J. Tokyo Med. Univ., 58(3): 422~427, 2000

Session II: Needs for action

### Need for Comprehensive Stress Management System

Shoji NAGATA, M.D., Ph.D. Norio MISHIMA, M.D., Ph.D. Shinya KUBOTA, Ph.D.

Department of Mental Health
Institute of Industrial Ecological Sciences
University of Occupational & Environmental Health

## Increased work stress and mental health in Japan

Expanding competition among enterprises due to globalization of the economy and the recent economic recession have caused an increased demand for economic efficiency. This situation has resulted in downsizing or restructuring of corporations, introduction of a pay system according to achievement, breakdown of the life-long employment system, excess labor and increased unemployment.

In addition to this, rapid technical innovations have increased cognitive demands to adjust to new technology. In addition, considerations of individual QOL(Quality of life) have decreased the level of social support and group conformity at workplaces. All of these factors have increased work stress in Japan<sup>1), 2)</sup>.

There are some reports indicating the negative effects of economic recession on the mental health of workers. For example, increased anxiety about job tenure, increased work load, an increased number of cases of occupational maladjustment, "burn-out" and "return-to-work difficulties". Decreased social

support and communication at workplaces have also been reported.

The Ministry of Labor in Japan has been conducting a survey of the mental and physical conditions of workers every 5 years<sup>1)</sup>. In 1997, 62.8 percent of 16,000 workers responded that they felt anxiety, worry and stress in their working life. Regarding the content of the work stress, about 40 percent of the workers had interpersonal conflicts at their workplace and 30 to 40 percent of the workers complained of a too heavy workload, both qualitatively and quantitatively. Workers who felt anxiety, worry and stress were 57.3 percent in 1992, 55.0 percent in 1987 and 50.5 percent in 1982. These results indicate the rapid increase of the workers who feel anxiety, worry and stress.

In order to evaluate the effect of work stress on the mental health of workers, we carried out a questionnaire survey on 300 employees using the Japanese version of National Institute for Occupational Safety and Health (NIOSH) Generic Job Stress Questionnaire<sup>3)</sup> and the 12-item General Health Questionnaire (GHQ)<sup>4)</sup>.

Multiple regression analysis was performed

Key words: work stress, stress management, mental health

Correspondence: Shoji Nagata, Professor, Department of Mental Health, Institute of Industrial Ecological Sciences, University of Occupational and Environmental Health, 1–1 Iseigaoka Yahatanishiku Kitakyushu City 807–8555, Japan

Email: s-nagata@med.uoeh-u.ac.jp

**Table 1** Multiple regression of the GHQ score by the scale score of the NIOSH questionnaire

Items	Regression coefficient	P
Interpersonal conf. within groups	0.1790	< 0.01
Variance in workload	0.2762	< 0.01
Self-esteem	-0.3160	< 0.01
Social support	-0.1480	< 0.05
Job satisfaction	0.1154	< 0.05

N = 300 Multiple R = 0.536 R - square = 0.301

GHQ: General Health Questionnaire,

NIOSH : National Institute for Occupational Safety and Health in USA

to clarify what are the important stress factors influencing mental health indicated by the GHQ. Workers who had high scores in "interpersonal conflict within groups" and "variance in workload" and lower scores in "self-esteem," "job satisfaction" and "social support" showed a higher score in the GHQ, which indicates mentally ill health. The regression of these 5 of the 22 factors explained about 30 percent of the GHQ score variance<sup>5)</sup> (Table 1).

These results suggest that a decrease of interpersonal conflict at work, varying the workload, and an effort to increase self-esteem, social support and job satisfaction may be necessary to improve mental health in the workplace

A large scale survey of about 23 thousand workers was conducted to explore the linkage between work stress and the depressive state in a research project sponsored by the Ministry of Labor. This study was carried out using the NIOSH questionnaire and Center for Epidemiologic Studies Depression Scale (CES-D). Job control, and support from a supervisor or co-worker showed a negative correlation with depressive state, whereas quantitative work load and job future ambiguity were positively correlated with the depressive state in all job categories<sup>2</sup>).

All of these results suggest that job control, proper work load, improvement of interpersonal conflict and development of a social support system are important to reduce the work stress.

 Table 2
 Practical approaches for stress management at work in Japan

- 1. Education regarding mental health
- 2. Active listening

training of communication skills for supervisors

3. Mentoring

approach by organization or industrial psychology

4. Relaxation

autogenic training

- 5. Management of workload ergonomical approaches
- 6. Creation of comfortable work environment
- 7. Quality control activity

good communication within group

## Active listening program as stress management in the workplace

There are many approaches for reducing work stress and preventing stress-related disorders (Table 2). Educational programs for mental health are most popular in Japan. Active listening, mentoring, leadership training and relaxation programs are used in some large companies. Creation of a comfortable work environment has been recommended and financially supported by the Ministry of Labor. The usefulness of the other approaches to stress management has also been reported. In the Japanese system of long-term employment, human relationships in the workplace play an important role in the mental health of workers. Although employment system is changing, long-term employment is still most common in Japan. We have provided the active listening programs for some large companies.

The active listening program consists mainly of relaxation and the practice of listening, which is one of the basic counseling skills and is modified for the training of managers in order to improve communication and support in the workplace<sup>3)</sup>. After the first workshop, the participants are asked to practice active listening at their workplace, after which they participate in a second workshop and evaluate their listening techniques. This is done using an scale which indicates the degree of awareness of one's individual experience and the expression of inner feelings in the conversation between listener and speaker.

After the completion of the program, 60

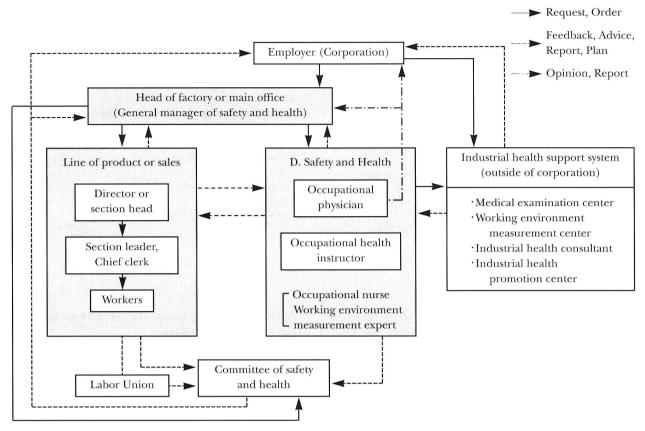


Fig 1 Occupational health management system

Table 3 Contents of approach for mental health

Companies with mental health measures	22.7%	
Contents of approaches		
Counseling srvice	36.4%	
Mental health survey	8.1	
Hearing regarding mental health at		
annual medical examination	50.8	
Educational programs for managers	14.2	
Educational programs for workers	8.0	
Educational programs for personnel		
managers	15.6	
Educational by brochures	42.3	
Recreation or sport events	60.3	
Others	7.0	

12000 companies/(Survey by Minatory of Labor)

participants were asked to answer a questionnaire on the usefulness of the active listening program as practiced at the workplace and the change in listening attitude. About 90 percent of them answered "useful" or "very useful".

After the two two day workshop, about 66 percent of the participants answered that they had changed their attitude toward listening to the opinions of their subordinates, and 41

percent are making efforts to spend more time listening to their subordinates. Twenty-five percent of them answered that they have changed their behavior in terms of over-strictness toward their subordinates.

#### Occupational health management system

Activities of working environment control, work control and health management are the core of holistic occupational safety and health management, which is prescribed by the law of industrial safety and health<sup>7), 8)</sup>. Two more activities, industrial health education and general management, were added to facilitate effective occupational health management in 1987. These activities are called the 5 activities regarding management of occupational safety and health.

In order to perform these 5 activities, employers give adequate authority to general safety and health supervisors, health supervisors, safety and health promoters, occupational physicians and others in the department of safety and health. This means that there is a need to clarify responsibilities, to establish

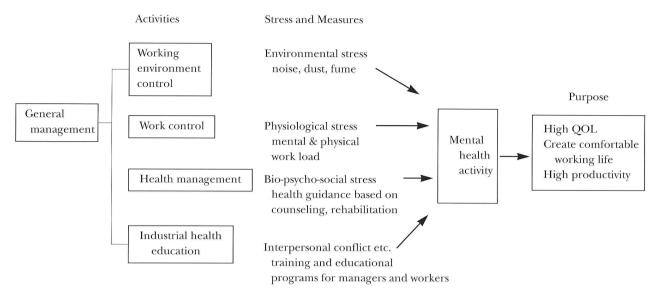


Fig 2 Relationship between occupational stress and 5 activities in occupational safety and health

organizations that promote industrial health measures in cooperation with these staff members and persons in managerial positions at work sites, and to cooperate with industrial health support systems (Fig. 1).

This occupational health management system with these activities can theoretically cope with various types of job stressors (Fig. 2).

## Present situation regarding the management of mental health

Despite the law of industrial safety and health, only 26.5 percent of 12,000 companies answered that they had incorporated mental health measures, in a report on the survey conducted by Ministry of Labor in 1997<sup>1)</sup>. A consultation or counseling service, questions regarding mental health at annual medical examination, education by brochures and recreation or sport events were relatively popular mental health activities mentioned by companies. The percentage of the companies which had incorporated the measures based on the mental health survey or systemic educational programs for managers at work sites or personnel managers were relatively low (Table 3). Similar results were reported in other surveys2). These results indicate that systemic and effective approaches to manage job stressors are really inadequate<sup>8)</sup>.

The characteristic features of approaches to mental health in Japan are summarized as follows: 1) The most popular approaches are for individual workers who are mentally ill or have problems needing consultation, or who indicate health problems when questioned or by questionnaire survey at the annual medical examination. 2) Systemic preventive approaches such as work control, working environment control, and systemic and continuos educational programs as leadership training, active listening and counter measures based on stress surveillance, are inadequate. 3) The evaluation systems for these interventional approaches are also inadequate<sup>8)</sup>.

# Forthcoming problems and needs for comprehensive stress management

According to the survey regarding future employment systems administrated by the Ministry of Labor in Japan, about 80% of employers intended to introduce the pay system according to achievement instead of the seniority system, and about 20% of large companies have already inducted this system at the time of a survey in 1998<sup>1)</sup>.

Introduction of this pay and new evaluation system may cause some problems such as an interpersonal conflict or dissatisfaction of work linked to the inconsistency between personnel managers and workers, or between supervisors and workers regarding a worker's achievement or promotion. Other problems will be an increased work load and diminished social support in the workplace because of higher competition within the workplace.

Table 4 Forthcoming problems and counter measures

Issues	Problems	Measures	Division in charge		
			Н	P	M
Pay according to achievement	Inconsistency of evaluation	Fair, transparent evaluation system		0	0
	Break down of seniority	Reconfirm of self-identity Reconstruction of	$\circ$	0	0
		life planning	$\bigcirc$	$\circ$	
Latitude in Overtime work working hours	Overtime work	Consideration for workload Support by	0	0	0
		information technology		0	
		Long vacation	$\circ$	$\circ$	0
Transfer or personnel reshuffle	Occupational maladaptation	Hearing Change of position	$\circ$	0	0
	High risk job	Informed consent	$\circ$	Ŏ	
Individualism	Discordance in groups	Participation to decision at work	0	0	
Downsizing	Increased work load Lack of social support	Support system Evaluation system including support	0	0	C

H : Health care center, P : Personnel office, M : Managers

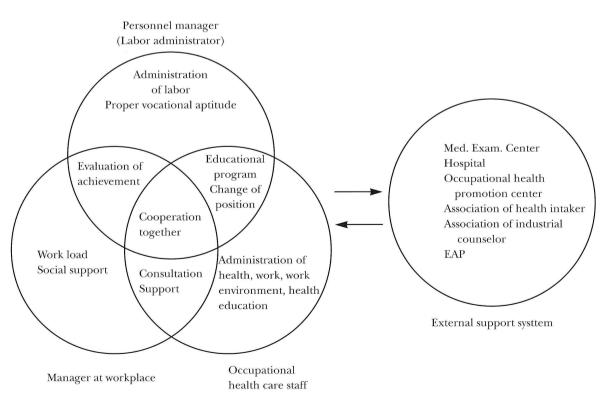


Fig 3 Comprehensive stress management and cooperation among related divisions

Counter measures for these problems are introduction of a fair and transparent evaluation system, and informed consent regarding the simulated time course of future salaries and breakdown of the seniority system after the introduction of this system.

There are predictable problems which are closely related to job stress, such as downsizing and restructuring of companies, overtime work, temporary transfer, and increased individualism etc. (Table 4). All of these problems and counter measures are deeply related to the role of personnel managers and persons in managerial positions in the workplaces as well as health care staff members. Therefore, cooperation among these three sections is essential for preventive stress management. In addition to the performance of each role and cooperation among these sections, support from external support systems such as medical examination centers, hospitals, regional occupational health promotion centers, association of health intakers, association of industrial counselor and employee assistance programs, are also very important for effective stress management (Fig. 3).

In conclusion, the comprehensive stress management system which we mentioned above is needed to cope with forthcoming job stress.

#### References

- 1) Ministry of Labor in Japan (eds). : A white book on Labor. Tokyo, Japan Industrial Research Organization, 1998
- 2) Kato S (eds).: Annual report in 1997 regarding project research "Prevention of work-related disorders" sponsored by Ministry of Labor in Japan. Tokyo, Tokyo Medical School, 1997
- 3) Haratani T, Kawakami N, Araki S et al.: Psychometric features of the Japanese version of National Institute for Occupational Safety and Health (NIOSH) Generic Job Stress Questionnaire. Sangyo Eiseigaku Zasshi 37: 1568, 1995
- Iwata N, Okuyama Y, Kawakami Y et al. The twelve-item general health questionnaire among Japanese workers. Environ Sci, Hokkaido University 11: 1~10, 1998
- 5) Mishima N, Nagata S, Kubota S et al.: Occupational stress and mental health. Jpn J psychosom Med **36**: 145~151, 1996
- 6) Kubota S, Mishima N, Ikemi A, Nagata S: A research in the effects of active listening on corporate mental health training. J Occup Health **39**: 274~279, 1997
- 7) Labor Standard Bureau, Ministry of Labor in Japan (eds).: General guidebook on industrial health (English Version). Tokyo, Japan Industrial Safety and Health Association
- 8) Nagata S: Occuaptional health management system and present situation of mental health in Japan. Sangyo Seishin Hoken 6: 209~214, 1998