family conflict and socio-demographic factors, including hours worked per week, working in urban/rural, types of institution, and age.

2. In the introduction part, there is an inadequate description about similar research in other areas of China. More relative references should be recommended in that part.

Response: Thank you for your comments. We have added the descriptions about similar research in other areas of China in the Introduction Section of revised manuscript.

In China, Li et al. [17] disclosed that about half of clinical physicians in public hospitals had turnover intention because of issues about burnout, lack of support and chance of promotion. A survey implemented in Liaoning Province, China, indicated that 41.4% physicians intended to depart from their workplace because of high work stress [18]. An investigation in Xiangyang City, Hubei Province, showed that over one-third (36.8%) of village doctors had turnover intention and revealed that job satisfaction had an impact on turnover intention [19]. Based on a self-developed questionnaire, a survey conducted in Hubei Province revealed that physicians from urban state-owned medical institutions had the mean score of turnover intention to be 3.18 (neutral) out of 5 and indicated that job satisfaction and burnout were influencing factors for turnover intention [20]. Tsai et al. [21] showed that 14.5%, 30.0% and 55.5% physicians in Taiwan had strong, moderate and mild intention to leave their current hospital.

3. In the methods part, the authors present that "the random selection", it might be appropriate to indicate that which method was used.

Response: Thank you for your comment. The random selection method is the traditional simple random selection. We have revised the statement in the manuscript as "40 sample districts and counties from 21 prefecture-level cities in Guangdong province were randomly selected".

4. The authors used the "0.5" as the measurement to evaluate the corresponding dimensions, clarify the reason you chose 0.5.



Response: Thank you for your comment. According to previous studies [59-61], factor loading values at 0.3 or greater were considered as acceptable, whereas those greater than 0.55 were considered as good. Table 1 showed that all the loading values of the items to the corresponding dimensions were greater than 0.55, so the construction validity of the questionnaire was good.

5. In the data collection, the description is too simple, it is appropriate to illustrate the details during the collection, for instance, how to insure the response quality of the questionnaires.

Response: Thank you for your comment. Each health bureau was responsible for the training of investigators, who regained completed questionnaires under detailed inspections on the spot to ensure the quality of the questionnaires. We have added the above descriptions in the revised manuscript.

6. In the test of study models, there is a lack of explanation about Table 6.

Response: Thank you for your comment. We have revised the descriptions in the revised manuscript. Table 6 summarized the results of the direct and indirect effect of the model. The total effect of job satisfaction, work stress, and work-family conflict on turnover intention was -1.061, 0.363 and 0.539, respectively. The impact of job satisfaction on turnover intention was the largest. The squared multiple correlations value was 0.555, which means that the established SEM explained 55.5% of the total variance of turnover intention.

7. It is interesting that there is no funding to support the large-scale sample research. How the authors manage the costs during the research?

Response: The survey was financially supported by the Ethics Review Committee of the Health Department of Guangdong Province.

8. Since the limitation of the study is causal relationships between influence factors and turnover intention could not be identified, the authors could include ideas and opportunities for future research.

Response: Thank you for your comment. This is a cross-sectional study, in which the causal relationships between influencing factors and turnover intention could not be identified. For exploring the relationships, a cohort study is needed and it will be our future research.

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Reviewer: 3

Reviewer Name: Siying Wu

Institution and Country: Department of Epidemiology and Health Statistics, School of Public Health, Fujian Medical University

Please state any competing interests: None declare



Please leave your comments for the authors below

The topic is meaningful in the world including in China. The data are reasonably analyzed, displayed and explained. The results and conclusions of the study are of reference value in the field. However there are some reversions in need on Introduction and discussion.

Response: Thank you very much. We have revised the manuscript according to the reviewer's comments and suggestions.

1、 The author also needs to show statistics about the turnover rate of medical staff in China as well.

Response: Thank you for your comments. We have added the studies about the turnover intention of medical staff in China in the Introduction Section of the revised manuscript.

In China, Li et al. [17] disclosed that about half of clinical physicians in public hospitals had turnover intention because of issues about burnout, lack of support and chance of promotion. A survey implemented in Liaoning Province, China, indicated that 41.4% of physicians intended to depart from their workplace because of high work stress [18]. An investigation in Xiangyang City, Hubei Province, showed that over one-third (36.8%) of village doctors had turnover intention and revealed that job satisfaction had an impact on turnover intention [19]. Based on a self-developed questionnaire, a survey conducted in Hubei Province revealed that physicians from urban state-owned medical institutions had the mean score of turnover intention to be 3.18 (neutral) out of 5 and indicated that job satisfaction and burnout were influencing factors for turnover intention [20]. Tsai et al. [21] showed that 14.5%, 30.0% and 55.5% physicians in Taiwan had strong, moderate and mild intention to leave their current hospital.

2、 Work stress only includes four items, feel great pressure from work, feel a high level of tension from work, trouble falling asleep because of work, feel nervous because of work. Indeed, an assessment of work stress based only four items could be questionable. It is best to contain work stress source.

Response: Thank you for your comments and suggestions. The questionnaire was produced by the National Health and Family Planning Commission of the People's Republic of China. It was adopted by the government to perform the study in Guangdong. The limitation of our study was that the instrument used to measure work stress might not be suitable for other research. Although the work stress only included four items, based on our analysis in the Measuring Instruments Section, the questionnaire had a good level of reliability and construction validity. Our results also showed that work stress positively influence turnover intention, which was consistent with other studies [31, 39, 77-83]. The improvement of our questionnaires will be our future work.

3、 The author also need to elaborate further on the framework itself with various theories in Introduction part.

Response: Thank you for your comments. We have added the introduction to other theories about turnover intention in the Introduction Section of revised manuscript.

Since March and Simon [5] proposed a participant determination model on turnover in 1958, different models on turnover had been proposed [6-13], focusing on the linkages of factors, turnover behaviors, and turnover intention, etc. Among these models, turnover intention was regarded as one of the best predictors of the turnover behaviors and it could explain a certain amount of variance of turnover behaviors [14].

4、 Implication of the study should be strengthened with applying recent issues happened globally in healthcare industry in the discussion part.

Response: Thank you for your comments. The study of the manuscript was conducted in 2013, after the health system reform (2009-2012) in Guangdong, China. The aim of our study was to estimate the turnover intention of physicians after the health system reform. In the Discussion Section, we have added comparisons and discussions of our research with other regions in China and worldwide. The influences of the reform were also discussed.

Although different measuring instruments for turnover intention had been used in the literature, the mean scores and the percentages of high perception of turnover intention could be used as a reference to the potential turnover behavior [14]. In our study, the scores for the four items in the turnover intention were smaller than (i.e. 2.79, 2.83, 2.21) or close to (3.01) the median 3 in the 6 range scales, i.e. 1-strongly disagree, 2-disagree, 3-slightly disagree, 4-slightly agree, 5-agree, 6-strongly agree and the mean score of overall perception of turnover intention was 2.71 (lower than slightly disagree). The overall perception of turnover intention exceeded “I prefer to stay” (score 2) and approached “I have half a mind to stay” (score 3). If a score over 3.5 is considered a high score, the percentages of higher scores for each item were 30.3%, 38.3%, 33.7% and 16.9%, respectively. Based on the results, 2697 (75.7%) participants had low turnover intention, but 866 (24.3%) participants had high turnover intention. About a quarter of physicians had high turnover intention in Guangdong Province. Compared to the investigations made in Hubei Province (e.g. 36.8% of the village doctors had turnover intention in Xiangyang City [19], turnover intention to be 3.18 out of 5 [20]), the turnover intention in Guangdong was relatively smaller. However, the turnover intention of physicians in Guangdong was still higher than that in Taiwan [21]. Generally, for the areas with better medical welfare, such as Finland [23, 24] and Madrid [25], the turnover intention of physicians was low. However, due to serious working and security conditions, the turnover intention of Iraqi doctors was very high (55.2%) [15]. Based on our study, more attention should be paid to the physicians in Guangdong to reduce their turnover intention.

Studies conducted in other countries or areas mentioned a series of influence factors of turnover intention. In China, Fang et al. [19] showed that income satisfaction, “the way organization policies are put into practice”, “my pay” and “the amount of work I do”, promotions and the work environment had impact on turnover intention of village doctors. Zhang and Feng’s [20] study disclosed that several dimensions of both job satisfaction and burnout syndrome were influencing factors of physicians’ turnover intention. Liu and Quan [27] revealed organizational commitment had an indirect effect on the turnover intention of doctors through the mediating effect of job satisfaction and self-expectation. In other countries, Heponiemi et al. [23, 24] performed two studies showed that physicians who had on-call duty, high demands, and experienced physical violence were more likely had high turnover intention. Moreno-Jiménez et al. [25] carried out a study indicated commitment had a negative effect, and difficult patients had a positive effect on turnover intention of physicians. Tziner et al. [26] showed that work stress and burnout had positive effect on turnover intention and job satisfaction had negative effect on turnover intention. Income satisfaction, promotion, job satisfaction and work stress were also mentioned in our study and our results were in line with the previous

studies.

5. The references are not up-to-date.

Response: Thank you for your comments. We have checked and added the most recent references in the revised manuscript, such as the following papers.

[19] Fang PX, Liu XL, Huang LX, Zhang XY, Fang Z: Factors that influence the turnover intention of Chinese village doctors based on the investigation results of Xiangyang City in Hubei Province. *International Journal for Equity in Health* 2014, 13: 7-24.

[21] Tsai YH, Huang N, Chien LY, Chiang JH, Chiou ST: Work hours and turnover intention among hospital physicians in Taiwan: does income matter? *BMC Health Services Research* 2016, 16: 1-8.

[24] Heponiemi T, Kouvonen A, Virtanen M, Vänskä J, Elovainio M: The prospective effects of workplace violence on physicians' job satisfaction and turnover intentions: the buffering effect of job control. *BMC Health Services Research* 2014, 14(1): 1-16.

[25] Moreno-Jiménez B, Gálvez-Herrer M, Rodríguez-Carvajal R, Sanz Vergel A: A study of physicians' intention to quit: the role of burnout, commitment and difficult doctor-patient interactions. *Psicothema*, 2012, 24(2): 263-270.

[27] Liu RM, Quan P: Relation between doctor organizational commitment and turnover intention: the mediating role of job satisfaction and self - expectation. *Chinese General Practice* 2016, 19 (3) : 317-321.

[32] Lu Y, Hu XM, Huang XL, Zhuang XD, Guo P, Feng LF, Hu W, Chen L, Hao YT. Job satisfaction and associated factors among healthcare staff: a cross-sectional study in Guangdong Province, China. *BMJ Open* 2016, 6: 1-9.

[33] Wu S, Zhu W, Li H, Lin S, Chai W, Wang X: Workplace violence and influencing factors among medical professionals in China. *American Journal of Industrial Medicine* 2012, 55(11):1000-1008.

[34] Wu S, Li H, Zhu W, Lin S, Chai W, Wang X: Effect of work stressors, personal strain, and coping resources on burnout in Chinese medical professionals: a structural equation model. *Industrial Health* 2012, 50 (4): 279-287.

[59] Thomason DL, Feng D: Reliability and Validity of the Physical Education Activities Scale. *Journal of School Health* 2016, 86: 424- 434.

[61] Tekin A, Polat E: A scale for e-content preparation skills: Development, validity and reliability. *Eurasian Journal of Educational Research* 2016, 62: 161-178.

[82] Meng Q, Xu L, Zhang Y: Trends in access to health services and financial protection in China between 2003 and 2011: A cross-sectional study. *The Lancet* 2012, 379: 805-814.

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Reviewer: 4

Reviewer Name: Ping Zhou

Institution and Country: Fudan University, School of Public Health, Shanghai, P.R. China

Please state any competing interests: I declare that I have no competing interests.

Please leave your comments for the authors below

An article of excellence and importance in its field.

Response: Thank you very much for your comment.

#### Reviewer's report

Title: The relationship between job satisfaction, work stress, work-family conflict, and turnover intention among physicians from Guangdong, China: A cross-sectional study

Date: 3 Jan. 2017

Reviewer: Ping Zhou

Thanks for the opportunity to review this manuscript. The authors aimed to investigate the relationship between job satisfaction, work stress, work-family conflict, turnover intention, and to explore the influential factors on turnover intention among Chinese physicians in Guangdong Province. The topic is significant for healthcare human resource management. The survey was well executed. The sample (N=3563) was sufficiently large, representing a response rate of 89.91%. The hypotheses were clearly stated, the statistical analysis was sound, the research process was well documented, and the findings appropriately reported. I have some questions and suggestions below which are offered to authors to consider.

Response: Thank you very much. We have revised the manuscript according to the reviewer's comments and suggestions.

1. This study focused on the issue of physicians' turnover intention in Guangdong with the context of the new health system reforms in China. P4, line 56- p5, line 10. The authors particularly referred to the salary reform, which had a significant influence on physicians. But they only mentioned the salary reform of primary hospitals and the cited document also focused on rural healthcare institutions. What compensation reform measures were carried out among the secondary or tertiary hospitals in Guangdong Province, because the study samples also included these healthcare organizations?

Response: Thank you for your comments. We have revised the statements in the Introduction Section in the revised manuscript. The reform involved the increment of health insurance coverage, the introduction of an essential drug list, a fixed salaries set for health workers by local government, and improvement in the delivery of public health services in primary care [48, 49]. One priority of the reform was to provide medical insurance to at least 90 percent of the population in China [50]. The reform also aimed to improve medication availability, quality, rational use, and to establish a national essential medicines system. Although the reform made health resource more available, there was an increase in workload for physicians. Before the salary reform, drug sales were the main source of income for medical institutions and physicians' income was directly related to the profits of their prescription. After the salary reform in 2009, a fixed basic salary set and performance-based bonus were introduced to replace the previous income sources. According to Wu et al. and Zhou et al. [48, 49], after the reform, physicians in poor areas might be able to enjoy higher income and financial stability, and those in wealthy areas might have serious salary reduction. However, salary in poor areas was still lower than that in wealthy areas. It is necessary to investigate the turnover intention after the health system reform.

2. One purpose of this study was to assess the turnover intention of physicians in Guangdong after the recent reforms. Could the authors report some data or give some information of the turnover intention of physicians in Guangdong before in order to make some comparison?

Response: Thank you for your comments. This study was first to investigate the turnover intention of

physicians in Guangdong with a large sample of 3563 physicians after the inception of health system reforms in 2009. Previous reported data were not comparable with our study.

3. The variables were based on a number of scales such as the Job Descriptive Index for "job satisfaction", work stress scale used in one mental health promotion report (Hassard, et al., 2013), and turnover intention items developed by Cammann et al. For these scales, it is not known whether the authors translated the original questions (in English) into Chinese or adopted translated versions used in other Chinese studies. More details would be helpful. Although the authors reported satisfactory internal consistency and good construct validity.

Response: Thank you for your suggestions. The questionnaire was offered by the National Health and Family Planning Commission of the People's Republic of China. The design of the items was made officially by the Commission. We only adopted the questionnaire in Guangdong. The limitation of our study was that the questionnaire might not be suitable for other research.

4. I have some questions about "intention to leave." This measure was based on the average of the scores of four items: thought of leaving the organization you served now, thought of leaving this industry, looking for a new job recently, looking for a new job next year (p7, lines 10-14). Since at least the first one and the second one are very different decisions, does it make sense to average these types of career decision? Wouldn't it be different result if to conduct analysis separately for them?

Response: Thank you for your suggestions. By using different measures of the turnover intention, the results would be different. However, our study was based on the Fifth National Health Service Survey in Guangdong Province, which was conducted from August to October 2013, after the health system reform (2009-2012) in Guangdong, China. The aim of our study was to estimate the turnover intention of physicians after the health system reform. In our study, the scores for the four items in the turnover intention were smaller (i.e. 2.79, 2.83, 2.21) than or near (3.01) to the median 3 in the 6 range scale, i.e. 1-strongly disagree, 2-disagree, 3-slightly disagree, 4-slightly agree, 5-agree, 6-strongly agree and the mean score of overall perception of turnover intention was 2.71 (lower than slightly disagree). The overall perception of turnover intention exceeded "I prefer to stay" (score 2) and approached "I have half a mind to stay" (score 3). If a score larger than 3.5 is considered a high score, the percentages of higher scores for each item were 30.3%, 38.3%, 33.7% and 16.9%, respectively. Based on the results, 2697 (75.7%) participants had low turnover intention, but 866 (24.3%) participants had high turnover intention. About a quarter physicians had high turnover intention in Guangdong Province.

As the turnover intention is an integrated perception, one item can only represent one aspect of it. The purposes of our study were not only to assess the turnover intention of physicians in Guangdong after the recent reforms, but also to explore the relationship between turnover intention and job satisfaction, work stress, and work-family conflict. The average of the scores of the four items would be a suitable choice for the analysis. The studies aimed to explore the influence factors of a single item such as the "thought of leaving this industry" would be our future work.

5. The medical education system in China is quite different than those in other countries. It would be helpful if the authors could briefly explain what "Bachelor's degree", "Junior college", "other" in

education background, and “other” in professional status [see Table 3] mean (possibly in a footnote).

Response: Thank you very much. We have added the description on the education system in the Measuring Instruments Section in the revised manuscript. In China, a bachelor’s degree is an undergraduate academic degree awarded by colleges and universities upon completion of a course of study lasting five years. A college degree is a qualification awarded on successful completion of a course of study that continues for three years in junior college. In education background, “other” means the “lower than junior college”. Lower than junior college includes technician training school, senior high school and junior high school, etc. In professional status, “other” means “no title”. We have also added a footnote in Table 3. The “other” in professional status has been replaced by “no title” in the revised manuscript.

#### VERSION 2 – REVIEW

<b>REVIEWER</b>	Dr.Saad Ahmed Ali Jadoo International centre for casemix and clinical coding, National University of Malaysia
<b>REVIEW RETURNED</b>	17-Feb-2017

<b>GENERAL COMMENTS</b>	It was my pleasure to review this manuscript.
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<b>REVIEWER</b>	Fang Pengqian School of Medicine and Health Management, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, China
<b>REVIEW RETURNED</b>	25-Feb-2017

<b>GENERAL COMMENTS</b>	It was my pleasure to review the revision of this manuscript. Overall, the revision of this manuscript is satisfactory.
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<b>REVIEWER</b>	Ping Zhou School of Public Health, Fudan University
<b>REVIEW RETURNED</b>	07-Mar-2017

<b>GENERAL COMMENTS</b>	The authors have adequately addressed the concerns I raised in my previous review or have made the necessary revisions. However, some improvements in language and presentation are needed before publication.
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