

Responses to the Reviewer's Comments

2 March 2023

Dear reviewer

We are sincerely grateful for your thorough consideration and scrutiny of our manuscript. Through the accurate and constructive comments made by the reviewers, the manuscript has substantially improved from the previous version. We have revised the manuscript according to the reviewer's suggestions. We hope that our revised manuscript will be considered and accepted for publication in the World Journal of Gastrointestinal Endoscopy. We acknowledge that the scientific and clinical quality of our manuscript was improved by the scrutinizing efforts of the reviewers and editors. In this document, we provide a point-by-point response to reviewer comments.

Reviewer 2:

This is a retrospective observational study that examined whether the presence or absence of music during the examination changed colonoscopy performance. The following four outcomes were examined 1. polyp detection rate 2. Adenoma detection rate 3. Insertion time 4. Extraction time The study was a single-center study from June 2019 to March 2021, and all examinations were performed with music after June 2020. The results showed that music did not improve the endoscopist's performance during the colonoscopy. The paper itself is very well written and very clear. However, there are several problems.

1) Reviewer's comment: Major Revisions 1. the exposure was with and without music, but at the same time, the study was before and after the time series. It is possible that there were changes in endoscopic equipment during this period. Was there any change in the equipment during

this period? It would be better to describe what kind of equipment was used as much as possible.

Author's response: We appreciate the reviewer's accurate comment and agree with them. There was no change in endoscopic equipment from June 2019 to March 2021. A colonoscope (CF-H260AL or CF-HQ290L; Olympus, Tokyo, Japan) was used to perform the colonoscopy. We added the following sentence to the manuscript in materials and methods.

Revision: A colonoscope (CF-H260AL or CF-HQ290L; Olympus, Tokyo, Japan) was used to perform the colonoscopy from June 2019 to March 2021.

2) Reviewer's comment: 2. The most significant difference in outcome was the detection rate of polyps and adenomas. However, there was no indication that all patients underwent first-time endoscopy. The presence of a history of previous (recent) polypectomy or examination may have a significant impact on the polyp and adenoma detection rate. It is possible that strong confounding may occur if we do not restrict the analysis to the first examination only, or add the number of recent examinations or history of polypectomy to the covariates.

Author's response: We appreciate the reviewer's comments. We agree with the reviewer's opinion that adenoma detection rate may be affected depending on previous examinations. However, it is difficult to confirm previous colonoscopy in all patients because this study is a retrospective study. In Korea, colonoscopy is generally performed every 3-5 years based on the colon cancer surveillance guidelines. There was a limitation in conducting the study by restricting it to only the patients who underwent one examination previously.

3) Reviewer's comment: 3. Only propensity score matching was used in the analysis method. Propensity score matching is only an evaluation of ATT (Average Treatment effect on the Treated), and there is a possibility that important outcomes were included in the excluded cases. For

this reason, sensitivity analyses other than propensity score matching (e.g., ordinary regression analysis or IPTW) are recommended.

Author’s response: We appreciate the reviewer’s precise comments. The ordinary logistic regression analysis was performed and presented in table 4. In Table 4, the regression analysis was performed with data before propensity score matching. The results of the regression after propensity score-matched were presented as following. The results related to the prognostic factors for colonoscopy performance show no significant difference with Table 4.

Table. Prognostic factors for colonoscopy performance after propensity score matching (n = 338)

	No.	Adenoma detection				Fast insertion (< median insertion time of 310s)			
		Univariable analysis		Multivariable analysis		Univariable analysis		Multivariable analysis	
		OR (95% CI)	P value	aOR (95% CI)	P value	OR (95% CI)	P value	aOR (95% CI)	P value
Music									
No	169	Reference		Reference		Reference		Reference	
Yes	169	0.75 (0.48-1.15)	0.187	0.85 (0.54-1.35)	0.494	1.21 (0.79-1.85)	0.384		
Endoscopist									
Trainee	165	Reference		Reference		Reference		Reference	
Expert	173	1.57 (1.02-2.43)	0.041	1.48 (0.94 - 2.36)	0.094	4.92 (3.12-7.86)	<0.001	4.71 (2.86-7.91)	<0.001
Age, years									
		1.04 (1.02-1.06)	<0.001	1.04 (1.02 - 1.06)	<0.001	0.99 (0.97-1.01)	0.217		
Sex									
Male	181	Reference		Reference		Reference			
Female	157	0.53 (0.34-0.82)	0.005	0.51 (0.32 - 0.81)	0.005	0.96 (0.62-1.47)	0.845		
BMI, kg/m²									
		1.02 (0.95-1.09)	0.601	1.05 (0.99 - 1.12)	0.123	1.07 (1.00-1.15)	0.038	1.09 (1.02-1.18)	0.017
BBPS									
Fair	68	Reference		Reference		Reference			

	Adequate	270	1.00 (0.58-1.72)	0.994			2.22 (1.29-3.91)	0.005	1.23 (0.66-2.33)	0.516
Surgical history	None	206	Reference		Reference		Reference		Reference	
	Colon	94	0.55 (0.33-0.91)	0.023	0.46 (0.27-0.79)	0.005	1.49 (0.91-2.47)	0.116	2.43 (0.98-6.26)	0.060
	Other	38	0.82 (0.40-1.64)	0.572	0.84 (0.39-1.77)	0.647	0.21 (0.08-0.47)	<0.001	0.35 (0.12-0.89)	0.035
Indication	Screening	174	Reference				Reference			
	Post operation surveillance	120	0.74 (0.46-1.18)	0.210			0.99 (0.62-1.57)	0.950	0.69 (0.28-1.68)	0.421
	Patient with symptoms	44	0.66 (0.33-1.29)	0.226			0.56 (0.28-1.09)	0.094	1.12 (0.50-2.51)	0.775

4) Reviewer's comment: Minor Revisions 1. Table 1 : Table 1: Please include the pre-matching data regarding the effect size d.

Author's response: We appreciate the reviewer's comments. We added the pre-matching data regarding the effect size d in Table 1.

5) Reviewer's comment: 2. introduction: I felt it was somewhat redundant. The purpose of this paper was to verify whether music improves the endoscopist's performance, and the part on the effect of music on patients was considered unnecessary.

Author's response: We appreciate the reviewer's comments and agree with the reviewer's opinions. The part on the effect of music on patients was deleted from the Introduction.