Table S1. Comparison of sleep parameters between the participants with and without mild cognitive impairment (MCI) in different sexes.

Categorical variable	Male (n = 38)			Female (n = 30)		
	non-MCI (n = 31)	MCI (n = 18)	P	non-MCI (n = 31)	MCI (n = 19)	P
Sleep architecture						
Sleep efficiency (%)	72.96 ± 9.94	68.56 ± 18.39	.57	70.83 ± 15.97	67.32 ± 22.24	.93
Wake (% of SPT)	21.45 ± 10.57	26.84 ± 15.80	.35	24.77 ± 13.97	27.10 ± 21.20	.87
NREM (% of SPT)	70.81 ± 10.95	63.37 ± 14.77	.14	66.57 ± 11.00	64.37 ± 17.98	.83
REM (% of SPT) [#]	7.75 ± 5.50	9.80 ± 5.13	.3	8.70 ± 7.46	9.52 ± 5.18	.78
Oximetry parameter						
Mean SpO_2 (%)	95.19 ± 1.80	95.79 ± 1.57	.36	95.83 ± 1.45	95.73 ± 1.29	.64
Minimum SpO_2 (%)	80.75 ± 7.95	83.78 ± 10.31	.06	88.64 ± 3.78	86.79 ± 3.90	.33
ODI-3% (events/h)	30.71 ± 16.30	23.45 ± 19.13	.2	10.53 ± 6.97	21.42 ± 13.83	<.05
Sleep disorder index (events/h)						
AHI	32.16 ± 16.98	24.72 ± 20.03	.2	10.88 ± 7.29	21.01 ± 12.41	<.05
AI	4.21 ± 4.32	8.30 ± 14.21	.94	1.52 ± 2.13	3.92 ± 5.19	.4
AI_{NREM}	3.86 ± 3.89	8.35 ± 14.67	.99	0.98 ± 1.11	3.81 ± 5.74	.35
AI_{REM} [#]	6.09 ± 12.48	8.14 ± 14.36	.53	6.97 ± 11.61	4.29 ± 7.75	1
HI	27.95 ± 17.31	16.42 ± 15.73	<.05	9.36 ± 6.25	17.09 ± 10.40	<.05
HI_{NREM}	28.21 ± 18.04	16.22 ± 16.20	<.05	8.26 ± 5.86	16.21 ± 10.66	<.05
HI_{REM} [#]	23.68 ± 22.90	19.12 ± 20.32	.41	21.69 ± 17.87	25.14 ± 18.01	.58

SPT: sleep period of time; NREM: nonrapid eye movement; REM: rapid eye movement; SpO_2: peripheral arterial oxygen saturation measured by pulse oximetry; ODI-3%: oxygen desaturation index ≥ 3%; AHI: apnea–hypopnea index; AI: apnea index; AI_{NREM}: apnea index in the nonrapid eye movement stage; AI_{REM}: apnea index in the rapid eye movement stage; HI: hypopnea index; HI_{NREM}: hypopnea index in the nonrapid eye movement stage; HI_{REM}: hypopnea index in the rapid eye movement stage.

[#] Two female participants with MCI did not have a REM stage during the polysomnography.

Data are expressed as mean ± standard deviation.

Differences between groups were assessed using the Mann–Whitney U test.

Table S2. Comparison of arousal indices between the participants with and without mild cognitive impairment (MCI) in different sexes.

Arousal variable (events/h)	Male (n = 38)			Female (n = 30)		
	non-MCI (n = 20)	MCI (n = 18)	*P*	non-MCI (n = 11)	MCI (n = 19)	*P*
ArI	22.49 ± 10.75	27.08 ± 6.36	<.05	16.21 ± 5.70	19.51 ± 11.31	.67
ArI$_{NREM}$	22.44 ± 11.71	27.96 ± 8.28	<.05	16.42 ± 6.16	20.07 ± 11.17	.47
ArI$_{REM}$[#]	21.65 ± 19.44	22.77 ± 17.21	.7	26.09 ± 34.87	16.99 ± 16.50	.52
SpArI	6.99 ± 4.10	14.35 ± 8.45	<.01	11.04 ± 4.07	9.65 ± 5.26	.27
SpArI$_{NREM}$	7.03 ± 4.30	15.11 ± 9.57	<.01	11.35 ± 4.22	9.96 ± 5.38	.29
SpArI$_{REM}$[#]	6.80 ± 7.72	10.02 ± 10.50	.39	5.52 ± 6.17	10.34 ± 11.60	.23
RArI	13.55 ± 10.3	10.57 ± 8.92	.18	3.95 ± 2.78	8.49 ± 9.17	.09
RArI$_{NREM}$	13.49 ± 10.93	10.57 ± 9.37	.19	3.95 ± 2.79	8.69 ± 9.33	.06
RArI$_{REM}$[#]	12.98 ± 14.48	11.81 ± 14.14	.44	7.16 ± 13.28	6.07 ± 9.18	.43
SnArI	0.43 ± 1.09	0.09 ± 0.24	.31	0.05 ± 0.18	0.09 ± 0.37	.97
SnArI$_{NREM}$	0.36 ± 0.95	0.09 ± 0.22	.35	0.0 ± 0.0	0.10± 0.44	.83
SnArI$_{REM}$[#]	0.75 ± 2.33	0.08 ± 0.33	.16	1.64 ± 5.43	0.09 ± 0.36	.38
LArI	1.47 ± 1.53	2.03 ± 1.81	.17	1.13 ± 1.12	1.16 ± 1.18	1.00
LArI$_{NREM}$	0.85 ± 1.44	0.72 ± 1.69	.24	1.13 ± 1.18	1.23 ±1.30	.93
LArI$_{REM}$[#]	1.43 ± 1.39	1.89 ± 1.58	.21	11.67 ± 35.98	0.44 ± 0.75	.41

ArI: arousal index; ArI$_{NREM}$: arousal index in the nonrapid eye movement stage; ArI$_{REM}$: arousal index in the rapid eye movement stage; SpArI: spontaneous arousal index; SpArI$_{NREM}$: spontaneous arousal index in the nonrapid eye movement stage; SpArI$_{REM}$: spontaneous arousal index in the rapid eye movement stage; RArI: respiratory arousal index; RArI$_{NREM}$: respiratory arousal index in the nonrapid eye movement stage; RArI$_{REM}$: respiratory arousal index in the rapid eye movement stage; SnArI: snore arousal index; SnArI$_{NREM}$: snore arousal index in the nonrapid eye movement stage; SnArI$_{REM}$: snore arousal index in the rapid eye movement stage; LArI: limb movement arousal index; LArI$_{NREM}$: limb movement arousal index in the nonrapid eye movement stage; LArI$_{REM}$: limb movement arousal index in the rapid eye movement stage;
[#] Two female participants with MCI did not have a REM stage during the polysomnography.
Data are expressed as mean ± standard deviation.
Differences between groups were all assessed using the Mann–Whitney *U* test.

Table S3. Associations between sleep parameters and Cognitive Abilities Screening Instrument (CASI) score in different sexes.

Categorical variable	Male (n = 38)		Female (n = 30)	
	Beta coefficient (95% CI)	*P*	Beta coefficient (95% CI)	*P*
Oximetry parameter				
Mean SpO_2 (%)	0.01 (−0.35 to 0.36)	.98	0.25 (−0.17 to 0.66)	.23
Minimum SpO_2 (%)	0.41 (0.07 to 0.75)	<.05	0.36 (-0.08 to 0.81)	.11
ODI-3% (events/h)	−0.36 (−0.69 to −0.03)	<.05	−0.19 (−0.60 to 0.21)	.34
Sleep disorder index (events/h)				
AHI	−0.37 (−0.7 to −0.05)	<.05	−0.19 (−0.60 to 0.22)	.35
AI	−0.22 (−0.55 to 0.11)	.19	−0.08 (−0.48 to 0.31)	.67
AI_{NREM}	−0.23 (−0.56 to 0.1)	.17	−0.15 (−0.60 to 0.23)	.45
AI_{REM}[#]	−0.1 (−0.44 to 0.24)	.57	0.12 (−0.30 to 0.54)	.57
HI	−0.28 (−0.63 to 0.07)	.12	−0.19 (−0.61 to 0.23)	.36
HI_{NREM}	−0.27 (−0.62 to 0.08)	.12	−0.20 (−0.61 to 0.21)	.33
HI_{REM}[#]	−0.23 (−0.57 to 0.11)	.18	−0.07 (−0.56 to 0.42)	.77
Arousal variable (events/h)				
ArI	−0.34 (−0.69 to −0.01)	.05	0.07 (−0.33 to 0.47)	.72
ArI_{NREM}	−0.33 (−0.68 to 0.02)	.06	0.04 (−0.36 to 0.44)	.85
ArI_{REM}[#]	−0.21 (−0.55 to 0.13)	.23	0.31 (−0.11 to 0.73)	.14
SpArI	−0.09 (−0.43 to 0.25)	.58	0.22 (−0.16 to 0.61)	.24
$SpArI_{NREM}$	−0.1 (−0.44 to 0.24)	.56	0.20 (−0.19 to 0.58)	.30
$SpArI_{REM}$[#]	−0.03 (−0.38 to 0.33)	.88	0.09 (−0.34 to 0.52)	.68
RarI	−0.21 (−0.56 to 0.14)	.23	−0.09 (−0.49 to 0.31)	.65
$RArI_{NREM}$	−0.21 (−0.56 to 0.14)	.23	−0.11 (−0.51 to 0.29)	.58
$RArI_{REM}$[#]	−0.28 (−0.61 to 0.05)	.09	0.19 (−0.24 to 0.61)	.37

SpO_2: peripheral arterial oxygen saturation measured by pulse oximetry; ODI-3%: oxygen desaturation index ≥ 3%; AHI: apnea–hypopnea index; AI: apnea index; AI_{NREM}: apnea index in the nonrapid eye movement stage; AI_{REM}: apnea index in the rapid eye movement stage; HI: hypopnea index; HI_{NREM}: hypopnea index in the nonrapid eye movement stage; HI_{REM}: hypopnea index in the rapid eye movement stage; ArI: arousal index; ArI_{NREM}: arousal index in the nonrapid eye movement stage; ArI_{REM}: arousal index in the rapid eye movement stage; SpArI: spontaneous arousal index; $SpArI_{NREM}$: spontaneous arousal index in the nonrapid eye movement stage; $SpArI_{REM}$: spontaneous arousal index in the rapid eye movement stage; RArI: respiratory arousal index; $RArI_{NREM}$: respiratory arousal index in the nonrapid eye movement stage; $RArI_{REM}$: respiratory arousal index in the rapid eye movement stage.

[#] Two female participants with mild cognitive impairment did not have a REM stage during the polysomnography.

Multivariable linear regression models were adjusted for age, body mass index, and education years.

Table S4. Associations (odd ratios; ORs) of arousal indices between the participants with and without mild cognitive impairment in different sexes.

Arousal variable (events/h)	Crude OR (95% CI) [a]	Model-1 (95% CI) [b]	Model-2 (95% CI) [c]
Male (n = 38, non-MCI = 20, MCI = 18)			
ArI	1.06 (0.98 to 1.15)	1.07 (0.99 to 1.17)	1.16 (1.02 to 1.33) *
ArI_{NREM}	1.06 (0.99 to 1.13)	1.07 (0.99 to 1.15)	1.13 (1.02 to 1.27) *
ArI_{REM}	1.0 (0.97 to 1.04)	1.01 (0.97 to 1.05)	1.02 (0.98 to 1.07)
SpArI	1.26 (1.07 to 1.48) *	1.29 (1.08 to 1.53) **	1.39 (1.1 to 1.75) **
$SpArI_{NREM}$	1.26 (1.07 to 1.47) *	1.29 (1.08 to 1.53) **	1.37 (1.1 to 1.71) **
$SpArI_{REM}$	1.04 (0.97 to 1.12)	1.05 (0.97 to 1.14)	1.05 (0.97 to 1.14)
RarI	0.97 (0.9 to 1.04)	0.97 (0.9 to 1.04)	1.0 (0.88 to 1.14)
$RArI_{NREM}$	0.97 (0.91 to 1.04)	0.97 (0.91 to 1.04)	1.0 (0.89 to 1.13)
$RArI_{REM}$	0.99 (0.95 to 1.04)	1.0 (0.95 to 1.04)	1.02 (0.96 to 1.09)
Female (n =30, non-MCI = 11, MCI = 19)			
ArI	1.04 (0.95 to 1.14)	1.05 (0.95 to 1.15)	0.94 (0.83 to 1.07)
ArI_{NREM}	1.05 (0.96 to 1.15)	1.05 (0.96 to 1.15)	0.94 (0.82 to 1.07)
ArI_{REM}[#]	0.99 (0.95 to 1.02)	0.98 (0.95 to 1.02)	0.99 (0.95 to 1.03)
SpArI	0.94 (0.80 to 1.10)	0.94 (0.81 to 1.10)	0.91 (0.77 to 1.09)
$SpArI_{NREM}$	0.94 (0.81 to 1.10)	0.95 (0.81 to 1.10)	0.91 (0.77 to 1.09)
$SpArI_{REM}$[#]	1.07 (0.96 to 1.19)	1.07 (0.95 to 1.19)	1.09 (0.97 to 1.22)
RarI	1.22 (0.97 to 1.55)	1.25 (0.97 to 1.61)	0.90 (0.62 to 1.33)
$RArI_{NREM}$	1.22 (0.97 to 1.55)	1.25 (0.98 to 1.60)	0.90 (0.60 to 1.35)
$RArI_{REM}$[#]	0.99 (0.92 to 1.06)	0.99 (0.92 to 1.07)	0.95 (0.86 to 1.05)

CI: confidence interval; ArI: arousal index; ArI_{NREM}: arousal index in the nonrapid eye movement stage; ArI_{REM}: arousal index in the rapid eye movement stage; SpArI: spontaneous arousal index; $SpArI_{NREM}$: spontaneous arousal index in the nonrapid eye movement stage; $SpArI_{REM}$: spontaneous arousal index in the rapid eye movement stage; RArI: respiratory arousal index; $RArI_{NREM}$: respiratory arousal index in the nonrapid eye movement stage; $RArI_{REM}$: respiratory arousal index in the rapid eye movement stage.

[#] Two female participants with MCI did not have a REM stage during the polysomnography.

[a] Simple logistic regression models.

[b] Model-1: adjusted for age and body mass index

[c] Model-2: adjusted for age, body mass index, and ODI-3%

*p < .05; **p < .01.

Table S5. Demographic characteristics of participants stratified by Clinical Dementia Rating score in the dataset that excluded participants without rapid eye movement sleep

Categorical variable	non-MCI group (n = 31)	MCI group (n = 35)	*P*
Age (yr) [a]	68.19 ± 7.35	69.77 ± 7.92	.18
Sex (male/female) [b]	20/11	18/17	.28
BMI (kg/m^2) [a]	24.16 ± 2.84	23.32 ± 4.05	.34
Neck circumference (cm) [a]	36.13 ± 3.23	35.09 ± 3.17	.19
Waist circumference (cm) [a]	86.51 ± 9.63	85.43 ± 10.55	.67
Education (years)	9.94 ± 4.70	9.71 ± 4.11	.36
CASI score [c]	87.58 ± 7.02	79.43 ± 12.61	<.01
Long-term memory	9.77 ± 0.56	9.54 ± 1.36	.48
Short-term memory	10.16 ± 2.31	7.09 ± 3.34	<.01
Attention	6.61 ± 1.28	6.09 ± 1.29	.05
Concentration	7.90 ± 2.01	7.51 ± 2.63	.40
Orientation	17.00 ± 1.77	15.6 ± 3.52	<.05
Abstraction and judgment	9.26 ± 1.69	8.69 ± 1.95	.12
Language abilities	9.58 ± 0.81	9.34 ± 1.28	.24
Visual construction	9.97 ± 0.18	9.29 ± 1.41	<.01
Category fluency	7.00 ± 2.13	6.31 ± 2.43	.30
OSAS severity [b]			.90
Normal, n (%)	4 (12.90%)	4 (11.43%)	
Mild, n (%)	6 (19.35%)	9 (25.71%)	
Moderate, n (%)	9 (29.03%)	11 (31.43%)	
Severe, n (%)	12 (38.71%)	11 (31.43%)	

MCI: mild cognitive impairment; BMI: body mass index; CASI: Cognitive Abilities Screening Instrument; OSAS: obstructive sleep apnea syndrome.

Data are expressed as mean ± standard deviation.

a Differences between groups were assessed using Student's *t* test.

b Differences between groups were assessed using the chi-squared test.

c Differences between groups were assessed using the Mann–Whitney *U* test.

Table S6. Comparison of sleep parameters between participants with and without mild cognitive impairment (MCI) in the dataset that excluded participants without rapid eye movement (REM) sleep

Categorical variable	non-MCI group (n = 31)	MCI group (n = 35)	*P*
Sleep architecture			
Sleep efficiency (%)	72.20 ± 12.19	69.57 ± 18.76	.46
Wake (% of SPT)	22.63 ± 11.77	25.29 ± 16.84	.43
NREM (% of SPT)	69.30 ± 10.98	65.05 ± 15.16	.21
REM (% of SPT)	8.09 ± 6.15	9.67 ± 5.08	.26
WASO (min)	76.24 ± 38.55	83.3 ± 53.48	.50
TST (min)	261.69 ± 45.37	253.33 ± 67.35	.49
Oximetry parameter			
Mean SpO_2 (%)	95.41 ± 1.69	95.85 ± 1.38	.25
Minimum SpO_2 (%)	83.55 ± 7.72	85.11 ± 7.93	.09
ODI-3% (events/h)	23.55 ± 16.76	21.88 ± 15.45	.40
Sleep disorder index (events/h)			
AHI	24.61 ± 17.53	22.86 ± 16.39	.38
AI	3.25 ± 3.88	6.15 ± 10.91	.41
AI_{NREM}	2.84 ± 3.46	6.12 ± 11.38	.37
AI_{REM}	6.40 ± 11.99	6.27 ± 11.62	.33
HI	21.35 ± 16.87	16.71 ± 13.09	.18
HI_{NREM}	21.13 ± 17.65	16.13 ± 13.47	.19
HI_{REM}	22.97 ± 20.96	22.04 ± 19.19	.45

SPT: sleep period of time; NREM: nonrapid eye movement; REM: rapid eye movement; WASO: wake time after sleep onset; TST: total sleep time; SpO2: peripheral arterial oxygen saturation measured by pulse oximetry; ODI-3%: oxygen desaturation index ≥ 3%; AHI: apnea–hypopnea index; AI: apnea index; AI_{NREM}: apnea index in the nonrapid eye movement stage; AI_{REM}: apnea index in the rapid eye movement stage; HI: hypopnea index; HI_{NREM}: hypopnea index in the nonrapid eye movement stage; HI_{REM}: hypopnea index in the rapid eye movement stage.
Data are expressed as mean ± standard deviation.
Differences between groups were assessed using the Mann–Whitney *U* test.

Table S7. Comparison of arousal indices between participants with and without mild cognitive impairment (MCI) in the dataset that excluded participants without rapid eye movement (REM) sleep

Arousal variable (events/h)	non-MCI group (n = 31)	MCI group (n = 35)	*P*
ArI	20.26 ± 9.66	22.99 ± 8.31	.05
ArI$_{NREM}$	20.30 ± 10.40	23.75 ± 9.11	<.05
ArI$_{REM}$	23.23 ± 25.48	19.97 ± 16.88	.45
SpArI	8.43 ± 4.48	12.36 ± 7.25	<.05
SpArI$_{NREM}$	8.56 ± 4.70	12.92 ± 8.0	<.01
SpArI$_{REM}$	6.35 ± 7.13	10.18 ± 10.89	.07
RArI	12.05 ± 10.8	11.22 ± 9.38	.42
RArI$_{NREM}$	11.85 ± 11.22	11.29 ± 9.84	.49
RArI$_{REM}$	14.69 ± 18.99	11.31 ± 14.63	.36
SnArI	0.3 ± 0.9	0.1 ± 0.32	.36
SnArI$_{NREM}$	0.23 ± 0.78	0.1 ± 0.35	.14
SnArI$_{EM}$	1.06 ± 3.67	0.08 ± 0.34	.41
LArI	1.32 ± 1.29	1.57 ± 1.43	.28
LArI$_{NREM}$	1.35 ± 1.4	1.68 ± 1.62	.22
LArI$_{REM}$	4.69 ± 21.46	0.58 ± 1.31	.22

ArI: arousal index; ArI$_{NREM}$: arousal index in the nonrapid eye movement stage; ArI$_{REM}$: arousal index in the rapid eye movement stage; SpArI: spontaneous arousal index; SpArI$_{NREM}$: spontaneous arousal index in the nonrapid eye movement stage; SpArI$_{REM}$: spontaneous arousal index in the rapid eye movement stage; RArI: respiratory arousal index; RArI$_{NREM}$: respiratory arousal index in the nonrapid eye movement stage; RArI$_{REM}$: respiratory arousal index in the rapid eye movement stage; SnArI: snore arousal index; SnArI$_{NREM}$: snore arousal index in the nonrapid eye movement stage; SnArI$_{REM}$: snore arousal index in the rapid eye movement stage; LArI: limb movement arousal index; LArI$_{NREM}$: limb movement arousal index in the nonrapid eye movement stage; LArI$_{REM}$: limb movement arousal index in the rapid eye movement stage.

Data are expressed as mean ± standard deviation.

Differences between groups were all assessed using the Mann–Whitney *U* test.

Table S8. Associations between sleep parameters and Cognitive Abilities Screening Instrument score in the dataset that excluded participants without rapid eye movement sleep (non-mild cognitive impairment [non-MCI] group: n = 31; MCI group: n = 35)

Categorical variable	Beta coefficient (95% CI)	*P*
Oximetry parameter		
Mean SpO_2 (%)	0.04 (−0.22 to 0.29)	.77
Minimum SpO_2 (%)	0.31 (0.07 to 0.56)	<.05
ODI-3% (events/h)	−0.34 (−0.59 to −0.09)	<.01
Sleep disorder index (events/h)		
AHI	−0.34 (−0.59 to −0.09)	<.01
AI	−0.19 (−0.43 to 0.06)	.13
AI_{NREM}	−0.21 (−0.45 to 0.04)	.09
AI_{REM}	−0.03 (−0.27 to 0.21)	.79
HI	−0.26 (−0.51 to −0.01)	<.05
HI_{NREM}	−0.26 (−0.51 to −0.01)	<.05
HI_{REM}	−0.15 (−0.4 to 0.1)	.23
Arousal variable (events/h)		
ArI	−0.22 (−0.48 to 0.05)	.11
ArI_{NREM}	−0.23 (−0.49 to 0.03)	.09
ArI_{REM}	−0.0 (−0.25 to 0.24)	.99
SpArI	−0.02 (−0.27 to 0.22)	.84
$SpArI_{NREM}$	−0.04 (−0.28 to 0.21)	.77
$SpArI_{REM}$	−0.0 (−0.25 to 0.24)	.97
RarI	−0.2 (−0.46 to 0.07)	.14
$RArI_{NREM}$	−0.2 (−0.47 to 0.06)	.13
$RArI_{REM}$	−0.14 (−0.39 to 0.11)	.28

SpO2: peripheral arterial oxygen saturation measured by pulse oximetry; ODI-3%: oxygen desaturation index ≥ 3%; AHI: apnea–hypopnea index; AI: apnea index; AI_{NREM}: apnea index in the nonrapid eye movement stage; AI_{REM}: apnea index in the rapid eye movement stage; HI: hypopnea index; HI_{NREM}: hypopnea index in the nonrapid eye movement stage; HI_{REM}: hypopnea index in the rapid eye movement stage; ArI: arousal index; ArI_{NREM}: arousal index in the nonrapid eye movement stage; ArI_{REM}: arousal index in the rapid eye movement stage; SpArI: spontaneous arousal index; $SpArI_{NREM}$: spontaneous arousal index in the nonrapid eye movement stage; $SpArI_{REM}$: spontaneous arousal index in the rapid eye movement stage; RArI: respiratory arousal index; $RArI_{NREM}$: respiratory arousal index in the nonrapid eye movement stage; $RArI_{REM}$: respiratory arousal index in the rapid eye movement stage.
Multivariable linear regression models were adjusted for age, sex, body mass index, and education years.

Table S9. Associations (odd ratios [ORs]) of arousal indices between participants with and without mild cognitive impairment (MCI) in the dataset that excluded participants without rapid eye movement (REM) sleep (non-MCI group: n = 31; MCI group: n = 35)

Arousal variable (arousals/h)	Crude OR (95% CI) [a]	Model-1 (95% CI) [b]	Model-2 (95% CI) [c]
ArI	1.04 (0.98-1.10)	1.07 (1.00-1.14)	1.09 (1.00-1.18)
ArI_{NREM}	1.04 (0.99-1.10)	1.07 (1.00-1.13)	1.09 (1.01-1.17)
ArI_{REM}	0.99 (0.97-1.02)	0.99 (0.97-1.02)	0.99 (0.97-1.02)
SpArI	1.13 (1.02-1.26) *	1.14 (1.03-1.27) *	1.19 (1.05-1.35) **
$SpArI_{NREM}$	1.13 (1.03-1.25) *	1.15 (1.04-1.28) *	1.18 (1.05-1.34) **
$SpArI_{REM}$	1.05 (0.99-1.11)	1.06 (0.99-1.12)	1.06 (0.99-1.13)
RarI	0.98 (0.92 to 1.04)	0.99 (0.93 to 1.06)	0.97 (0.86 to 1.09)
$RArI_{NREM}$	0.98 (0.93 to 1.04)	1.01 (0.94 to 1.06)	0.98 (0.88 to 1.09)
$RArI_{REM}$	0.99 (0.95 to 1.03)	1.00 (0.96 to 1.04)	0.99 (0.95 to 1.04)

CI: confidence interval; ArI: arousal index; ArI_{NREM}: arousal index in the nonrapid eye movement stage; ArI_{REM}: arousal index in the rapid eye movement stage; SpArI: spontaneous arousal index; $SpArI_{NREM}$: spontaneous arousal index in the nonrapid eye movement stage; $SpArI_{REM}$: spontaneous arousal index in the rapid eye movement stage; RArI: respiratory arousal index; $RArI_{NREM}$: respiratory arousal index in the nonrapid eye movement stage; $RArI_{REM}$: respiratory arousal index in the rapid eye movement stage.

[a] Simple logistic regression models.

[b] Model-1: adjusted for age, sex, body mass index

[c] Model-2: adjusted for age, sex, body mass index, and ODI-3%

*$p < .05$; **$p < .01$.