

SUPPLEMENTARY DATA

Supplementary Table S1. Sensitivity analysis restricted to women who never reported regular anti-depressant use or self-reported clinician diagnosis ^a (*N*= 44,029). Odds Ratios for prevalent type 2 diabetes in the Nurses' Health Study II by chronotype. CI: confidence interval. Total sample size (*N*) and number of cases within each sample are indicated in the table.

Prevalence Analysis: Odds Ratios (95% CI), follow-up period 2005-2011			
	Intermediate Chronotypes (<i>N</i> = 23,084, <i>cases</i> = 435)	Early Chronotypes (<i>N</i> = 16,674, <i>cases</i> = 250)	Late Chronotypes (<i>N</i> = 4,271, <i>cases</i> = 111)
Model 1 ^b	1.00	0.76 (0.65 – 0.89)	1.39 (1.13 – 1.72)
Model 2 ^c	1.00	0.81 (0.69 – 0.95)	1.21 (0.98 – 1.50)
Model 3 ^d	1.00	0.85 (0.72 – 1.00)	1.10 (0.89 – 1.37)

^a Regular antidepressant medication use was assessed in 1993, 1997, 2001, 2003 and 2005; self-reported clinical diagnosis was assessed in 2003 and 2005.

^b Age-adjusted model.

^c Additionally adjusted for family history of diabetes (yes/no), smoking status (past, current 1-14 cig/day, 15+ cig/day), alcohol intake (0g/day, 0.1 – 5g/day, 5.1 – 10g/day, 10.1 – 15g/day, > 15g/day), physical activity (quintiles of MET-hours/week), diet score (quintiles, AHEI, assessed in 2007), oral contraceptive use (ever, never), menopausal status (pre, post), postmenopausal hormone use (pre, ever, never), median annual household income (in tertiles), and self-reported sleep duration (assessed in 2009, < 5h, 6h, 7h, 8h, > 9h).

^d Additionally adjusted for and body mass index (<25, 25-30, 30-35, >35).

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Supplementary Table S2. Sensitivity analysis restricted to women who never reported regular anti-depressant use or self-reported clinician diagnosis^a (*N*= 44,029), odds ratios for prevalent type 2 diabetes in the Nurses' Health Study II by chronotype and cumulative rotating night shift work exposure. The interaction between chronotype and shift work exposure is significant (*P*=0.002)^b. CI: confidence interval. Total sample size (*N*) and number of cases within each sample are indicated in the table.

Prevalence Analysis: Odds Ratios (95% CI), follow-up period 2005-2011			
	Intermediate Chronotypes	Early Chronotypes	Late Chronotypes
No rotating night shift work ^c	1.00 <i>N</i> = 6,852, 96 cases	0.80 (0.57 – 1.13) <i>N</i> = 5,033, 56 cases	1.97 (1.31 – 2.96) <i>N</i> = 1,133, 35 cases
<10 years ^c	1.00 <i>N</i> = 14,382, 287 cases	0.82 (0.67 – 1.00) <i>N</i> = 10,359, 156 cases	0.91 (0.68 – 1.21) <i>N</i> = 2,650, 61 cases
≥ 10 years ^c	1.00 <i>N</i> = 1,850, 52 cases	1.18 (0.75 – 1.85) <i>N</i> = 1,282, 38 cases	0.95 (0.51 – 1.76) <i>N</i> = 488, 15 cases

^a Regular antidepressant medication use was assessed in 1993, 1997, 2001, 2003 and 2005; self-reported clinical diagnosis was assessed in 2003-2009).

^b Significance of evaluated by the likelihood ratio test.

^c Models adjusted for age, family history of diabetes (yes/no), smoking status (past, current 1-14 cig/day, 15+ cig/day), alcohol intake (0g/day, 0.1 – 5g/day, 5.1 – 10g/day, 10.1 – 15g/day, > 15g/day), oral contraceptive use (ever/never), menopausal status (pre/post), postmenopausal hormone use (pre, ever, never), physical activity (quintiles of MET-hours/week), diet score (quintiles, AHEI, assessed in 2007), and self-reported sleep duration (assessed in 2009, < 5h, 6h, 7h, 8h, > 9h), median annual household income (in tertiles), and body mass index (<25, 25-30, 30-35, >35).

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Supplementary Table S3. Sensitivity analysis restricted to women who never reported permanent night shift work (A, N= 50,389, retrospective lifetime assessment in 2009) or restricting to women who did not report permanent night shift work in 2009 (B, n= 63,830, in 2009). Odds ratios for prevalent type 2 diabetes in the Nurses' Health Study II by chronotype and cumulative rotating night shift work exposure. The interaction between chronotype and shift work exposure is significant in both analyses^a. CI: 95% confidence interval. Total sample size (n) and number of cases within each sample are indicated in the table.

A. Prevalence Analysis: Odds Ratios (95% CI) restricting to women who <u>never</u> reported permanent night shift work			
	Intermediate Chronotypes	Early Chronotypes	Late Chronotypes
No rotating night shift work ^b	1.00 <i>N=8,544, 164 cases</i>	0.76 (0.58 – 1.00) <i>N=5,925, 81 cases</i>	1.38 (0.98– 1.96) <i>N=1,366, 45 cases</i>
< 10 years ^b	1.00 <i>N=16,963, 377 cases</i>	0.89 (0.75 – 1.06) <i>N=11,700, 205 cases</i>	0.95 (0.74 – 1.22) <i>N=2,945, 81 cases</i>
≥10 years ^b	1.00 <i>N=1,544, 54 cases</i>	1.05 (0.65 – 1.69) <i>N=1,108, 34 cases</i>	0.67 (0.33 – 1.37) <i>N=294, 11 cases</i>
B. Prevalence Analysis: Odds Ratios (95% CI) restricting to women who did not report permanent night shift work in 2009			
No rotating night shift work ^b	1.00 <i>N=10,090, 197 cases</i>	0.81 (0.63 – 1.05) <i>N=6,756, 99 cases</i>	1.55 (1.16 – 2.08) <i>N=1,812, 68 cases</i>
< 10 years ^b	1.00 <i>N=21,557, 517 cases</i>	0.85 (0.73 – 0.99) <i>N=14,165, 255 cases</i>	0.92 (0.76 – 1.13) <i>N=4,424, 131 cases</i>
≥10 years ^b	1.00 <i>N=2,624, 94 cases</i>	1.17 (0.83 – 1.67) <i>N=1,665, 59 cases</i>	0.77 (0.49 – 1.22) <i>N=737, 27 cases</i>

^aSignificance of evaluated by the likelihood ratio test.

^b Models adjusted for age, family history of diabetes (yes/no), smoking status (past, current 1-14 cig/day, 15+ cig/day), alcohol intake (0g/day, 0.1 – 5g/day, 5.1 – 10g/day, 10.1 – 15g/day, > 15g/day), oral contraceptive use (ever/never), menopausal status (pre/post), postmenopausal hormone use (pre, ever, never), physical activity (quintiles of MET-hours/week), diet score (quintiles, AHEI, assessed in 2007), and self-reported sleep duration (assessed in 2009, < 5h, 6h, 7h, 8h, > 9h), median annual household income (in tertiles), and body mass index (<25, 25-30, 30-35, >35).