

Supplementary Table 1. Multiple logistic regression for chronic diseases according to shift work

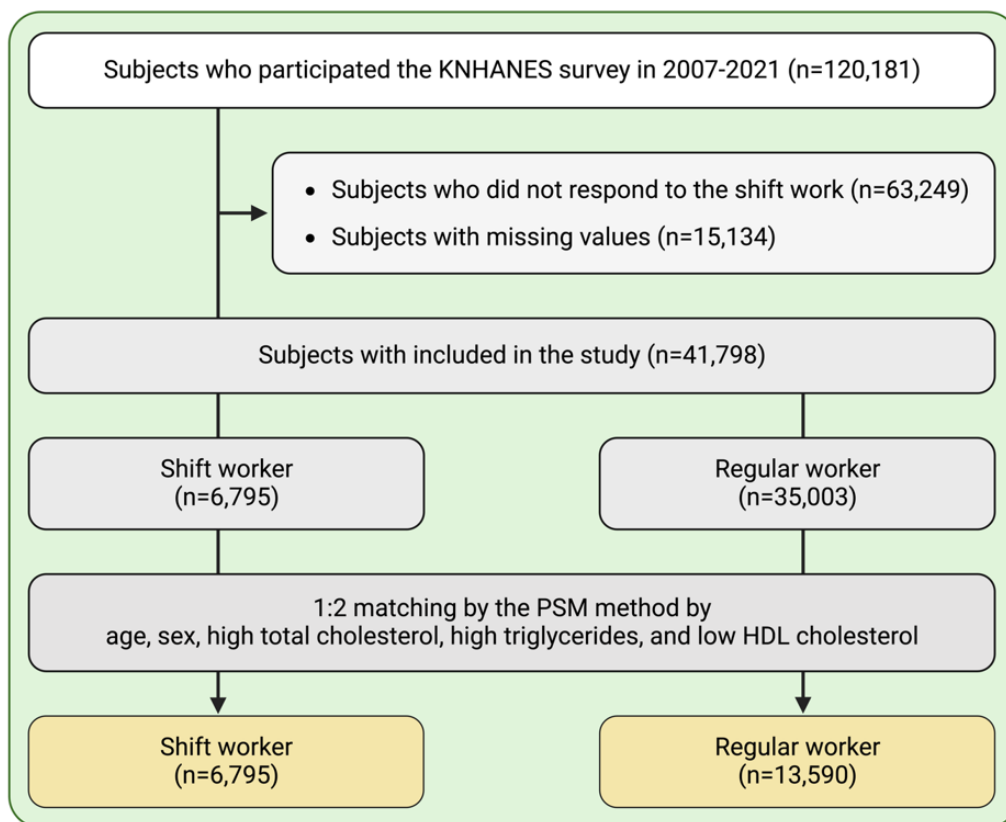
Variable		Dyslipidemia	Obesity	Stroke	MI or angina	MI	Angina	Arthritis	Osteoarthritis	RA	Thyroid disease	Renal failure	Depression	Hypertension	Diabetes mellitus
Shift worker	No	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
	Yes	1.14 (1.01–1.28)	1.03 (0.96–1.10)	0.86 (0.64–1.16)	0.92 (0.73–1.16)	0.91 (0.60–1.36)	0.89 (0.67–1.18)	0.95 (0.84–1.07)	0.97 (0.86–1.11)	0.87 (0.66–1.16)	1.03 (0.87–1.23)	1.05 (0.63–1.77)	0.88 (0.74–1.04)	0.96 (0.89–1.04)	0.99 (0.89–1.11)

Adjusted by age, sex, total cholesterol, triglycerides, and high density lipoprotein cholesterol. Ref, reference; MI, myocardial infarction; RA, rheumatoid arthritis.

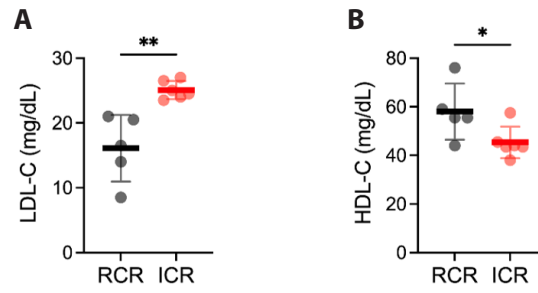
Supplementary Table 2. Odds ratios of dyslipidemia according to physical activity in shift workers

	Physical activity	
	No	Yes
Total (N = 6,740)	2,014 (29.88)	4,726 (70.12)
Crude OR	1.00 (Ref)	0.92 (0.78–1.09)
Model 1	1.00 (Ref)	0.93 (0.78–1.11)
Model 2	1.00 (Ref)	0.94 (0.76–1.16)

OR, odds ratios; Model 1, adjusted for age and sex; Model 2, Model 1 plus additionally adjusted for high total cholesterol, high triglycerides, and low high density lipoprotein cholesterol.



Supplementary Fig. 1. Flow chart of study design. Among 41,798 subjects who took part in this study, a final dataset of 6,795 individuals was chosen based on their shift work status after propensity score matching. KNHANES, Korea National Health and Nutrition Examination Survey; HDL, high density lipoprotein.



Supplementary Fig. 2. Unpaired t-test results reveal significant increase in LDL levels and significant decrease in HDL-C levels in ICR compared to RCR group following 12 weeks circadian rhythm disturbance. RCR, regular circadian rhythm; ICR, irregular circadian rhythm; LDL-C, low density lipoprotein cholesterol; HDL-C, high density lipoprotein cholesterol. * $p < 0.05$, ** $p < 0.01$ as determined using Student's t-test ($n = 5-6$).