

번호 12-2

제 목	국문	직업적 특성과 심혈관계질환 위험요인의 관련성			
	영문	Job Characteristics and Cardiovascular Risk Factors among Korean Male Workers			
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1. 연구 목적

There is an increasingly popular formation which asserts that jobs or organizational roles which are associated with overload, excessive demands, and many responsibilities represent a high risk of physical disease, especially cardiovascular. The purpose of this study is to examine the relationship between job characteristics, smoking, psychosocial distress, overweight (BMI), lipid level (total cholesterol, triglyceride, HDL cholesterol), blood pressure, blood coagulation factor VII, VIII, and homocystein as risk factors for cardiovascular disease in Korean male workers.

2. 연구 방법

Study subjects of this study were recruited from a sample of 1,071 workers employed in 20 companies of W city and H county. They were grouped into four categories (high strain group, active group, passive group, and low strain group) based on the postulation of Karasek's Job Strain Model. Median was used as a cut point in grouping into high vs. low of two dimensions. Of them, we invited 160 male workers (40 people each subgroup) using a stratified sampling. A self-reported questionnaire was used to assess the respondents' sociodemographics, job characteristics, and the level of psychosocial distress from May to August 1998. Two dimensions of job characteristics, work demand (2 items) and decision latitude (10 items), were used by modifying Job Content Questionnaire (JCQ). The PWI (Psychosocial Well-being Index) developed by Chang was used to measure respondents' psychosocial distress. For blood analysis, respondents were subjected to fasting at least 10 hours. Blood (3 ml) was sampled from the venae brachiales of subjects and transferred to two different tubes with or without anticoagulants such as sodium citrate/EDTA. After centrifugation at 3500 rpm for 15 min, coagulation factors VII, VIII and total homocystein were measured in plasma, whereas total cholesterol, HDL cholesterol, and triglyceride were measured in serum. Factor VII and factor VIII were analyzed using one-stage assay based on prothrombin time. Age, marital status and BMI were included in the regression model as control variables.

3. 연구 결과

We analyzed the relation between job strain and cardiovascular risk factors by four job strain groups based on the postulation of the job stress model. There were significant differences in the prevalence of smoking, psychosocial distress, and the coagulation factor VIII among four groups. Cholesterol and homocystein showed mild associations with job strain ($P=0.060$ and $P=0.064$, respectively). No associations were found between job strain and systolic and diastolic blood pressure, triglyceride, HDL cholesterol, and BMI. There was in part evidence of relation between job characteristics and adverse cardiovascular risk factor levels after controlling for control variables like age, BMI, and marital status. The relation between decision latitude and adverse cardiovascular risk factors such as psychosocial distress, cholesterol, triglyceride, homocystein, and blood coagulation factors VII, VIII was consistent with the job strain hypothesis, but the relations between work demand and cardiovascular risk factors were not. Three risk factors among them, smoking, psychosocial distress, and systolic blood pressure were significantly related to work demand, but the direction of the association between systolic blood pressure and work demand was opposite to what was expected ($b=-1.97$ SE=0.95, $P<0.05$). We next examined whether workers with high job strain had greater values for cardiovascular risk factors than all other workers (low strain, passive, and active group). When this hypothesis was analyzed using a dummy variable (1=workers who reported high strain, 0=all others), job strain was significantly related to higher levels of psychosocial distress, homocystein, blood coagulation factor VII, and VIII after controlling for age, BMI and smoking.

4. 고찰

Studies on the relation of job characteristics with cardiovascular risk factors have been inconsistent. There is also a debate that whether job strain is associated with cardiovascular disease mortality through the known cardiovascular risk factors. It is interesting to find a strong association of lack of decision latitude with homocystinuria, and increased levels of blood coagulation factors. Abundant evidence has been reported connecting thrombogenic processes to the development of chronic atheromatous disease and acute coronary events, like myocardial infarction and mortality. In this study, we found stronger associations of decision latitude with blood coagulation factors and homocystein compared to those of decision latitude with known risk factors like blood pressure, cholesterol and BMI. Several pieces of evidence were provided by the relationship between lack of decision latitude and high plasma fibrinogen concentration, suggesting a link with coagulation and, accordingly, atherosclerosis.⁴⁸ The result of this study indicates that researchers need to take into account homocystein and blood coagulation factors as risk factors in examining the relation of job characteristics to cardiovascular risk factors and morbidity. It is strongly advised that investigators understand work environment as well as individual factors such as personality, socioeconomic status in relation to occupational stress and its adverse outcomes.