

worked before delivery. 584 pregnant workers were included in this study, yielding the cover rate 82.60%. The analysis was performed by percentage and regression. The result found that the proportion between returned to work and non-returned to work 6 months after delivery was 4:1. There are three general characteristic factors with statistical significance associated with returning to work, which include age (p-value 0.002), number of pregnancy (p-value < 0.001), and source of income (p-value < 0.001). In addition, there are eight occupational factors with statistical significance associated with returning to work consisting of occupation (p-value 0.03), employment status (p-value 0.03), working sectors (p-value < 0.001), fulltime or part-time (p-value < 0.001), work posture such as standing (p-value < 0.001), sitting (p-value < 0.001), walking (p-value 0.048), and poor ergonomic posture (p-value 0.02). Furthermore, there is one maternal factors with statistical significance associated with returning to work, which was postpartum hematoma (p-value 0.003). However, there are no infant factors with statistical significance associated with returning to work. In conclusion, this study found factors related to returning to work. The occupational health provider should include these factors for holistic care in this working population.

98 EFFECTS OF ROTATING-SHIFT WORK ON FEMALE SEXUAL FUNCTION IN NURSE - TWO HOSPITALS STUDY

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Objective The main purpose of this study is to examine the impact of night-shift task on the female sexual function, such as sexual desire, arousal, lubrication, orgasm, satisfaction and sexual pain among the female nurses.

Method The study subjects were female nurses who were 20–49 years old and worked in Changhua and Chang Bing Show-Chwan Memorial Hospital. All the study nurses were asked by questionnaire about their time-shift working status, quality of sleep, health status and sexual function. Data were analysed by Statistical Package for Social Science (SPSS).

Results Compared to day-shift nurses, night-shift nurses had a higher risk to have poor sleep quality and self-report health status ($p < 0.05$). The averaged female sexual function index among the study nurses was 56.42 ± 9.12 . There was 68.85% of the study nurses had at least one kind of female sexual dysfunction. The increased age, body mass index, poor sleep quality, and sexual dysfunction of partner were the risk factors of female sexual dysfunction ($P < 0.05$). The odd ratio of sexual dysfunction of partner was 4.997 (95% CI = -1.341~8.654; $P = 0.008$).

Conclusion Night-shift task can cause female nurses to have poor sleep quality, and self reported health status. The female sexual function was also influence by different work and different shift way. The female sexual function was also influence by age, body mass index, partner sexual function, sleep quality and health status.

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99 ASSOCIATIONS OF POLYMORPHISMS IN CIRCADIAN GENES, SHIFT WORK AND BREAST CANCER IN THE GERMAN GENICA STUDY

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Objectives Recently, the role of night-shift work in breast cancer development has been intensively discussed. Common variants in genes that regulate the circadian system may modify the observed risks of shift work. Here, we hypothesised that circadian genes influence breast cancer risk and may modify the risk of night shift work to develop breast cancer.

Material and Methods The population based case-control study Gene-Environment Interaction and Breast Cancer (GENICA) was conducted in the Greater Region of Bonn, Germany. Shift work and detailed shift work characteristics were assessed in subsequent telephone interviews. Thirteen polymorphisms in circadian genes AANAT, ARNTL, CLOCK, CRY2, MTNR1B, NPAS2, PER2, UGT1A, UGT1A6, UGT2B7, and UGT2B15 were genotyped. Associations between polymorphisms, shift work and breast cancer could be investigated for 1022 controls and 1014 cases. Risk estimates were calculated as odds ratios (ORs) with 95% confidence intervals (CIs) conditional on age and adjusted for hormone replacement therapy, number of mammograms and familial breast cancer. Test for interactions as well as methods for Multifactor Dimensionality Reduction will be presented.

Results First results indicate elevated risk estimates for polymorphism rs8150 of gene AANAT (GC + CC vs. GG: OR 1.17; 95% CI 1.01–1.36). In women that ever worked in shift for at least one year we found an elevated risk estimate for polymorphism rs10462028 in CLOCK gene (OR 3.53; 95% CI 1.09–11.42).

Discussion Our study suggests that polymorphisms in circadian genes may be associated with breast cancer and may also modify the risks of shift work for breast cancer. However, the results are limited by low prevalence of night work and variant genotypes. Therefore a pooling of studies would improve the statistical power to analyse the influence of circadian genes in breast cancer development.

100 IMPACT OF SMOKING ON TOTAL AND MAJOR CAUSES OF MORTALITY AMONG CHINESE SILICOTICS IN HONG KONG: EFFECT MODIFIER OR CONFOUNDER?

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Objectives Whether smoking being an effect modifier or confounder in increased total mortality and mortality from major causes has never been formally evaluated in occupational cohort studies and this lack of knowledge was addressed in a cohort of Chinese workers with silicosis.

Methods All workers with silicosis in Hong Kong diagnosed during the period 1981–2005 were followed up till the end of 2006 to ascertain their vital status and causes of death. An index of 'relative silicosis effect (RSE)' was used to examine the potential multiplicative interaction between smoking and silicosis. A