

Impact of Job Stress on Health

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I will introduce the results of our study on the impact of job stress on the health of Japanese workers, and will discuss a health promotion policy.

1. Effects of working long hours

Working long hours or overwork associated with long commuting hours is a key issue of the working conditions in Japan. Long hours is a primary determinant of workers' life style which is characterized for instance, by physically inactive habits. Working long hours was found to cause high blood pressure throughout the day, increased sympathetic activity, and suppressed parasympathetic activity¹⁾. This tendency was marked in hypertensive workers, suggesting that hypertensive workers are more prone to the effects of work-related stressors. Smoking at work from afternoon to night accelerated sympathetic and suppressed parasympathetic activity within 5 minutes after smoking. Smoking and long hour work until night, therefore, synergistically increase sympathetic and suppress parasympathetic activity, which might increase the risk of cardiovascular disease¹⁾.

2. Effects of increasing rest among women^{2, 3)}

Full-day shift before night duty was changed to half-day shift to increase rest before night duty among hospital nurses. Changing from full-day shift to half-day shift before night duty increased sleeping hours by about 80 min for

both the single and married groups. The wake-up time was advanced by about 1 hour forward and the influence of reversed-phase circadian rhythms on the autonomic nervous function was reduced in single nurses. However, these effects were not found in married nurses. Therefore, increased rest created by changing the shift pattern might be less effective in married nurses due to child care, housework and other responsibilities.

3. Influence of job stress on coronary risk factors

The cross-sectional data from three samples are shown in Table 1. The correlation between job strain with exercise habit was very consistent. The proportion of those having positive exercise habits in the high strain group was significantly lower than that in other groups. Our data suggest that physical inactivity in the high strain group was closely related to depressive symptoms. In the intervention study⁴⁾ on workers with obesity or mild hyperlipidemia and low HDL (Fig. 1), improvement of the HDL cholesterol level in the group with high scores for iso-strain was significantly lower than that of the other group. Fig. 2 is a schematic diagram of the relationship between job stress and health status⁵⁾. When stress in the workplace exists, the health status of workers decreases and becomes less responsive to improvements by individual based intervention. Furthermore, decreased health status caused by aging is more signifi-

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Table 1 Difference between high-strain group and the others

	SBP	DBP	T-Chol	Smoking	Exercise
sample I 1994					
men	-	-	-	-	+
n = 834					
age 47.2 ± 5.3					
sample II 1991					
men	-	-	-	-	+
n = 523					
age 48.5 ± 5.4					
sample III 1998					
men	+	+	+	+	+
n = 21267					
age 41.0 ± 9.2					
women	-	-	+	-	+
n = 3749					
age 37.0 ± 10.9					

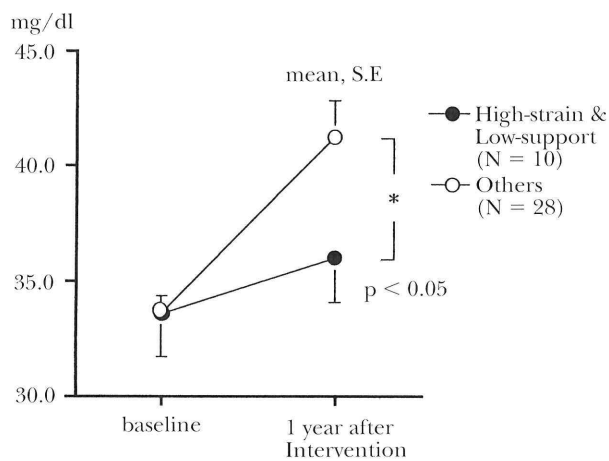


Fig. 1 Changes in HDL-Cholesterol level

cant in such environments.

4. Personal factors

After intervention serving an individual based relaxation program, the aggression & hostility, and depressive symptom score were significantly reduced. In addition, the total cholesterol level showed a significant decrease as well. Individual based stress reduction might also be effective to reduce health risks by improving the behavior or life style.

Since traditional methods to measure job stress in the workplace have mainly focused on

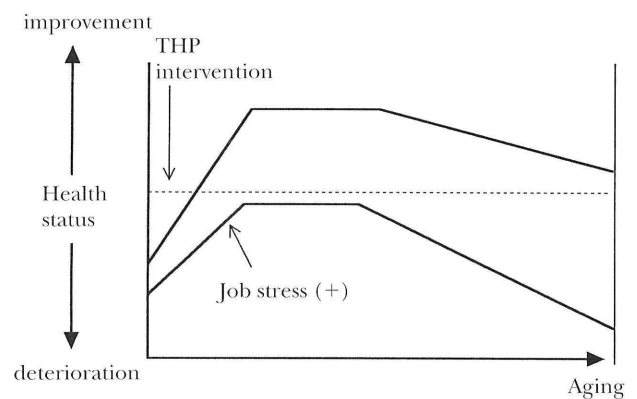


Fig. 2 A schema of the effects of job stress on the course of THP

individual based approaches, more environment and health promotion oriented approaches should be established. Total Health Promotion plan (THP), is an ongoing national campaign in work settings in Japan. The activity of THP should expand to improve job stress and mental health. Reducing the working hours, which is also a national effort might be effective to reduce the sympathetic nervous activity. Moreover if health related activities which are presently on going in the workplace, are integrated with health care, Total Health Promotion Plan, job stress measures, and promotion of comfortable work

environment, marked improvement will likely result.

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