

Supplemental Table 1. The assessment of sleep patterns

Questions	Responses
1. Bedtime and wake time in the past month	
1.1. When do you usually go to bed?	A specific time (hour: minute, in 24-hour format).
1.2. When do you usually wake up?	A specific time (hour: minute, in 24-hour format).
2. Naps	
2.1 Do you take naps on daytime?	Yes or no.
2.2 How often?	Unit: times/week
2.3 How long?	Unit: min/time
3. Insomnia	
3.1. How long does it usually take you to fall asleep?	1) <10 min; 2) 10-20 min; 3) 21-30 min; 4) >30 min.
3.2. How is your sleep in the past month?	1) Pretty Good; 2) Good; 3) Bad; 4) Very bad
3.3. Have you ever used medicine for sleep in the past month?	Yes or no
4. Daytime sleepiness was assessed by the Epworth Sleepiness Scale (ESS)	The ESS is a short, self-administered questionnaire that consists of eight questions asking to rate how likely it is to fall asleep in everyday situations (each question can be scored from 0 to 3 points; '0' indicates no sleepiness, '3' indicates significant sleepiness). It provides a total score which has been shown to relate to the subject's level of daytime sleepiness (total score range 0–24 points).
5. Do you snore during sleep?	Yes or no.

Table S2. The factor loadings of primary food items of dietary patterns ^a

Fruit and sweet foods pattern		Animal foods pattern		Vegetable pattern	
Food items	Factor loadings	Food items	Factor loadings	Food items	Factor loadings
Strawberry, kiwi fruit, persimmon	0.62	Animal offal (except for animal liver)	0.71	Chinese cabbage	0.64
Grape	0.61	Animal blood	0.69	Cucumber	0.64
Pineapple	0.56	Animal liver	0.68	Celery	0.63
Western-style pastry, cakes	0.53	Instant noodle	0.66	Green vegetable	0.63
Chinese cakes	0.53	Preserved egg	0.66	Pumpkin, carrot	0.58
Sweets, candied fruits	0.53	Pork skin	0.60	Eggplant	0.58
Sea-plant	0.52	Wonton	0.60	Chinese watermelon	0.56
Pear	0.52	Sausage	0.58	Tomato (including the ketchup)	0.53
Chinese sauerkraut	0.51	Sea fish	0.55	Raw vegetables (except for tomato)	0.52
Walnut	0.50	Freshwater fish	0.54	Egg	0.52
Cookies	0.50	Miscellaneous sauce noodles	0.52	Mushroom	0.52
Peach	0.49	Seafood (shellfish, squid, shrimp)	0.50	Bell peppers	0.51
Ice cream	0.49	Carbonated beverage	0.48	Coarse cereals	0.50
Nuts	0.49	Steamed stuffed bun, dumpling	0.45	Potato (except for sweet potato)	0.49
Preserved bean curd	0.48	Chinese sauerkraut	0.45	Radish (except for carrot)	0.47
Onion	0.48	Low-fat milk	0.44	Congee	0.47
Fruit juice, vegetable juice	0.48	Salted eggs	0.44	Soya bean products	0.47
Lotus root	0.48	Bread	0.43	Poultry	0.44
Other kinds of fruit	0.48	Sweets, candied fruits	0.42	Meat	0.44
Mung bean	0.47	Ice cream	0.42	Sweet potato	0.44

^a For simplicity, only the top 20 food items of factor loadings of each pattern are shown. The fruit and sweet foods pattern, animal foods pattern, and vegetable pattern explained 12.60%, 11.14%, and 11.01% of the variance in total food intake, respectively.

Table S3. The joint effect of baseline healthy sleep and dietary pattern on the risk of MAFLD by sex, age, and BMI (n = 13,687) ^a

Subgroups	Sleep and dietary patterns			<i>P</i> for trend ^b	<i>P</i> for interaction ^c
Men					
Sleep pattern score ≥ 4 and/or animal foods pattern score $<$ median value					
	Neither	Either	Both		0.69
No. of participants	1,774	2,739	1,471		
No. of incident MAFLD	636	852	449		
Adjusted model ^e	Reference	0.92 (0.83, 1.01) ^d	0.80 (0.67, 0.96)	< 0.01	
Sleep pattern score ≥ 4 and/or vegetable pattern score \geq median value					
	Neither	Either	Both		0.09
No. of participants	1,391	2,801	1,792		
No. of incident MAFLD	503	891	543		
Adjusted model ^e	Reference	0.90 (0.81, 1.01)	0.86 (0.76, 0.98)	0.03	
Women					
Sleep pattern score ≥ 4 and/or animal foods pattern score $<$ median value					
	Neither	Either	Both		
No. of participants	1,394	3,431	2,878		
No. of incident MAFLD	192	484	364		
Adjusted model ^e	Reference	0.94 (0.82, 1.08)	0.71 (0.58, 0.87)	< 0.01	
Sleep pattern score ≥ 4 and/or vegetable pattern score \geq median value					
	Neither	Either	Both		
No. of participants	1,668	3,813	2,222		
No. of incident MAFLD	241	504	295		
Adjusted model ^e	Reference	0.85 (0.73, 0.99)	0.75 (0.63, 0.90)	< 0.01	
Age < 40 years					
Sleep pattern score ≥ 4 and/or animal foods pattern score $<$ median value					

	Neither	Either	Both		< 0.01
No. of participants	2,231	3,949	2,315		
No. of incident MAFLD	521	720	318		
Adjusted model ^e	Reference	0.88 (0.79, 0.99)	0.73 (0.63, 0.84)	< 0.0001	
	Sleep pattern score ≥ 4 and/or vegetable pattern score ≥ median value				
	Neither	Either	Both		0.04
No. of participants	1,980	4,135	2,380		
No. of incident MAFLD	418	745	396		
Adjusted model ^e	Reference	0.89 (0.78, 1.00)	0.78 (0.68, 0.91)	<0.01	
Age ≥ 40 years	Sleep pattern score ≥ 4 and/or animal foods pattern score < median value				
	Neither	Either	Both		
No. of participants	937	2,221	2,034		
No. of incident MAFLD	307	616	495		
Adjusted model ^e	Reference	0.91 (0.79, 1.04)	0.85 (0.73, 0.98)	0.03	
	Sleep pattern score ≥ 4 and/or vegetable pattern score ≥ median value				
	Neither	Either	Both		
No. of participants	1,079	2,479	1,634		
No. of incident MAFLD	326	650	442		
Adjusted model ^e	Reference	0.91 (0.79, 1.04)	0.90 (0.77, 1.06)	0.23	
BMI < 24	Sleep pattern score ≥ 4 and/or animal foods pattern score < median value				
	Neither	Either	Both		0.03
No. of participants	1,950	3,984	2,892		
No. of incident MAFLD	277	439	264		
Adjusted model ^e	Reference	0.83 (0.71, 0.97)	0.71 (0.59, 0.85)	< 0.001	

Sleep pattern score \geq 4 and/or vegetable pattern score \geq median value				
	Neither	Either	Both	
No. of participants	1,937	4,276	2,613	0.04
No. of incident MAFLD	244	464	272	
Adjusted model ^c	Reference	0.85 (0.73, 0.99)	0.75 (0.62, 0.90)	< 0.01
BMI \geq 24				
Sleep pattern score \geq 4 and/or animal foods pattern score < median value				
	Neither	Either	Both	
No. of participants	1,218	2,186	1,457	
No. of incident MAFLD	551	897	549	
Adjusted model ^c	Reference	0.90 (0.81, 1.00)	0.82 (0.73, 0.93)	< 0.01
Sleep pattern score \geq 4 and/or vegetable pattern score \geq median value				
	Neither	Either	Both	
No. of participants	1,122	2,338	1,401	
No. of incident MAFLD	500	931	566	
Adjusted model ^c	Reference	0.90 (0.80, 1.00)	0.86 (0.76, 0.98)	0.03

^a MAFLD, metabolic dysfunction-associated alcoholic fatty liver disease; BMI, body mass index.

^b *P* for trend was calculated using Cox proportional hazard models by coding groups as a continuous variable.

^c *P* for interaction was calculated using the cross-product terms of stratification variables and groups based on the fully adjusted Cox proportional hazard regression model.

^d Hazard ratio (95% confidence interval) (all such values).

^e Model 2 was adjusted for age, sex, BMI, educational level, employment status, household income, smoking status, drinking status, hypertension, dyslipidemia, diabetes, physical activity, family history of diseases (cardiovascular disease, hypertension, and diabetes) and energy intake (excluding the stratification variable).

Table S4. The joint effect of baseline healthy sleep and dietary pattern on the risk of MAFLD (n = 12,705) (incident MAFLD in the first year during the follow-up were excluded) ^a

	Sleep and dietary patterns			<i>P</i> for trend ^b
	Sleep pattern score \geq 4 and/or animal foods pattern score < median value			
	Neither	Either	Both	
No. of participants	2,831	5,727	4,147	
No. of incident MAFLD	529	899	567	
Adjusted model 2 ^d	Reference	0.89 (0.80, 0.99) ^c	0.80 (0.71, 0.91)	< 0.001
	Sleep pattern score \geq 4 and/or vegetable pattern score \geq median value			
	Neither	Either	Both	
No. of participants	2,782	6,176	3,747	
No. of incident MAFLD	481	937	577	
Adjusted model 2 ^e	Reference	0.90 (0.81, 1.01)	0.85 (0.75, 0.97)	0.02

^a MAFLD, metabolic dysfunction-associated alcoholic fatty liver disease; BMI, body mass index.

^b *P* for trend was calculated using Cox proportional hazard models by coding groups as a continuous variable.

^c Hazard ratio (95% confidence interval) (all such values).

^d Adjusted for age, sex, BMI, educational level, employment status, household income, smoking status, drinking status, hypertension, dyslipidemia, diabetes, physical activity, family history of diseases (cardiovascular disease, hypertension, and diabetes) and energy intake.

Table S5. The joint effect of baseline healthy sleep and dietary pattern on the risk of MAFLD (n = 13,590) (participants with autoimmune liver disease, chronic hepatitis B or C, or liver surgery were excluded) ^a

	Sleep and dietary patterns			<i>P</i> for trend ^b
	Sleep pattern score \geq 4 and/or animal foods pattern score $<$ median value			
	Neither	Either	Both	
No. of participants	3,140	6,110	4,340	
No. of incident MAFLD	815	1,325	803	
Adjusted model 2 ^d	Reference	0.89 (0.81, 0.97) ^c	0.79 (0.71, 0.87)	< 0.0001
	Sleep pattern score \geq 4 and/or vegetable pattern score \geq median value			
	Neither	Either	Both	
No. of participants	3,034	6,567	3,989	
No. of incident MAFLD	736	1,377	830	
Adjusted model 2 ^e	Reference	0.88 (0.81, 0.97)	0.83 (0.75, 0.93)	< 0.01

^a MAFLD, metabolic dysfunction-associated alcoholic fatty liver disease; BMI, body mass index.

^b *P* for trend was calculated using Cox proportional hazard models by coding groups as a continuous variable.

^c Hazard ratio (95% confidence interval) (all such values).

^d Adjusted for age, sex, BMI, educational level, employment status, household income, smoking status, drinking status, hypertension, dyslipidemia, diabetes, physical activity, family history of diseases (cardiovascular disease, hypertension, and diabetes) and energy intake.

Table S6. The joint effect of baseline healthy sleep and dietary pattern on the risk of MAFLD (n = 14,219) (participants with self-reported cancer and CVD were included) ^a

	Sleep and dietary patterns			<i>P</i> for trend ^b
	Sleep pattern score \geq 4 and/or animal foods pattern score $<$ median value			
	Neither	Either	Both	
No. of participants	3,315	6,415	4,489	
No. of incident MAFLD	860	1,421	859	
Adjusted model 2 ^d	Reference	0.91 (0.83, 0.99) ^c	0.81 (0.73, 0.89)	< 0.0001
	Sleep pattern score \geq 4 and/or vegetable pattern score \geq median value			
	Neither	Either	Both	
No. of participants	3,170	6,883	4,166	
No. of incident MAFLD	774	1,477	889	
Adjusted model 2 ^e	Reference	0.90 (0.82, 0.98)	0.84 (0.76, 0.94)	< 0.01

^a MAFLD, metabolic dysfunction-associated alcoholic fatty liver disease; BMI, body mass index.

^b *P* for trend was calculated using Cox proportional hazard models by coding groups as a continuous variable.

^c Hazard ratio (95% confidence interval) (all such values).

^d Adjusted for age, sex, BMI, educational level, employment status, household income, smoking status, drinking status, hypertension, dyslipidemia, diabetes, physical activity, family history of diseases (cardiovascular disease, hypertension, and diabetes) and energy intake.