

NIGHT WORK AND BREAST CANCER RISK: CECILE STUDY

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Background and Aims: Epidemiological studies have suggested that night shift-work may increase the risk of breast cancer. Disruption of the normal circadian rhythm may explain this association. We investigated whether working at night may influence the incidence of breast cancer in a population-based case-control study in France.

Methods: The CECILE study was conducted in two administrative areas (départements). All female residents aged 25-75 years diagnosed in 2005-2007 with a cancer of the breast were eligible to the study. Population controls were frequency-matched by age group to the cases. A total of 1232 incident breast cancer cases and 1317 controls were included. An in-person interview was conducted using a standardized questionnaire to obtain information on risk factors for breast cancer, as well as on lifetime occupational history. For each job held for more than 6 months, information on night work schedules (defined as working at least one hour between 11pm and 5am) was elicited. Analyses were conducted using unconditional logistic regression adjusting for age and recognized risk factors for breast cancer.

Results: Thirteen percent of the cases and eleven percent of the controls had ever worked during night shifts (OR=1.27 [0.99-1.64]). The association was more pronounced for women who worked during overnight shifts (shift work from 11 pm to 5 am: OR=1.35 [1.01-1.80]) than for women with late evening shifts (ending before 3 am: OR=1.25 [0.79-1.98]) or early morning shifts (starting after 3 am: OR=0.90 [0.36-2.21]). Women who had worked at night for 4.5 or more years had an OR of 1.40 [1.01-1.92], but no further increase of the OR was observed for longer durations. Night work of less than 3 nights per week, implying frequent changes between night and day schedules, was associated with an OR of 1.43 [1.01-2.03]).

Conclusion: Our results support the hypothesis that working at night increases the incidence of breast cancer.