Table 1. Summary statistics of global PSQI (Pittsburgh Sleep Quality Index) scores by sex and 5-year age groups among 3,732 participants aged ≥65 years. Scores range from 0 to 21.

	Age	No.	Mean	SD	Prevalence[1]
Men					
	65-69	612	4.37	2.62	28.1%
	70-74	670	4.62	2.83	30.9%
	75-79	388	4.78	2.95	31.7%
	80+	212	5.04	3.09	36.3%
	subtotal	1882	4.62	2.83	30.8%
Women					
	65-69	670	5.26	3.16	37.9%
	70-74	606	5.49	3.17	41.4%
	75-79	385	5.65	3.44	43.4%
	80+	189	5.82	3.24	50.3%
	subtotal	1850	5.47	3.23	41.5%

1) Global PSQI score >5.5

Table 2. Comparisons of selected characteristics of potential sleep-affecting factors between two groups according to global PSQI score.

		PSQI ≤5.5 (n= 2,386)		PSQI >5.5 (n=1,346)		
		No.(mean)	% (SD)	No.(mean)	% (SD)	P-value[8]
Women		1083	45.4	767	57.0	0.00
Age		(72.2)	(5.2)	(72.7)	(5.4)	0.00 [9]
Current health condition						
Depression	GDS [1] ≥6	256	10.7	326	24.2	0.00
Cognitive impairment	MMSE [2] <24	104	4.4	83	6.2	0.02
Renal dysfunction	eGFR [3] < 60	574	24.1	381	28.3	0.02
Subjective bodily pain[4]	moderate or more severe	326	13.6	363	26.9	0.00
History of chronic conditions						
Stroke	presence history	117	4.9	101	7.5	0.00
Myocardial infarction	presence history	53	2.2	38	2.8	0.25
Diabetes	yes [5]	343	14.4	200	14.9	0.69
Hypertension	yes [6]	1656	69.4	929	69.0	0.81
Cancer of any kind	presence history	218	9.1	138	10.3	0.27
Social support						
Spouse	weak	487	20.4	391	29.0	0.00
Family	weak	565	23.7	431	32.0	0.00
Friends	weak	550	23.1	388	28.8	0.00
Lifestyle habits						
Physical Activity	METs-min / week [7]	(242.8)	(234.2)	(216.5)	(202.4)	0.00 [9]
Alcohol	current drinker	958	40.2	466	34.6	0.00
	ethanol consumption (g/day)	(12.4)	(21.7)	(9.5)	(18.1)	0.00 [9]
Smoking	current smoker	254	10.7	103	7.7	0.00

1) Geriatric Depression Scale (GDS-15), 2) Mini-Mental State Examination, 3) estimated glomerular filtration rate (ml/min/1.73m^2),
4) bodily pain in the MOS 36-item short-form health survey, 5) physician-diagnosed diabetes with medical treatment or HbA1c >6.5% at baseline,
6) currently treated for SBP >140 mmHg or DBP >90 mmHg, 7) estimated based on the Japanese version of the International Physical Activity Questionnaire,
8) χ^2 test, 9) t-test

Table 3. Sex and 5-year age-adjusted odds ratios (ORs) with 95% confidence intervals (CIs) for sleep disturbance (PSQI <5.5) and relationships between sleep disturbance and questionnaire items.

		OR	95% CI		P-value
Sex	women / men	1.61	1.41	1.84	0.00
Age	70-74 / 65-69	1.15	0.98	1.36	0.09
	75-79 / 65-69	1.22	1.01	1.48	0.04
	≥80 / 65-69	1.56	1.23	1.96	0.00
Current health condition					
Depression (GDS[1])	3-5 / 0-2	1.53	1.31	1.78	0.00
	≥6 / 0-2	3.17	2.61	3.84	0.00
Cognitive impairment (MMSE[2])	<24 / ≥24	1.42	1.05	1.92	0.02
eGFR [3]	≥60, <90 / ≥90	1.06	0.81	1.41	0.67
	<60 / ≥90	1.32	0.98	1.79	0.07
Subjective bodily pain [4]	very mild / none	1.37	1.12	1.67	0.00
	mild / none	1.95	1.63	2.34	0.00
	moderate / none	2.91	2.33	3.63	0.00
	severe or very severe / none	3.85	2.79	5.30	0.00
History of chronic conditions					
Stroke	yes / no	1.63	1.24	2.15	0.00
Myocardial infarction	yes / no	1.45	0.95	2.22	0.09
Diabetes	yes [5] / no	1.12	0.93	1.36	0.24
Hypertension	yes [6] / no	0.98	0.85	1.14	0.82
Cancer of any kind	yes / no	1.18	0.94	1.48	0.16
Social support					
Spouse	weak / strong	1.29	1.09	1.53	0.00
Family	weak / strong	1.66	1.43	1.94	0.00
Friends	weak / strong	1.47	1.26	1.72	0.00
Lifestyle habits					
Physical Activity (METs[7])	≥0, <60 / ≥300	0.97	0.80	1.18	0.78
	≥60, <300 / ≥300	0.90	0.72	1.12	0.34
Alcohol consumption	<20 / 0	1.12	0.93	1.36	0.24
	20-40 / 0	0.95	0.74	1.22	0.67
	≥40 / 0	0.89	0.69	1.15	0.38
Smoking habit	ex-smoker / current smoker	1.15	0.89	1.50	0.29
	non-smoker / current smoker	1.16	0.88	1.54	0.30

1) Geriatric Depression Scale (GDS-15), 2) Mini-Mental State Examination, 3) estimated glomerular filtration rate (unit: ml/min/1.73m^2), 4) bodily pain included in the MOS 36-item short-form health survey, 5) physician-diagnosed diabetes with medical treatment or HbA1c >6.5% at baseline, 6) currently treated for SBP >140 mmHg or DBP >90 mmHg, 7) estimated based on the Japanese version of the International Physical Activity Questionnaire.