Attention to: Editorial Office

The *World Journal of Gastrointestinal Endoscopy*

Baishideng Publishing Group Inc

Regarding Manuscript NO: 79402

Rebuttal letter,

Dear Editorial Board Members,

Thank you very much for this opportunity to revise and improve our manuscript. We appreciate the chance to respond to the comments of the reviewers and improve our manuscript. Enclosed please find the revised version of our manuscript "**Quality of colonoscopy performed by medical or surgical specialists and trainees in five Australian hospitals**".

We have addressed all concerns raised by reviewers. Our manuscript has been revised. All corrections are highlighted for the reviewer's convenience. The authors hope that the revised submission is suitable for publication in the *World Journal of Gastrointestinal Endoscopy*. Looking forward to your positive response.

Response to Reviewer #1

Comment: "General Comments: … the title and introduction provide opposite ideas. The main focus of the study was the CRC, but colonoscopy can be used for several purposes".

Response: The conventions adopted for the assessment of quality in colonoscopy centre rely on the detection of precancerous lesions (essential for the prevention of colorectal cancer). Although the procedure is used for a variety of indications, bowel cancer screening and surveillance constitute a substantial proportion of work typically undertaken by gastrointestinal endoscopy units worldwide. Therefore, the adenoma detection rate has been adopted as an indicator of the overall quality of the procedures performed and thus does not necessarily introduce an opposing idea.[1]

However, we agree that this can be confusing and thus have reduced the references to colorectal cancer in the introduction and indicated the use of procedure for the variety of gastrointestinal screening (page 5). Additionally, we have modified the "Abstract" Background in line with the suggestions of the reviewer (page 2)

Comment: "The scientific language can be improved in some sentences."

Response: Thank you, we addressed your concern. All corrected sentences/words are highlighted.

Comment: "Some criteria were not explained, and further details on the quality analysis are required.

Response: The definitions/criteria used for the lesion detection rates are now clarified. We have introduced subheadings within the methodology and amended the text (pages 6-8). We have also sought to better explain the rationale for the definitions used which are adapted from conventional definitions for ADR as well as those utilised for recertification in Australia. The extended explanation supports age criteria, and the need to consider indications, bowel preparation quality, and procedure completion.

Comment: "…the explanations for the low sample size are weak, reducing the quality of this report.

Response: The samples size is large enough to conduct reliable statistical analysis. The Discussion section (page 12) has been revised to reflect the importance of our findings.

Comment: "I do recommend well-elaborated figures explaining the methods.

Response: Figure 1 which reflects the flow of data acquisition is provided according to the reviewer's request.

Specific Comment: "… Introduction … Second paragraph – The first sentence is long. "However, as these outcomes reflect the private practice of specialists, they do not necessarily provide a fair reflection of the work performed within the public sector." The message is not clear here. "However, assessment of performance data from the public sector is limited to a handful of single-centre studies". Change "the public sector" to "this section". You have just used "public sector" in the previous sentence.

Response: The indicated sentences had been corrected (shortened and re-written) and clarified (page 5) as requested.

Specific Comment: "… Overall, there is too much emphasis on CRC. What about other intestinal diseases or even routine medical checks?

Response: We have reduced the references to colorectal cancer in the introduction and indicated the use of procedure for the variety of gastrointestinal screening (page 5).

Specific Comment: "… Method "Patients younger than 18 years were also excluded". It is not clear why younger patients were excluded.

Response: The range of indications for colonoscopy in a paediatric population are different to those for adult colonoscopy and not subject to the same process for

quality assessment. Adenoma development is significantly less prevalent at lower ages and rare below the age of 18. As such, adenoma detection rate, the gold-standard measure for quality in adult colonoscopy is not typically applied to procedures for patients under 50. We have amended the manuscript to reflect this (page 5).

Specific Comment: "… Third paragraph – the acronym CRC was again inserted. "We examined the records of each patient for a history of colorectal cancer (CRC), prior colonic resection, and inflammatory bowel disease (IBD)" This criterion can be a problem and is contrary to the title. Why colonoscopy recommended for other purposes were not included?

Response: The manuscript has been corrected and the use of CRC acronym adjusted. The paragraph and the Introduction section has been amended (page 5).

Specific Comment: "… It is not clear which authors, along with their experience in this procedure, participated in the quality analysis. If the mentioned scales require previous experience in the procedures, then it is important to describe which authors and their expertise in the issue participated in the quality analysis. "

Response: We added the "Author Contribution" section on page 17. Data collection was undertaken by several authors (TO, VT, RL, SZL, MC, and BA) which we have outlined in Author Contributions). The definitions for bowel preparation and procedure completion were provided within REDcap data capture (page 7) software which we have included in the manuscript. The analysis of bowel preparation quality scales however does not require specific expertise in their interpretation as they are usually outlined explicitly by proceduralists on the procedure report.

Specific Comment: "… "Eligible procedures were defined by age of 50 and above" Again explain the criterion for age.

Response: The criterion for age was adapted from conventional definitions for determination of the adenoma detection rate, as well as those used within the national recertification programme for colonoscopy. This has been primarily

adopted within gastroenterology because adenoma development is usually seen within patients above the age of 50. We have amended the manuscript (page 7) to reflect this.

Specific Comment: "… Results "Cancer was detected in 4.1% (n=15) and 3.3% (n=32) respectively". It is not clear what this means. The same is transposed to the entire paragraph. Both N and % are being referred to what? Procedures performed by trainees vs specialists? This section requires improvements. Most sentences are limited to the sample characterization. The main issue of this study is the colonoscopy quality.

Response: The section, which aimed to compare the performance of trainees against specialists, has been revised and shortened (page 11). To clarify the indicated findings, Table 2 was modified. The focus on the colonoscopy quality has been accented in the discussion (page 14).

Specific Comment: "… Discussion "While we would anticipate that increasing the sample size for the two sites would show satisfactory performances in the two outstanding areas, this would require additional data beyond the original timeframe". This explanation is weak. What is the problem to obtain additional data beyond the original timeframe? "Although this problem could be resolved with increased sample sizes, the significant resource burden of this approach may not be practical." My previous comment can be inserted here. Limitations "we would argue that the adjustments allow the metrics to reflect the aspects of practical interest more accurately" I do not disagree with it, but your title and introduction are misleading, so.

Response: We acknowledge that a degree of uncertainty remains concerning whether these outcomes would have met national benchmarks, even with larger sample sizes. As such we have amended the discussion to reflect this and highlighted the need for additional research (page 12). Our study was otherwise powered to assess the ADR as the most important quality measure for colonoscopy, for which a three-month sampling time frame was determined. However due to

lower activity volumes at a few hospitals, this limited our analysis of individual sites. Extending the timeframe for data collection was not possible due to resource limitation, thus we have highlighted the requirement for further research in order to clarify this issue. The Introduction section has been adjusted as requested to be more in agreement with the Title. The Discussion section and "limitations' part have also been improved (pages 11-15).

Editor's comments

Comment: "… To this end, authors are advised to apply a new tool, the Reference Citation Analysis (RCA).

Response: Thank you, we addressed your concern. The RCA tool was applied, and a new reference was included (highlighted).

Comment: "… Do the key words reflect the focus of the manuscript? NOT AT ALL

Response: Keywords were changed according to the Editor's request.

Comment: "… Are the research objectives achieved by the experiments used in this study? What are the contributions that the study has made for research progress in this field?NOT AT ALL, THE STUDY HAS SIGNIFICANT LIMITATIONS. "… the previously mentioned numerous limitations of the study do not allow drawing of any significant conclusion of the study"

Response: The "limitations" section has been modified (pages 14-15). The Study conclusions were clarified to better reflect the study findings (pages 15-16). Study objectives were achieved, considering the unique information reported in this study. Indicated limitations are required to define the future directions and acknowledge potential implications of our findings. The limitations do not cancel the collected data and reported knowledge.

Response to Reviewer #2

Comment: "…in spite the fact that only a quarter of colonoscopies in Australia are performed in the public health sector."

Response: The importance of the study has been strengthened in the revised manuscript (page 5). Although three quarters of colonoscopy procedures are privately funded outside public teaching institutions such as those assessed here, these typically serve patients of higher socioeconomic standing and are prone to over servicing. The procedures performed within our government funded hospitals however are the principal pathway of access to healthcare for the more socioeconomically disadvantaged. This population within Australia suffer from the highest rates of colorectal cancer, which is ultimately preventable. Although multiple factors are responsible, ensuring the quality of these procedures is especially important.

Comment: "… One of the analyzed metrics is the role of trainees and their influence on the quality of colonoscopy. Primary specialty is an important factor for quality of colonoscopy, reported in meta-analysis not only in your study, but you have not reported primary education of trainees-surgical or medical?"

Response: Thank you for your question. We amended the "Methods" and "Results" section with the data pertaining to the medical or surgical background of the trainees (pages 6, 10, and 11). We have also amended the "Results" section of the Abstract to reflect the inclusion of the additional data (page 3). We have added table 3 (page 24) which provided the analysis for trainee outcomes according to speciality and amended table 4 (page 25), previously table 3, to explain the proportion of medical and surgical trainees. The discussion comparing specialists and trainees has been contracted for clarity, and a brief addition concerning the new table 3 has been provided (page 14).

We also acknowledge the formatting and language issues which were highlighted by reviewer 1 and have addressed these in the revised manuscript.

Thank you very much for your time and valuable suggestions which helped us to increase the quality of our manuscript.

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References

1. **Kaminski MF,** Regula J, Kraszewska E, Polkowski M, Wojciechowska U, Didkowska J, Zwierko M, Rupinski M, Nowacki MP, Butruk E. Quality indicators for colonoscopy and the risk of interval cancer. *N Engl J Med*. 2010 May 13;362(19):1795-803. [DOI: 10.1056/NEJMoa0907667 PMID: 20463339]

Round-2

Reviewer:

The manuscript is interesting but the study suffer from a lot of limitation, as authors described. The limitation of the study does not allow that this manuscript which is otherwise well written could be considered as a high quality article. It is not possible to improve this manuscript except to continue study and improve quality and validity of the results.

Authors' Response:

Dear Editor/Reviewer,

We appreciate your valuable time and efforts to improve our manuscript. The Discussion section of our manuscript contains the list of Limitations identified during data analysis. We believe every author should present their Limitations without reservations and would like to emphasise that this was offered most candidly and should not undermine the significance of our findings. We do not believe that the quality of the data has a direct correlation with the study's limitations. Data were collected and analysed according to the described protocol, which is commonly used amongst other retrospective studies. The limitations, although significant, remain as potential factors only; and their impact remains only supposed, but not determined. Beyond these, however, we uncovered statistically significant associations described in the Conclusion section which should not be underestimated or neglected. We would like the Editor/Reviewer to consider that all studies have their limitations and, in some circumstances, motivate further research and study in the field to answer outstanding questions. We would be happy to introduce some minor changes in the Discussion section to minimize the possible negative impact of Limitations on the significance of our findings. Our study tested the large data set and represents a significant contribution to the clinical research field. We hope the Editor/Reviewer understands that point and appreciates the novelty of the described findings. We will continue our investigations which are very time- and resource-consuming. However, we hope that it will be recognised that our current described findings represent a substantial research project containing original data that have not been reported previously which merits publication.

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