



A prospective study of the association between shiftwork & prescription drug use

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Introduction

Shiftwork is associated with increased risk of several health disorders. Previous findings have been based on self-reports & / or medical diagnosis. No studies have examined redeemed drug prescriptions, using register data.

Method

Data obtained from three waves of the Finnish Public Sector Survey (2000, 2004, 2008. 66-68% response rate). Participants were local government employees in 10 towns and 21 hospitals. N=53,275, 82.36% female. Mean age 43.6 (SD=9.8), range 18-69. Responses were linked to data on redeemed prescriptions (until December 2011).

We compared (1) rotating shiftworkers with dayworkers (matched for occupational group), and (2) permanent nightworkers with dayworkers

(matched for occupational group). Separate Cox regressions were used to predict time to first incident use of each of seven categories of medication, adjusting for age, sex & education. Participants were excluded if they had been prescribed the medication before baseline.

Results

Rotating shiftwork and permanent nightwork were both associated with higher use of hypertension, hypnotic and metabolic medications, but lower use of pain medication. Also, nightworkers used less anxiety / depression medication (see Table 1).

Conclusions

The results are partly consistent with previous studies of shiftworkers' health, but may have been affected by selection effects. Further analyses are planned.

Table 1: Cox regression analyses predicting first incident use of each category of medication, for both rotating shiftworkers and permanent nightworkers. Hazard Ratios (HR) and 95% Confidence Intervals (CI)

	Model	Rotating shiftwork		Permanent nightwork	
		HR	95%CI	HR	95%CI
Alimentary	Crude	0.99	0.96-1.01	0.93	0.90-0.97
	Adjusted	1.00	0.97-1.03	0.99	0.96-1.02
Anxiety & depression	Crude	1.01	0.98-1.05	0.92	0.88-0.96
	Adjusted	1.00	0.96-1.03	0.93	0.89-0.97
Diabetes (T2)	Crude	0.91	0.84-0.98	0.76	0.69-0.84
	Adjusted	0.99	0.92-1.07	0.94	0.85-1.61
Hypertension	Crude	1.00	0.97-1.03	0.91	0.87-0.94
	Adjusted	1.06	1.03-1.10	1.05	1.00-1.09
Hypnotics	Crude	1.09	1.05-1.14	1.09	1.04-1.14
	Adjusted	1.13	1.09-1.18	1.17	1.12-1.23
Metabolic disorder	Crude	1.00	0.97-1.03	0.90	0.86-0.93
	Adjusted	1.07	1.04-1.11	1.05	1.01-1.10
Pain	Crude	0.99	0.97-1.01	0.93	0.90-0.95
	Adjusted	0.97	0.95-0.99	0.94	0.91-0.96

Key: **Increased HR**

Decreased HR



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