

**S4 Table.** The association between metabolically healthy phenotypes (defined by BMI and WC categories) and GI cancer type among male

	Esophageal cancer		Gastric cancer		Colorectal cancer		Biliary tract cancer		Liver cancer		Pancreatic cancer	
	Case	Multiple-adjusted	Case	Multiple-adjusted	Case	Multiple-adjusted	Case	Multiple-adjusted	Case	Multiple-adjusted	Case	Multiple-adjusted
BMI category												
MHNW	24	Ref	58	Ref	95	Ref	13	Ref	64	Ref	22	Ref
MUNW	180	2.93 (1.91-4.52)	294	1.67 (1.25-2.22)	479	1.65 (1.32-2.06)	49	1.16 (0.63-2.17)	279	1.08 (0.85-1.36)	92	1.35 (0.84-2.16)
MHO	3	1.57 (0.47-5.20)	10	2.03 (1.04-3.98)	13	1.64 (0.92-2.93)	0	-	9	1.05 (0.53-2.08)	2	1.09 (0.26-4.64)
MUO	26	1.73 (0.99-3.00)	84	1.75 (1.24-2.45)	140	1.79 (1.37-2.33)	7	0.65 (0.25-1.63)	89	1.20 (0.90-1.61)	30	1.61 (0.92-2.80)
WC category												
MHNW	20	Ref	47	Ref	68	Ref	12	Ref	64	Ref	20	Ref
MUNW	118	2.46 (1.53-3.97)	206	1.68 (1.22-2.31)	294	1.67 (1.28-2.17)	28	0.84 (0.42-1.67)	187	1.24 (0.93-1.65)	63	1.18 (0.71-1.96)
MHO	7	1.17 (0.50-2.79)	21	1.32 (0.79-2.11)	40	1.77 (1.20-2.63)	1	0.25 (0.03-1.91)	41	1.81 (1.22-2.67)	4	0.58 (0.20-1.71)
MUO	88	2.47 (1.51-4.06)	172	1.708 (1.22-2.37)	325	2.25 (1.73-2.94)	28	1.03 (0.51-2.07)	181	1.49 (1.11-1.99)	59	1.32 (0.79-2.23)

Multivariable model adjusted for age, sex, educational level, drinking, smoking, physical exercise, family history of cancer, salt intake, high-sensitive C-reactive protein, and alanine transaminase. Model for colorectal cancer was additionally adjusted for high fat diet. Model for biliary tract cancer was additionally adjusted for gallstone. Model for liver cancer was additionally adjusted for HBsAg. Model for pancreatic cancer was additionally adjusted for history of chronic pancreatitis. BMI, body mass index; GI, gastrointestinal; MHNW, metabolic healthy normal-weight; MHO, metabolic healthy obesity; MUNW, metabolic unhealthy normal-weight; MUO, metabolic unhealthy obesity; WC, waist circumference.