

Table S1. Distribution of subcomponents of Korean Healthy Eating Index according to the categorization of the total Korean Healthy Eating Index score.

	Scoring system			Overall sample	KHEI score			
	Range	Criteria			Lowest	Low	High	Highest
		Minimum score	Maximum score ^a		(Q1: 0–52.8)	(Q2: 52.8–62.7)	(Q3: 62.7–72.0)	(Q4: 72.0–100)
Total KHEI score	0–100			63.6±13.4	45.9±6.8	59.6±2.9	68.7±2.6	80.2±5.2
Adequacy component								
Total adequacy score	0–55			31.5±10.5	20.1±7.6	28.3±6.3	34.8±5.6	42.8±5.5
Have breakfast	0–10	0 times/week	≥5 times/week	7.3±3.8	4.5±4.1	7.1±3.8	8.4±3.0	9.3±2.1
Mixed grains intake	0–5	0 serving/day	≥0.3 serving/day	2.1±2.2	1.1±1.7	1.9±2.1	2.4±2.2	3.2±2.1
Total fruits intake	0–5	0 serving/day	≥3/2 (men/women) serving/day	2.3±2.2	0.8±1.5	1.8±2.1	2.8±2.1	3.9±1.6
Fresh fruits intake	0–5	0 serving/day	≥1 serving/day	2.5±2.4	0.9±1.8	2.0±2.3	3.0±2.3	4.2±1.7
Total vegetables intake	0–5	0 serving/day	≥8 serving/day	3.5±1.5	2.7±1.6	3.4±1.5	3.8±1.3	4.1±1.2
Vegetables intake excluding Kimchi and pickled vegetables intake	0–5	0 serving/day	≥5 serving/day	3.2±1.6	2.4±1.7	3.0±1.6	3.5±1.5	4.0±1.3
Meat, fish, eggs, and beans intake	0–10	0 serving/day	≥5 serving/day	7.0±3.1	5.7±3.5	6.6±3.1	7.4±2.8	8.4±2.2
Milk and milk products intake	0–10	0 serving/day	≥1 serving/day	3.4±4.4	1.9±3.7	2.6±4.1	3.4±4.4	5.8±4.6
Moderation component								
Total moderation score	0–30			23.2±5.8	19.8±6.8	23.2±5.6	24.2±4.8	25.7±3.7
Percentage of energy from saturated fatty acid	0–10	>10% of total energy intake	<7% of total energy intake	7.6±3.8	5.5±4.6	7.6±3.8	8.4±3.1	9.1±2.2
Sodium intake	0–10	>6,500 mg/day	≤2,000 mg/day	6.5±3.4	6.5±3.6	6.5±3.5	6.3±3.4	6.8±3.0
Percentage of energy from sweets, beverages, and alcoholic drinks ^b	0–10	>20% of total energy intake	≤10% of total energy intake	9.0±2.5	7.8±3.6	9.1±2.3	9.5±1.6	9.8±0.9
Energy balance component								
Total energy balance score	0–15			8.9±4.7	6.1±4.7	8.1±4.5	9.8±4.2	11.7±3.3
Percentage of energy intake from carbohydrate	0–5	<50% or >75% of total energy intake	55–65% of total energy intake	2.5±2.1	1.7±2.1	2.2±2.1	2.7±2.1	3.4±1.8
Percentage of energy intake from fat	0–5	<10% or >35% of total energy intake	15–30% of total energy intake	3.3±2.1	2.3±2.3	3.0±2.2	3.6±2.0	4.3±1.4
Energy intake	0–5	<50% or >75% of the EER	75–125% of the EER	3.1±2.2	2.1±2.3	2.9±2.3	3.5±2.1	4.0±1.8

KHEI: Korean Healthy Eating Index; EER: Estimated energy intake requirement.

^aCriteria for individuals aged 19–64 years. Further information regarding the scoring system and criteria for the other age groups is found in (Yun et al., 2022).

^bIn the 2019–2021 survey year of the KNHANES, this item was modified to evaluate the percentage of energy intake from total sugar, while maintaining consistency with previous standards in terms of minimum and maximum score criteria and scoring methods.

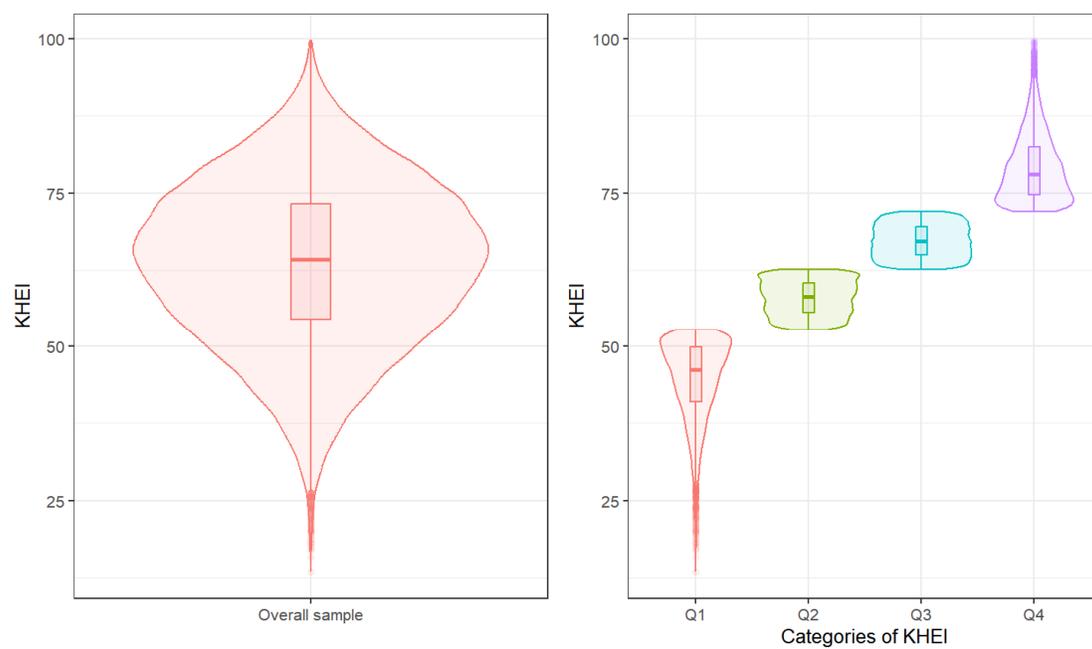


Figure S1. Violin plot and boxplot of the distribution of Korean Healthy Eating Index (KHEI) scores among the study sample

Table S2. Supplementary criteria for the classification of non-alcoholic fatty liver disease.

Measures	Equation	Cutoff
K-NAFLD score ¹	$0.913 \times \text{sex (2, if female; 1, if male)} + 0.089 \times \text{WC} + 0.032 \times$ $(\text{systolic blood pressure} + \text{fasting glucose [mg/dL]}) + \text{TG (mg/dL)} \times$ $0.007 + \text{ALT (IU/L)} \times 0.105 - 20.929$	> 0.884
ZJU index ²	$\text{BMI (kg/m}^2\text{)} + \text{fasting glucose (mmol/L)} + \text{TG (mmol/L)} +$ $3 \times (\text{ALT/AST}) + 2 \text{ (if female)}$	> 38

WC: Waist circumference; TG: triglycerides; ALT: Alanine aminotransferase; AST: Aspartate aminotransferase

Table S3. Association between each component of the Korean Health Eating Index and NAFLD

status (NAFLD: non-alcoholic fatty liver disease; OR: odds ratio; CI: confidence interval).

	NAFLD OR (95% CI)
Adequacy component	
Breakfast (0–10)	0.97 (0.96–0.98)
Mixed grains (0–5)	1.05 (1.02–1.08)
Total fruit (0–5)	0.93 (0.87–1.00)
Fruit, excluding juice (0–5)	1.01 (0.95–1.09)
Total vegetables (0–5)	0.97 (0.93–1.02)
Vegetable, excluding kimchi and pickles (0–5)	1.05 (1.00–1.10)
Meat, fish, eggs, and beans (0–10)	0.97 (0.94–1.01)
Milk and dairy (0–10)	0.96 (0.93–0.99)
Moderation component	
Saturated fatty acid (0–10)	1.00 (0.97–1.04)
Sodium (0–10)	0.94 (0.90–0.97)
Empty calorie foods (0–10)	1.01 (0.98–1.05)
Balance component	
Carbohydrate (0–5)	1.00 (0.95–1.04)
Fat (0–5)	1.00 (0.96–1.05)
Total energy (0–5)	0.96 (0.93–1.00)

Unit: 1 standard-deviation increase for each item

¹Jeong S, Kim K, Chang J, Choi S, Kim SM, Son JS, Lee G, Kim W, Park SM. Development of a simple nonalcoholic fatty liver disease scoring system indicative of metabolic risks and insulin resistance. *Ann Transl Med.* 2020 Nov;8(21):1414.

²Wang J, Xu C, Xun Y, Lu Z, Shi J, Yu C, Li Y. ZJU index: a novel model for predicting nonalcoholic fatty liver disease in a Chinese population. *Sci Rep.* 2015 Nov 16;5:16494.

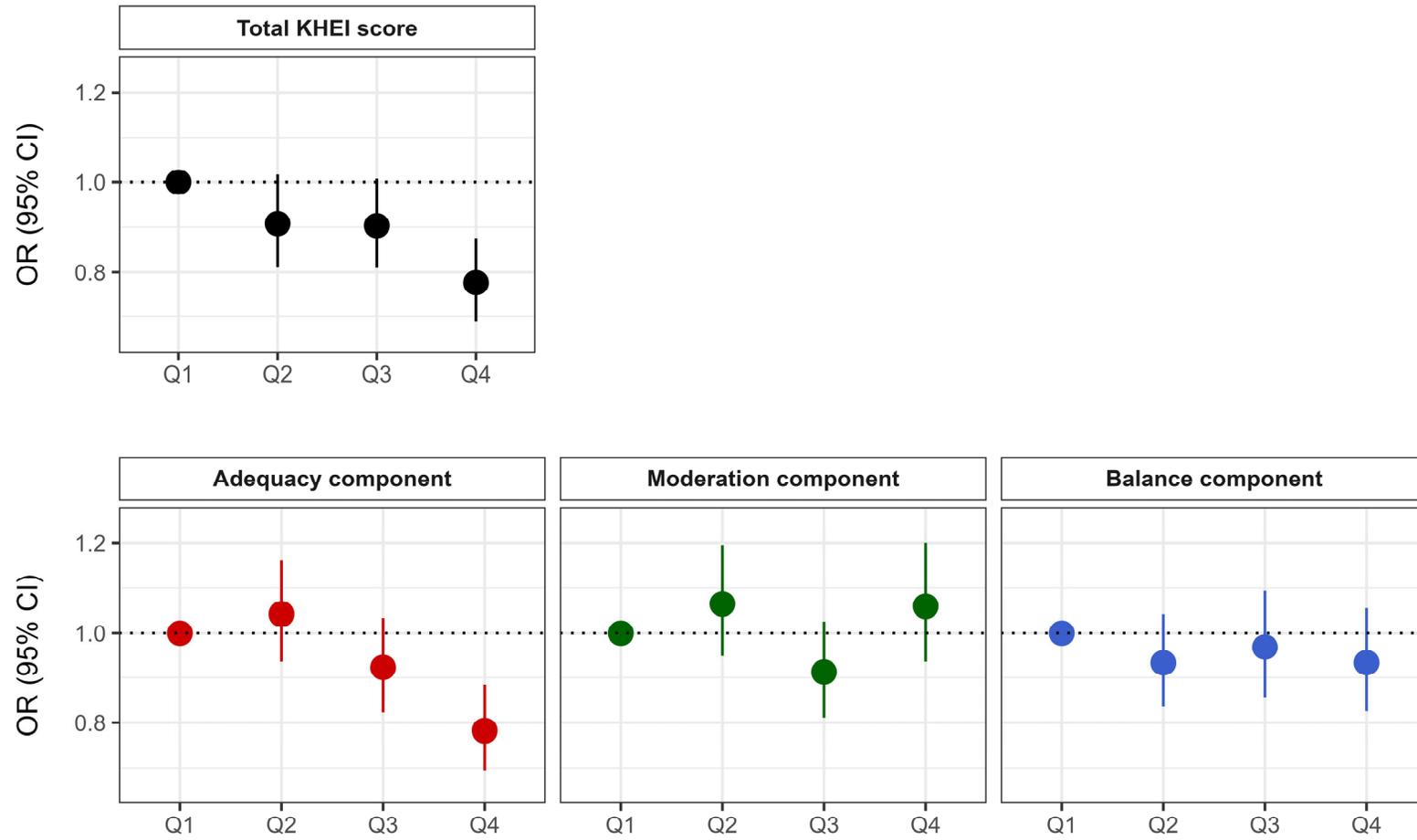


Figure S2. Association between Korean Healthy Eating Index and its components and non-alcoholic fatty liver disease based on the K-NAFLD score (OR: odds ratio; CI: confidence interval).

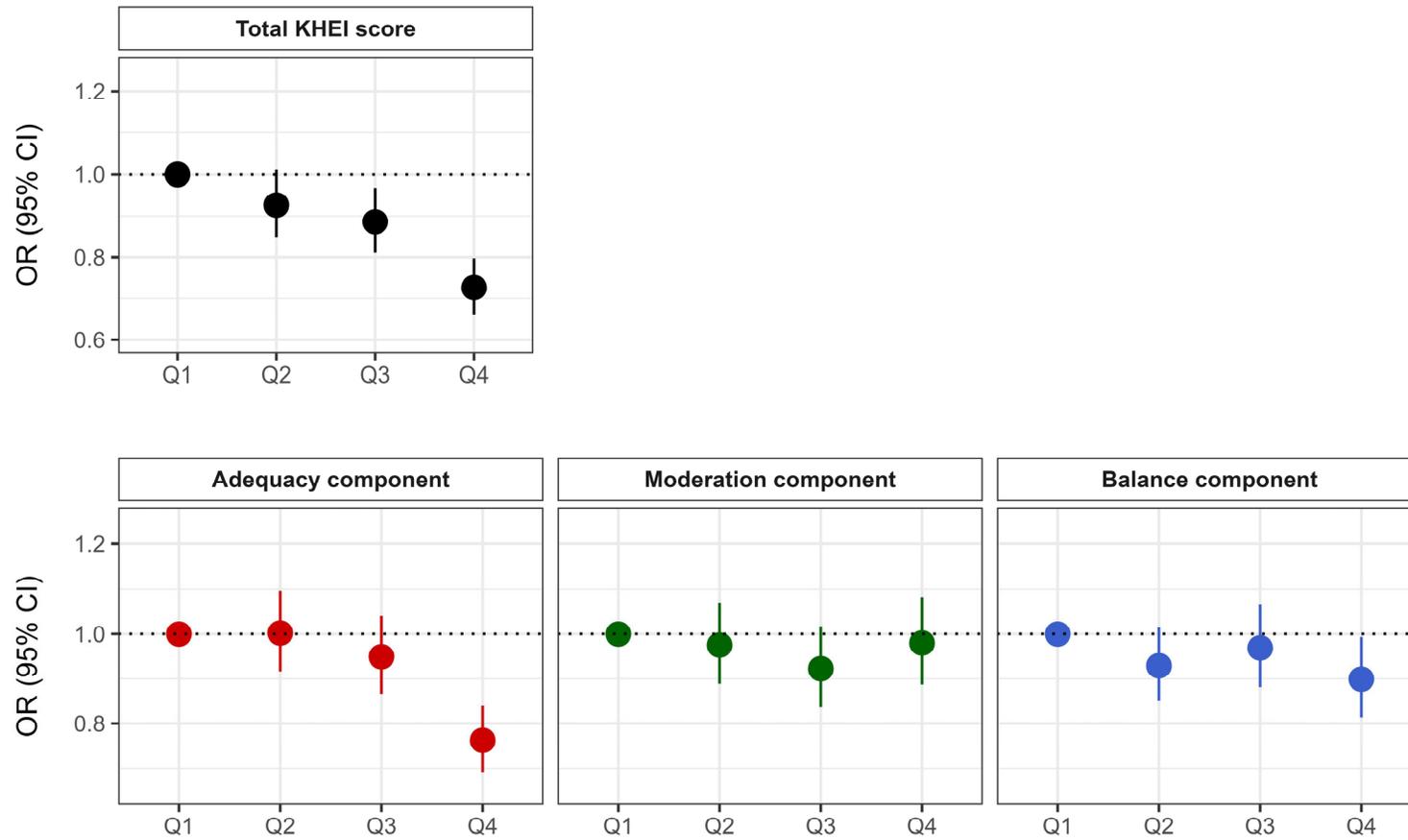


Figure S3. Association between Korean Healthy Eating Index and its components and non-alcoholic fatty liver disease based on the ZJU index (OR: odds ratio; CI: confidence interval).

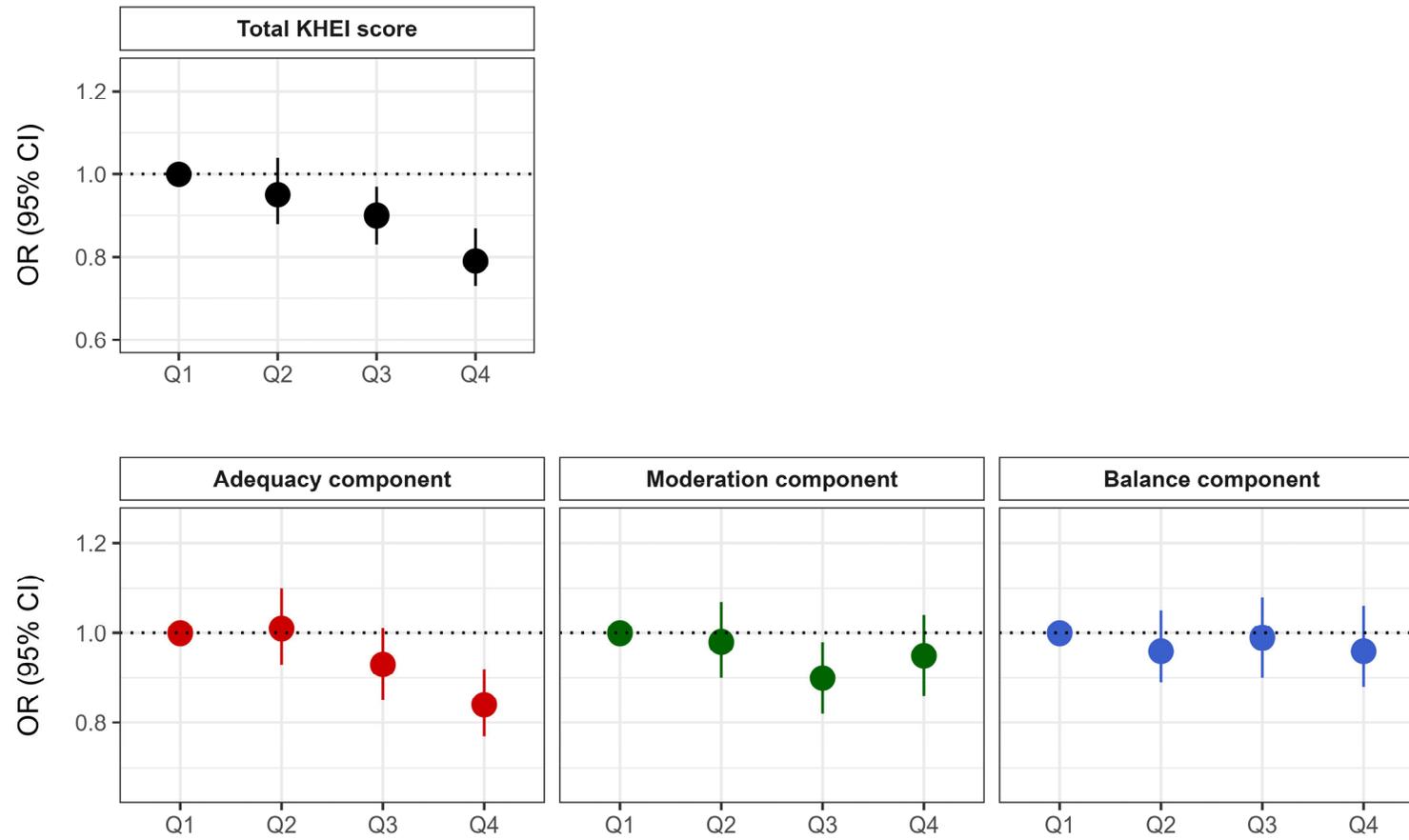


Figure S4. Association between Korean Healthy Eating Index and its components and non-alcoholic fatty liver disease based on the imputed datasets (OR: odds ratio; CI: confidence interval).

References

Yun, S., Park, S., Yook, S.M., Kim, K., Shim, J.E., Hwang, J.Y., Oh, K., 2022. Development of the Korean Healthy Eating Index for adults, based on the Korea National Health and Nutrition Examination Survey. *Nutr Res Pract* 16:233-47.