RESPONSE TO LETTER

Screening History and 7-Year Survival in 32,099 Colorectal Cancer Patients: A Population-Based Cohort Study [Response to Letter]

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Dear editor

We thank Wardoyo and Anwar[1] for their valuable feedback and suggestions on our paper.[2] We agree that a thorough investigation of the relationship between screening history and colorectal cancer survival must encompass patient demographics, lifestyle factors, comorbidities, and treatment approaches.

In our paper,[2] we analyzed various factors including age at diagnosis, sex, urbanization and hospital levels, colorectal cancer stage and site, treatment, and other clinicopathological variables (Supplementary Table S8), such as grade, tumor size, lymph node ratio, circumferential resection margin, perineural invasion, obstruction, and perforation. Responding to Wardoyo and Anwar,[1] we further adjusted for body mass index, cigarette smoking, alcohol consumption, and family history of colorectal cancer in patients who had been screened. Despite these adjustments, we found that the association between screening history and colorectal cancer mortality remained largely consistent (Tables 1 and 2). It is important to note that

Table 1 Hazard Ratios for Death Due to Colorectal Cancer with Additional Adjustments for Body Mass Index, Cigarette Smoking, and Alcohol Drinking

Variables	Crude Hazard Ratio (95% CI)[a]	Adjusted Hazard Ratio (95% CI)[b]
Screening history		
FIT-positive		
With a follow-up examination	1.00 (Reference)	1.00 (Reference)
Without a follow-up examination	2.24 (2.02–2.49)	1.39 (1.25–1.54)
FIT-negative	2.09 (1.91–2.29)	1.60 (1.46–1.75)
Never-screened	4.06 (3.82–4.31)	1.73 (1.61–1.85)
Colorectal cancer stage (AJCC)		
0	1.00 (Reference)	1.00 (Reference)
I	2.82 (2.24–3.55)	2.91 (2.31–3.67)
II	8.49 (6.83–10.54)	9.04 (7.25–11.27)
III	15.08 (12.18–18.66)	20.58 (16.54–25.61)
IV	79.40 (64.22–98.18)	102.26 (82.18–127.25)
BMI (WHO classification)		
Underweight (<18.5)	1.91 (1.78–2.04)	1.47 (1.37–1.57)
Normal range (18.5–24.9)	1.00 (Reference)	1.00 (Reference)
Overweight (25–29.9)	0.73 (0.69–0.76)	0.88 (0.84–0.93)
Obese (30+)	0.62 (0.56–0.68)	0.88 (0.80–0.98)
Unknown	1.09 (1.03–1.16)	1.35 (1.26–1.46)

(Continued)

Table 1 (Continued).

Variables	Crude Hazard Ratio (95% CI)[a]	Adjusted Hazard Ratio (95% CI)[b]
Cigarette smoking		
Never	1.00 (Reference)	1.00 (Reference)
Ever	1.03 (0.99–1.08)	1.00 (0.95–1.06)
Unknown	1.10 (1.02–1.19)	1.19 (0.87–1.64)
Alcohol consumption		
Never	1.00 (Reference)	1.00 (Reference)
Ever	0.95 (0.91–1.00)	1.04 (0.98–1.10)
Unknown	1.01 (0.94–1.08)	0.75 (0.55–1.02)

Notes: Variables related to the patient (including cigarette smoking, alcohol consumption, and BMI) were investigated at the time of colorectal cancer diagnosis. [a]Simple Cox regression model. [b]Adjusted for other variables in the Table and also adjusted for age at diagnosis, sex, urbanization levels, cancer site, treatment, and diagnostic hospital levels in the multiple Cox regression.
Abbreviations: AJCC, The American Joint Committee on Cancer; FIT, fecal immunochemical test; BMI, body mass index.

Table 2 Hazard Ratios for Death Due to Colorectal Cancer with Additional Adjustment for Family History of Colorectal Cancer in Patients Who Had Been Screened

Variables	Crude Hazard Ratio (95% CI)[a]	Adjusted Hazard Ratio (95% CI)[b]
Screening history		
FIT-positive		
With a follow-up examination	1.00 (Reference)	1.00 (Reference)
Without a follow-up examination	2.28 (2.05–2.53)	1.30 (1.17–1.45)
FIT-negative	2.12 (1.94–2.33)	1.55 (1.41–1.70)
Colorectal cancer stage (AJCC)		
0	1.00 (Reference)	1.00 (Reference)
I	3.17 (2.05–4.91)	3.31 (2.13–5.14)
II	10.02 (6.58–15.25)	12.89 (8.38–19.84)
III	22.65 (15.09–34.01)	34.54 (22.53–52.95)
IV	188.61 (125.89–282.58)	259.63 (169.42–397.89)
Family history of colorectal cancer		
Replied "No"	1.00 (Reference)	1.00 (Reference)
Replied "Yes"	0.77 (0.65–0.91)	0.93 (0.78–1.10)
Replied "Unknown"	1.01 (0.88–1.15)	1.07 (0.94–1.22)

Notes: The variable of family history of colorectal cancer was collected when the subject participated in the colorectal cancer screening program. [a]Simple Cox regression model. [b]Adjusted for other variables in the Table and also adjusted for age at diagnosis, sex, urbanization levels, cancer site, treatment, diagnostic hospital levels, cigarette smoking, alcohol consumption, and BMI in the multiple Cox regression.
Abbreviations: AJCC, The American Joint Committee on Cancer; FIT, fecal immunochemical test.

while our adjustments were comprehensive, they were not exhaustive, due to the limitations imposed by the data available from the Taiwan Cancer Registry, the National Colorectal Cancer Screening Program, and the National Death Registry.

Disclosure

The authors report no conflicts of interest in this communication.

References

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