

ASSOCIATION BETWEEN SLEEP DISTURBANCE, MELATONIN AND FEMALE BREAST CANCER

I-Lan Liu, *Department of Public Health, National Defense Medical Center, Taiwan*

Chi-Hong Chu, *Department of General Surgeon, Tri-Service General Hospital, National Defense Medical Center, Taiwan*

Chiou-Jong Chen, *Institute of Occupational Safety and Health, Council of Labor Affairs, Executive Yuan, Taiwan*

Chih-Hung Ku, *Department of Public Health, National Defense Medical Center, Taiwan*

Background and Aims: According to a 2007 Taiwan Annual Mortality Report, female breast cancer was the fourth of the top 10 cancer mortality. Ever since the industrial revolution, there has been a steady increase of working hours among female workers. Moreover, it can be argued that part of the breast cancer causing risk could be due to the suppression of melatonin in electric lighting post industrialization era. The aims of this study are to assess the association between melatonin level, sleep disturbance and female breast cancer.

Methods: This case-control study design was conducted from Sep. 2008 to Feb. 2009 in a medical center in Taipei, Taiwan. The study has been approved by the Institutional Review Board of the medical center. A self-report questionnaire was used to collect the demographic data, environmental factors, occupational exposure, family history, etc. Simultaneously, blood and urine samples were collected from volunteers during the OPD. Multiple linear regression and multiple logistic regression were used to assess the association of interests and potential confounders.

Results: There were 140 breast cancer cases and 983 controls in total. After the adjustment for confounders, we found that sleep disturbance were associated with female breast cancer (OR \bar{X} 2.71 \bar{z} 95%CI: 1.56- 4.72). The cases' melatonin concentration of urine was lower than controls, which was significant difference after the match on age.

Conclusions: According to the result, we confirmed in the preliminary result that sleep disturbance and low melatonin concentration were some of the risk factors for breast cancer.

References:

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