

SP-146

Study of Employee's Lung Capacity in Cement Production Department of PT. Semen Tonasa Pangkep 2008

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Objective: Lung capacity is the amount of oxygen which is maximally inhaled into the whole body or lungs. Factors that affect lung capacity are age, work period, smoking habit, and exercising habit. The aim of this research is to depict employees' lung capacity in Production Department of PT. Semen Tonasa Pangkep in 2008.

Method: The research uses the method of observation with descriptive approaching

Results: The results show that based on age, the abnormal lung capacity is found mostly in young age, which is 61.1%. Secondly, the abnormal lung capacity is found mostly in people who have been working for 5 years or more, which is 57.9%. The abnormal lung capacity is found mostly in people who are categorized as mild (10 cigarettes/day) or non smokers, which is determined to be 57.1%. The workers who have an abnormal lung capacity are the ones whom exercise in a regular basis (thrice a week for 20-30 minutes), which is found to be 58.3%. The abnormal lung capacity is mostly found in people who do not put on masks properly while working, which is found to be 55.0%.

Conclusions: Workers with younger age, longer work period, mild smokers, and mistaking in using masks, and whom take a routine exercise mostly have an abnormal lung capacity. It is advised that the involved company encourage its workers to avoid the smoking habit and are recommended to use masks as self-protection equipment properly and the appliance of rules that bring about the usage of masks while working.

SP-147

Increased Kidney and Heart Disease Mortalities in 6-28 Years Follow-Up of the Taiwanese People Highly Exposed to Polychlorinated Biphenyls and Dibenzofurans (PCBS/PCDFS)

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Background: In 1979, approximately 2000 victims in central Taiwan accidentally ingested rice oil, which was contaminated with polychlorinated biphenyls/dibenzofurans (PCBs/PCDFS).

A follow-up study allowed for the comparison of 22-year (from 1985-2007) overall and disease-specific mortality between the Yucheng subjects (oil-disease in Chinese) and their neighborhood referents in Taiwan.

Methods: Overall and disease-specific mortality (classified by ICD-9 codes) was compared between Yucheng subjects and their neighborhood controls matched for sex and age (Yucheng:neighborhood controls=1:2.8). indirect standardized mortality ratios

(indirect-SMR) were calculated utilizing the Yucheng subjects' neighborhood controls as reference group. Results: Mortalities of digestive system and genitourinary system was increased in the Yucheng men, but not in women.

To be more precise, "nephritis, nephrotic syndrome and nephrosis" (ICD=580-589) were increased in Yucheng men. "Other forms of heart disease" (ICD=420-429) were increased in all Yucheng subjects, but not significantly so in either gender. Mortalities of "malignant neoplasm of lymphatic and haematopoietic tissue" (ICD=200-208) were borderlinely increased, (SMR=2.9, 95% confidence interval=0.9-6.8). Systemic lupus erythematosus (SLE) in females was highly increased.

Conclusions: Compare with the previously study in Yucheng people as compared to Taiwan population, this study found similar results in increased SLE and digestive system mortalities.

This study also found increased mortality due to heart and kidney diseases.

SP-148

Occurrence of Endocrine Disrupting Chemicals in Taichung Domestic Wastewater Treatment Plant, Taiwan

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Nonylphenol (NP) in non-ion surfactant and phthalate acid ester (PAE) plasticizers such as DEP, DBP, BBP, DEHP are endocrine disrupting chemicals (EDCs) in environment of concern. We conducted a study to measure NP and PAEs at a domestic wastewater treatment plant (WWTP) in Taichung city. Samples of raw wastewater and sludge were collected at the WWTP, extracted using HCL hydrolyzing method, and NP and PAEs were measured using HPLC. The results revealed that NP was detected in all samples, and PAEs like DBP and DEHP levels were higher in sludge than in influent. NP concentrations in influent ranged 4.2~16.2 mg/L, while concentrations DBP were greater than 0.2 mg/L. PAEs levels, higher in influent than in effluent. NP concentrations increased in effluent. This study showed that NP, DBP and DEHP are lipophilic chemicals which can be detected easily in sludge compared with wastewater. High concentration of these two groups of EDCs were discharged from the WWTP.

SP-149

Urinary and Fingernail Metal Concentrations in a Population Exposed to Airborne Pm2.5

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