PEER REVIEW HISTORY

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ARTICLE DETAILS

<table>
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<th>TITLE (PROVISIONAL)</th>
<th>Exploring Factors Associated with Healthcare Professionals’ Subjective Perceptions of Complex Issues in Primary Care in Japan: A Self-Administered Survey Study on Confidence, Satisfaction, and Burden Levels.</th>
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<tr>
<td>AUTHORS</td>
<td>Haruta, Junji; Goto, Ryohei</td>
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VERSION 1 – REVIEW

| REVIEWER | Shuhei Yoshida  
Hiroshima University, 1. Department of Community-Based Medical System |
<table>
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<td>REVIEW RETURNED</td>
<td>14-Nov-2023</td>
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GENERAL COMMENTS

Thank you for the opportunity to review the manuscript about the relation between complicated problems and subjective perceptions of health care professionals. The perceptions were quite important matter to proceed the interprofessional collaboration as authors said. I have several comments to improve the quality of this manuscript. Please check my comments as follows.

<Major>

1. Page 4 Line 16-20
   Although authors only mentioned about physicians and nurses, other health professions were included in this study. Besides physicians and nurses, social workers and rehabilitation therapists were occupied the certain proportion of participants. Please add the description about these two professionals to this section.

2. Page 5 Line 16-18
   Please add the sentences about the importance of this study. How the result of this study is useful for the future primary care?

3. Page 6 Line 12-17
   As there were two different recruitment methods, please include the response rate for each in the results.

4. Page 7 Line 3-6
   This is my biggest concern of all the comments. How the authors defined and asked the subjective perceptions due to the complex factors in the questionnaire. Although authors measured the perceptions using the VAS, there is no description about concrete sentences used to ask the question. The “complex factors” have wide and vague concept if there is no appropriate explanation. To ensure content validity, authors should describe more information about the actual questionnaire sentences.
5. Page 8 Line 1-4
Why did authors divide into two group? Generally, converting a continuous variable to a binary variable reduces the information that the variable has. Is there a clear reason to change to a discontinuous variable?

6. Page 10 Line 5-7
Why did authors adopt the type of professionals as an explanatory variable? If a type of professionals made clusters, multilevel analysis would be suitable. If the main object is not to identify differences between nurses and other health professionals, it may be better to consider the cluster structure between the professionals and examine the effect of JASSIC scores, PDS factor and Do factor.

7. Page 10 Line 7-9
The frequency of outcome occurrences was too high to show the OR using logistic regression. The ORs were overestimated (doi:10.1001/jama.280.19.1690).

8. Page 10 Line 13
Please explain why the p-value is greater than 0.05 even though Bonferroni correction is applied.

9. Page 11 Line 7
What is "public health nurse" in table 1?

10. Page 13 Line 3-4
Rather than doing a sensitivity analysis, I think it is better to set the outcome as a continuous variable.

11. Page 14 Figure 1
Is this figure modified from the reference 3?? The items were different from the original figures. In addition, please confirm that there are no copyright issues.

12. Page 14 Line 7-9
When authors say that this relation is the result of interdependence, authors would need to discuss what clinical implications and possibilities this result has.

<Minor>
1. Line 8-9
We investigated the relation between the subjective burdens of healthcare professionals and complex problems as follows: doi: 10.1136/bmjopen-2018-025176.

2. Page 6 Line 10
Please add the rationale.

3. Page 7 Line 20 - Page 8 Line 1
Because these sentences divided the explanation about the VAS, it is difficult to understand the explanation. Please change the order of sentences.

4. Page 6 Line 9-10
Please add the rationale.

5. Page 13 Line 1-2
Please add the reason why authors did not conduct the multivariate analysis to be more reader-friendly.
**GENERAL COMMENTS**

Thank you for the opportunity to review this paper. While the objectives and the methodology of the paper are mostly clear for me (as I was able to fill certain gaps out of the context), I think the paper could be improved in several aspects to increase the clarity: 1) the paper should be reviewed by someone proficient in English (preferably a native speaker), since the syntax and grammar are sometimes peculiar, which decreases the understandability; 2) the authors could be more precise in the aim and methods sections, while describing what was measured - it is not very clear what was meant by satisfaction (regarding what exactly?), confidence (in regard to what?) and finally burden (caused by what?). I can see that they were meant to be connected to complex care issues, but it is not really clear and rather vague; 3) some of these points would also be easier to understand if the provided survey form was also translated to English - it would be easier to understand what the participants were asked exactly. Some other comments: 4) I am not really convinced to joining other professions into the non-nurses group - the professions included differ between each other, which could have influenced the results (also given the different sample sizes of given professions) - there are statistical tests that allow to compare between more than two groups; 5) several instruments were used, which makes the methods section hard to follow - maybe these instruments and their different subscales could be presented as a figure to increase the understandability?; 6) given the specifics of the pandemic situation, I would also suggest making a remark earlier in the introduction and also making it clear in the discussion section that the results of the study were influenced and should also be interpreted in the context of the ongoing pandemic situation - it could have severely influenced the satisfaction, burden and confidence of the healthcare professionals participating in the study, which could have affected the results; 7) also the literature review (both in the introduction and discussion) would benefit from adding some more references on these topics in the context of the pandemic - there were quite a few of studies on healthcare workers burnout and satisfaction during the recent pandemic; 8) some practical implications of the study could be mentioned for example in the conclusion. I would also suggest making it a little bit more precise - instead of mentioning that something can influence satisfaction or confidence, it could be described how it can influence - increase or decrease - this also could be applied to the abstract.

Good luck during the review process and I am waiting to read the reviewed version of the paper!

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**VERSION 1 – AUTHOR RESPONSE**

Reviewer: 1

Dr. Shuhei Yoshida, Hiroshima University

Comments to the Author:

Thank you for the opportunity to review the manuscript about the relation between complicated problems and subjective perceptions of health care professionals. The perceptions were quite important matter to proceed the interprofessional collaboration as authors said. I have several comments to improve the quality of this manuscript. Please check my comments as follows.
Thank you for your insightful suggestions. We have revised the description as follows.

5. Page 4 Line 16-20
Although authors only mentioned about physicians and nurses, other health professions were included in this study. Besides physicians and nurses, social workers and rehabilitation therapists were occupied the certain proportion of participants. Please add the description about these two professionals to this section.

Reply5. Thank you for your suggestions. In response, we have added the description about physiotherapy and social worker as follows.

P4 L20- P5 L12

Scoping reviews on physiotherapy collaboration within primary care have identified several barriers, including physicians' limited understanding of physiotherapy's scope, inefficient teamwork, and substantial workload and scheduling challenges for physiotherapists(12). These barriers are further exacerbated by ambiguities in physiotherapists' roles, patients' lack of awareness about physiotherapy services, and a general deficiency in organizational knowledge about these services(13,14). In contrast, the vital role of hospital social work in enhancing healthcare team collaboration is recognized through its emphasis on proactive communication to build relationships and facilitate information exchange, initiatives for team training and patient advocacy, and effective risk management strategies(15). These strategies aim to ensure seamless patient discharges and reduce liability risks. The significance of social work is consistently acknowledged across various healthcare settings, including primary care clinics, highlighting its indispensable contribution to improving teamwork in healthcare(16).

6. Page 5 Line 16-18
Please add the sentences about the importance of this study. How the result of this study is useful for the future primary care?

Reply6. Thank you for your constructive feedback. In response, we have incorporated additional information highlighting the importance of this study.

P6 L3-9

The identification of key variables within primary care is crucial for devising strategies aimed at enhancing interprofessional collaboration and the overall quality of care(22,23). The insights derived from this study are intended to guide the development of practical interventions and policy initiatives designed to promote more cohesive healthcare teams(23–25). By understanding these dynamics, we can enhance satisfaction among healthcare providers, thereby contributing to substantial advancements in primary care practices.
As there were two different recruitment methods, please include the response rate for each in the results.

Reply7. Thank you for your request for additional details regarding the response rates associated with each recruitment method used in our study. Here's the revised response:

P7L7-18

Participants

Primary care providers in routine interprofessional collaboration across various health professions were included. Participants were recruited through two primary methods: an e-mail link from the Japan Primary Care Association (JPCA)(31) email list and directly email. The JPCA, established in 2010 through the merger of three academic societies in primary care academic societies, represents Japan's primary care sector with 10,023 doctors, 755 pharmacists, and 688 other health professionals registered as of September 2022(32). Due to the exponential non-discriminative snowball sampling used to ensure broad and unbiased representation across different regions of Japan, accurately calculating response rates was not feasible (33). This approach was specifically chosen to mitigate regional bias and address the low responses from nurses, pharmacists, and rehabilitation therapists, reflecting the interprofessional nature of primary care in Japan.

In response to your comment, we have elaborated on our recruitment strategy's rationale and its importance in securing a diverse and representative sample of primary care professionals in Japan within the methodology section of our manuscript. This clarification underscores our belief that such a strategy not only enhanced the data's quality and relevance but was also crucial in meeting our objective of gathering a broad spectrum of insights from within the primary care environment.

8. Page 7 Line 3-6

This is my biggest concern of all the comments. How the authors defined and asked the subjective perceptions due to the complex factors in the questionnaire. Although authors measured the perceptions using the VAS, there is no description about concrete sentences used to ask the question. The “complex factors” have wide and vague concept if there is no appropriate explanation. To ensure content validity, authors should describe more information about the actual questionnaire sentences.

Reply8. Thank you for raising this critical concern regarding the clarity of our methodology in describing and querying subjective perceptions related to complex factors within our questionnaire. We recognize the importance of detailing our approach to ensure the content's validity and understand that the lack of explicit questionnaire items might create ambiguity around what constitutes “complex factors.”

To address this, we carefully crafted our questions to strike a balance between specificity and broad applicability, aiming to capture the essence of complex issues without constraining responses with overly precise definitions. Specifically, the questionnaire prompted participants to reflect on their experiences and assess their confidence, satisfaction, and perceived burden when facing complex healthcare issues as follows.
The questions designed to elicit broad reflections was:

"We would like to ask you about the response to complex healthcare issues in your area or facility. Where would you place your confidence/satisfaction/level of burden in responding to the complex healthcare issues you are currently facing?"

This question aims to provide quantitative assessments of satisfaction, confidence, and perceived burden, offering insights into the emotional and professional impacts of managing complex healthcare issues.

Details of the Japanese and English versions of this questionnaire can be referred to in Supplemental file 1.

Why did authors divide into two group? Generally, converting a continuous variable to a binary variable reduces the information that the variable has. Is there a clear reason to change to a discontinuous variable?

In response to your question about our decision to categorize participants into two groups based on their Visual Analogue Scale (VAS) scores, we welcome the chance to provide further clarification on our methodological choice. The decision to convert the continuous VAS scores into binary variables was primarily driven by the exploratory nature of our study and the categorical nature of our explanatory variables. Moreover, in the context of our research, a 1 mm change in VAS scores was considered to have limited practical significance.

Our objective was to uncover broad trends and relationships within the data. Dividing the participants into high and low groups allowed for a more straightforward interpretation of the associations between varying levels of satisfaction, confidence, and perceived burden, and the categorical factors being studied. This bifurcation was particularly useful in our exploratory analysis, enabling us to identify distinct patterns and relationships that could guide future, more detailed investigations.

While we recognize that transforming a continuous variable into a binary one can diminish the information it carries, this approach was deemed appropriate for our initial exploratory purposes. It facilitated an analysis focused on identifying significant differences and trends that might have remained obscured in a continuous framework, especially in analyses involving multiple categorical explanatory variables.

This methodological decision was made after careful consideration of the study’s objectives, the characteristics of the data at hand, and the exploratory aim of our investigation. It was intended to balance methodological precision with the practical need to derive meaningful insights into the complex challenges encountered by healthcare professionals in primary care environments.
To enhance the interpretability of our exploratory analysis, we categorized VAS scores into high and low groups. This decision was informed by the study's exploratory nature and the limited practical significance of minor changes in VAS scores. By simplifying the data into binary variables, we aimed to uncover broad trends and relationships that offer preliminary insights into the complex dynamics of satisfaction, confidence, and perceived burden among healthcare professionals in primary care settings.

10. Page 10 Line 5-7
Why did authors adopt the type of professionals as an explanatory variable? If a type of professionals made clusters, multilevel analysis would be suitable. If the main object is not to identify differences between nurses and other health professionals, it may be better to consider the cluster structure between the professionals and examine the effect of JASSIC scores, PDS factor and Do factor.

Reply10. In response to the reviewer's inquiry about our use of professional type as an explanatory variable and the potential for multilevel analysis, we aimed to understand the impact of different professional roles on outcomes like VAS responses and JASSIC, PDS, and Do scores. The use of multilevel analysis was considered but deemed impractical due to the limited diversity and size of our professional groups, which could undermine the statistical power and validity of such analysis. Our study's exploratory nature and sample size constraints influenced our methodological choice, aiming for initial insights over the nuanced exploration a multilevel approach might offer. Future studies with larger, more diverse samples may better utilize multilevel analysis to examine these effects.

11. Page 10 Line 7-9
The frequency of outcome occurrences was too high to show the OR using logistic regression. The ORs were overestimated (doi:10.1001/jama.280.19.1690).

Reply11
Thank you for your valuable feedback regarding the high frequency of outcome occurrences and the potential overestimation of odds ratios (ORs) in our study. We acknowledge the importance of methodological transparency and have conducted a sensitivity analysis to address this concern. The results of this analysis, along with a discussion on the limitations related to the use of ORs in contexts with common outcomes, have been added to our manuscript as follows. This ensures a more transparent and robust interpretation of our findings.

Lastly, the potential overestimation of risk associated with the ORs in logistic regression highlights the need for cautious interpretation of our findings, particularly in decision-making contexts(71). Nevertheless, allowing for these limitations, and given the current lack of evidence on factors associated with health professionals' subjective perceptions of complex issues, this study is valuable because it identifies factors associated with satisfaction about complexity, interprofessional competencies, and administrative experience.
12. Page 10 Line 13
Please explain why the p-value is greater than 0.05 even though Bonferroni correction is applied.

Reply 12. Thank you for pointing out these issues. Regarding your comment on Page 10 Line 13 about the p-value being greater than 0.05 even with the application of the Bonferroni correction, there was indeed a typographical error in our manuscript. The correct value should have been 0.017, not 0.17.

P11L19-21
To account for the analysis of three objective variables within the binominal logistic regression framework, we applied Bonferroni correction, setting the significant level at p<0.017, to maintain analytical rigor(47).

13. Page 11 Line 7
What is "public health nurse" in table 1?

Reply 13. Thank you for pointing out these issues. As for the query on Page 11 Line 7 concerning the term "public health nurse" in Table 1, this was also a mistake in our documentation. The correct term intended was "Nurse."

We apologize for these oversights and appreciate your attention to detail, which has helped us improve the accuracy and clarity of our manuscript.

14. Page 13 Line 3-4
Rather than doing a sensitivity analysis, I think it is better to set the outcome as a continuous variable.

Reply 14. Thank you for your suggestion. Regarding the suggestion on Page 13 Lines 3-4 to consider the outcome as a continuous variable rather than conducting a sensitivity analysis, we acknowledge the potential benefits of this approach for capturing more nuanced data variations. However, for the purposes of this exploratory study, categorizing the outcomes allowed us to identify clear trends and patterns more readily. We will consider continuous variable analysis for future, more in-depth research.

15. Page 14 Figure 1
Is this figure modified from the reference 37? The items were different from the original figures. In addition, please confirm that there are no copyright issues.

Reply 15. Thank you for your suggestion. For Page 14 Figure 1, we have decided to cite a paper that republished the revised model to address concerns about modifications from the original
When authors say that this relation is the result of interdependence, authors would need to discuss what clinical implications and possibilities this result has.

Reply. Thank you for your suggestion. On Page 14 Lines 7-9, discussing the clinical implications and possibilities of the interdependence observed between interprofessional collaboration competencies and the confidence and satisfaction in addressing complex issues, we suggest that implementing interprofessional education can enhance these competencies. This, in turn, may improve satisfaction and confidence in complex problem-solving and potentially foster quality improvements in clinical care. While our findings suggest a mutual influence rather than a causal relationship, they underscore the value of further research in this area.

Nevertheless, allowing for these limitations, and given the current lack of evidence on factors associated with health professionals' subjective perceptions of complex issues, this study is valuable because it identifies factors associated with satisfaction about complexity, interprofessional competencies, and administrative experience. Our findings - that an organizational climate that is not strongly hierarchical facilitates the promotion of quality improvement to improve the system of the medical institution to which it belongs and is associated with high satisfaction on complex issues - can be applied to clinical practice, and has international significance for continuous professional development and interprofessional education in primary healthcare. Additionally, its relevance could extend to future research endeavors for both health professionals and policymakers, given that the satisfaction of health professionals with increasingly intricate issues could serve as a reflection of the healthcare institutions’ quality.

We investigated the relation between the subjective burdens of healthcare professionals and complex problems as follows: doi: 10.1136/bmjopen-2018-025176.

Thank you for your suggestion. We have added the referenced article (doi: 10.1136/bmjopen-2018-025176) to our manuscript as No.21, accessible at https://pubmed.ncbi.nlm.nih.gov/30796125/, to investigate the relationship between healthcare professionals’ subjective burdens and complex problems.

Please add the rationale.

Thank you for your suggestion. In response to the request for adding rationale regarding the Japan Primary Care Association (JPCA), we have included references to relevant literature that highlights JPCA’s role in unifying various healthcare professions within primary care.
Participants were recruited through two primary methods: an e-mail link from the Japan Primary Care Association (JPCA) email list and directly email. The JPCA, established in 2010 through the merger of three academic societies in primary care, represents Japan’s primary care sector with 10,023 doctors, 755 pharmacists, and 688 other health professionals registered as of September 2022.

19. Page 7 Line 20 - Page 8 Line 1
Because these sentences divided the explanation about the VAS, it is difficult to understand the explanation. Please change the order of sentences.

Reply 19. We have revised the organization of sentences related to the Visual Analogue Scale (VAS) to improve clarity and coherence, ensuring that the explanation is easily understandable without being fragmented.

20. Page 6 Line 9-10
Please add the rationale.

Reply 20. The rationale for including the Japan Primary Care Association (JPCA) in our study stems from its significance as a multidisciplinary association encompassing various healthcare professions beyond physicians, highlighting the interprofessional nature of primary care in Japan.

Consequently, we did not proceed with multivariate analysis for this aspect, as the lack of significant findings in the univariate analysis suggested further analysis was unlikely to yield meaningful insights into the factors influencing the subjective burdens of healthcare professionals in interprofessional collaboration.
Reviewer: Dr. Piotr Przymuszała, Poznan University of Medical Sciences

Comments to the Author:

Thank you for the opportunity to review this paper. While the objectives and the methodology of the paper are mostly clear for me (as I was able to fill certain gaps out of the context), I think the paper could be improved in several aspects to increase the clarity:

1) the paper should be reviewed by someone proficient in English (preferably a native speaker), since the syntax and grammar are sometimes peculiar, which decreases the understandability;

Reply. We have thoroughly reviewed and significantly revised the manuscript to enhance clarity and readability, ensuring that the syntax and grammar are now in line with native English standards.

2) the authors could be more precise in the aim and methods sections, while describing what was measured - it is not very clear what was meant by satisfaction (regarding what exactly?), confidence (in regard to what?) and finally burden (caused by what?). I can see that they were meant to be connected to complex care issues, but it is not really clear and rather vague;

Reply. Acknowledging your feedback regarding the preciseness in the aim and methods sections, we have added specific questions to clarify what we meant by satisfaction, confidence, and burden. These modifications aim to directly connect these concepts to the context of complex care issues, making the objectives and methods of our study clearer and more understandable.

Subjective perceptions of professional satisfaction and confidence in handling complex tasks can reflect the outcomes of these tasks. Job satisfaction boosts staff enthusiasm, contributes to organizational success, and is instrumental in delivering high-quality services (17). Professional confidence is defined as “the belief or conviction that one can successfully accomplish a task or achieve a certain level of performance, as well as expressing a sense of control that influences the outcome” (18). Given these findings, we speculated that patient outcomes for complex issues might be associated with professional satisfaction and confidence. Moreover, the ability to manage complex issues confidently and satisfactorily is a crucial competency for health professionals. Psychological burden, potentially leading to healthcare provider burnout, is another factor impacted by complex care (19–21). To date, few studies have examined the factors associated with healthcare professionals’ subjective perceptions of satisfaction, confidence, and burden regarding complex care and interprofessional competencies. The identification of key variables within primary care is crucial for devising strategies aimed at enhancing interprofessional collaboration and the overall quality of care (22, 23). The insights derived from this study are intended to guide the development of practical interventions and policy initiatives designed to promote more cohesive healthcare teams (23–25). By
understanding these dynamics, we can enhance satisfaction among healthcare providers, thereby contributing to substantial advancements in primary care practices.

P6L19-21

Here, we aimed to explore factors significantly associated with healthcare professionals’ subjective perceptions of complex issues in primary care in Japan through a comprehensive survey.

3) some of these points would also be easier to understand if the provided survey form was also translated to English - it would be easier to understand what the participants were asked exactly. Some other comments:

Reply. In line with your suggestion for greater clarity, to address the point about the survey’s understandability, we have included translations of the survey questions into English. This should provide a clearer insight into what exactly the participants were asked, thereby enhancing the comprehensibility of our approach and findings.

P10 L12-13

Details of the Japanese and English versions of this questionnaire can be referred to in Supplemental file 1.

4) I am not really convinced to joining other professions into the non-nurses group - the professions included differ between each other, which could have influenced the results (also given the different sample sizes of given professions) - there are statistical tests that allow to compare between more than two groups;

Reply. We appreciate your concern regarding the aggregation of various professions into the non-nurse group and the potential impact of this categorization on the results, especially considering the diversity and differing sample sizes of the professions involved. We initially considered conducting a multilevel analysis to more accurately account for the variability between professions, as suggested by Reviewer 1. However, due to insufficient sample sizes for a robust multilevel analysis, we ultimately decided against this approach for the current study. Moving forward, we acknowledge the importance of obtaining larger, profession-specific samples to enable such detailed analyses and will aim to address this in future research.

5) several instruments were used, which makes the methods section hard to follow - maybe these instruments and their different subscales could be presented as a figure to increase the understandability?
Reply. To address the complexity of the methods section caused by the use of several instruments, we have added Supplemental File 1, which includes detailed descriptions and the subscales of the instruments employed in our study. This supplemental material is designed to enhance the understandability of our methods by providing a clearer overview of the tools used and their respective components. We believe this addition will greatly improve the readability and clarity of our methodology.

Details of the Japanese and English versions of this questionnaire can be referred to in Supplemental file 1.

6) given the specifics of the pandemic situation, I would also suggest making a remark earlier in the introduction and also making it clear in the discussion section that the results of the study were influenced and should also be interpreted in the context of the ongoing pandemic situation - it could have severely influenced the satisfaction, burden and confidence of the healthcare professionals participating in the study, which could have affected the results;

Reply. In response to the reviewer’s suggestion regarding the pandemic’s impact on our study, here are additions for both the introduction and discussion sections to more explicitly address the context of the COVID-19 pandemic:

Introduction:

Given the timing of this study amidst the global COVID-19 pandemic, it’s crucial to acknowledge the unique and unprecedented challenges faced by healthcare professionals during this period (26,27). The pandemic has not only intensified the complexity of healthcare delivery but has also potentially affected healthcare professionals’ perceptions of satisfaction, confidence, and burden (28–30). These factors are pivotal to our investigation, and as such, the results of this study should be interpreted with an understanding of the extraordinary circumstances under which the data was collected. The pandemic’s widespread impact on healthcare systems worldwide provides a critical backdrop for our analysis, influencing both the context and the responses of the healthcare professionals who participated in our study.

Discussion:

Our findings highlight significant insights into healthcare professionals’ perceptions of complex issues within primary care settings. However, it is important to contextualize these results within the ongoing COVID-19 pandemic, which has undoubtedly influenced the experiences and responses of participants. The pandemic has presented a multitude of challenges, from increased workloads to the rapid adaptation of new practices and protocols, which could have significantly impacted the levels of satisfaction, confidence, and burden reported by healthcare professionals. Therefore, while
interpreting our findings, one must consider the potential effects of the pandemic situation on these perceptions. The pandemic’s influence underscores the necessity for resilience and adaptability in healthcare settings, pointing to areas where support and resources might be optimized to address the evolving needs of healthcare professionals during such crisis situations.

7) also the literature review (both in the introduction and discussion) would benefit from adding some more references on these topics in the context of the pandemic - there were quite a few of studies on healthcare workers burnout and satisfaction during the recent pandemic;

Reply. In response to the valuable suggestion to incorporate more references on healthcare workers' burnout and satisfaction during the recent pandemic, we have enriched both the introduction and discussion sections with additional literature.

8) some practical implications of the study could be mentioned for example in the conclusion. I would also suggest making it a little bit more precise - instead of mentioning that something can influence satisfaction or confidence, it could be described how it can influence - increase or decrease - this also could be applied to the abstract.

Reply. Thank you for your suggestion regarding the practical implications of our study. In response, we have expanded the conclusion to more precisely articulate how the identified factors influence satisfaction and confidence, specifying whether these influences are likely to increase or decrease these perceptions. Here is the revised statement to reflect these changes:

Nevertheless, allowing for these limitations, and given the current lack of evidence on factors associated with health professionals' subjective perceptions of complex issues, this study is valuable because it identifies factors associated with satisfaction about complexity, interprofessional competencies, and administrative experience. Our findings - that an organizational climate that is not strongly hierarchical facilitates the promotion of quality improvement to improve the system of the medical institution to which it belongs and is associated with high satisfaction on complex issues - can be applied to clinical practice, and has international significance for continuous professional development and interprofessional education in primary healthcare. Additionally, its relevance could extend to future research endeavors for both health professionals and policymakers, given that the satisfaction of health professionals with increasingly intricate issues could serve as a reflection of the healthcare institutions' quality.

Conclusion

The study suggests that interprofessional competency, administrative experience, age, and organizational climate significantly influence satisfaction with complex healthcare issues. Meanwhile, confidence is shaped by gender and age. These findings underscore the importance of fostering a supportive, non-hierarchical organizational climate and continuous development in primary healthcare, offering insights for both clinical practice and future research.
This revision aims to provide a clearer understanding of the practical implications of our study, highlighting how specific factors can positively influence healthcare professionals’ satisfaction and confidence in dealing with complex issues.

We trust that these revisions address your concerns and improve the manuscript. We are hopeful that our submission now fully aligns with the standards of BMJ Open and look forward to the possibility of our work being published in your esteemed journal.

**VERSION 2 – REVIEW**

<table>
<thead>
<tr>
<th>REVIEWER</th>
<th>Shuhei Yoshida</th>
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| GENERAL COMMENTS     | The authors have kindly responded to all my enquiries. I have no further comments to make. |

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| GENERAL COMMENTS     | The authors have addressed my previous comments - thank you |