Statement of the Problem: Workers labouring in high thermally stressful environments are subjected to heat-strain and risks of heat-related health issues.

Methodology A cross-sectional study was conducted with ~700 workers engaged in heavy/moderate labour from various organised occupational sectors in India. Wet Bulb Globe Temperatures(WBGT) and heat-strain indicators such as Core-body-temperature(CBT), Heart-Rate(HR), Sweat-Rate (SwR), Urine-Specific-Gravity(USG) were measured. A questionnaire captured self-reported health symptoms of workers.

Findings About 73% of the WBGT measurements were above prescribed limits(Range:26.5°C–38.7°C) and WBGT>31.0°C was associated with significantly more heat-related health concerns among workers(89% vs 34%). Measured heat-strain indicators were above accepted levels for 60% workers, 72% had symptoms of dehydration and 49% suffered from urogenital issues. Workers had 1.4 times higher odds of heat-strain at WBGTs>29.0°C(CI 1.06 to 1.95; $p=0.019$), that was more pronounced during hotter seasons (CI 1.41 to 2.53; OR=1.9, $p<0.0001$) with significant increases in heat-related illnesses ($X^2=66.088$; $p=4.311e-16$) and productivity losses ($X^2=62.68$; $p=0.024^{*1012}$). High prevalence of kidney stones and adverse renal issues(9%) in steel industry was significantly associated with years of chronic heat exposures($t=-2.3823$, $df=66.628$, $p\text{-value}=0.02006$, 95% CI 0.44–0.03).

Conclusion The results demonstrate that high-heat conditions and minimum cooling interventions that are common in many occupations could create a 'silent epidemic' of kidney-related illnesses without appropriate work practices in tropical settings. The study results warrant an urgent need for further in-depth research with a multi-targeted seasonal approach to identify causalities and to develop and implement appropriate preventive measures to avert adverse effects of heat on the working population in the rising temperature scenario as Climate Change proceeds.

Poster Presentation Specific Occupations

0224 COMPARISON OF PREVALENCE AND ASSOCIATED FACTORS OF HYPERTENSION BETWEEN SHIP OFFICERS AND IN-LAND OFFICERS OF THE ROYAL THAI NAVY

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10.1136/oemed-2017-104636.178

Background The objective of this study was to compare prevalence and associated factors of hypertension between ship officers and In-land officers of the Royal Thai Navy.

Method This was an analytic cross-sectional study of 670 naval ship officers and 647 In-land officers in Sattahip district, Chonburi province. Data was collected by self-administered questionnaires. The blood pressure was measured and recorded by medical personnel. Data were analysed by

descriptive statistics. The prevalence of hypertension were compared by proportion test. The associated factors were analysed by multiple logistic regression.

Result Prevalence of hypertension in ship officers was 31.2 percent, statistically less than prevalence of hypertension in In-land officers which was 41.1 percent (95% CI -0.15,-0.04). The associated factors of hypertension were age (Adjusted Odds ratio=1.09; 95% CI 1.03, 1.15) and BMI (Adjusted Odds ratio=1.26; 95% CI 1.11, 1.42).

Discussion and Conclusion The prevalence of hypertension among ship and In-land officers were associated with increasing age and BMI rather than the difference of working unit. Thus, health promotion program for navy officers should emphasise on weight control especially in elder officers.

Poster Presentation Psychosocial

0225 EFFECTS OF CHANGE IN WORK ORGANISATION ON PSYCHOLOGICAL WELL-BEING: INFLUENCE OF PSYCHOLOGICAL DEMAND, DECISION LATITUDE AND SOCIAL SUPPORT

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10.1136/oemed-2017-104636.179

Consequences of organisational choices on working conditions are complex and may influence psychosocial well-being and health either positively or negatively. Changes in work organisation have been shown to be negatively associated to psychosocial experiences or health within the last French Working Condition Survey (WCS). Here we investigated how these associations were influenced by the following potential modifiers: psychological demand at work, decision latitude and social support.

Psychosocial experiences examined were overwhelmed state, gratitude, internal psychological violence, meaning of work and value conflicts. Health was approached by the WHO5 scale as well as by self-perceived health status. Logistic regressions between change in organisation and psychosocial well-being and health were carried out on the 7000 market sector employees of the WCS belonging to companies with at least 10 employees. The modifier was included in the model together with an interaction term to account for the modification effect.

High psychological demand increased the effect of change in organisation on the meaning of work. Low decisional latitude increased the effect of change in organisation on gratitude, meaning of work and value conflict and low social support increased the effect of change in organisation on gratitude and internal psychological violence.

This analysis illustrates the complexity of relationships between organisation at work and psychological well-being. More analyses will be carried out on specific types of organisation such as quality management of just-in-time management.