

Case Study

A Mental Health Care Program and Sickness Absence in a Japanese Manufacturing Plant

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After the Japanese government initiated the Total Health Promotion Plan in 1988¹, which included psychological consultations at worksites, the actual number of such consultations carried out was extremely low. In 1997, the Ministry of Labour found that only 26.5 % of companies performed mental health care programs, and that where programs did exist, they consisted of sport/recreation (52.6%), interviews during annual health checkups (50.1%), employee education through leaflets (40.1%), and lectures for management (13.2%)^{2,3}. Therefore, in 2000 the Ministry formulated guidelines for the promotion of workers' mental health at workplaces focusing on four key categories in key areas: improvement of the work environment, education/training, health care for stress, and mental health services^{1,4}. The guidelines also provided a framework for mental health care to be performed by employees and managers in conjunction with both on-site and off-site occupational health care professionals. Much importance will be attached to the mental health care for workers in Japanese companies.

The relationship between the mental health services and absenteeism has been investigated previously in other countries^{5–8}. Several studies found that absenteeism among clients declined after treatment and these reductions were maintained for five years after treatment, in which mental health care programs were alcohol specific programs in which supervisors referred employees with problems for treatment^{5–7}.

In Japan, only one study has ever evaluated the relationship between a work-related stress reduction program and sickness absence, but in the study sickness

absence data were collected by means of a self-reporting questionnaire and not verified by a medical certification⁹.

We studied the trend in sickness absence 2.5 yr before and after the introduction of a mental health care program at a manufacturing plant in the Kanto area.

Methods

The mental health care program (MCaP)

The MCaP was created to decrease sickness absence caused by mental disorders and contained three main procedures: a social support improvement program (SSP), a treatment support program (TSP), and a manager education program (MEP). The MCaP commenced in October 1994 (Fig. 1).

The occupational physician (OP) and the occupational health nurses (OHNs) conducted the SSP and TSP for the employees with mental disorders and the OP and clinical psychologist (CP) headed the MEP for all managers in the plant.

At annual health checkups the same OHNs and OP carried out semi-structured interviews, and then the OP diagnosed the mental and physical health risks of all the employees by standardized evaluations with reference to the OHNs' reports. The OHNs had been lectured on the interview skills by the OP. When the OP found employees at risk of becoming mentally ill, which could impair their ability to work, they were referred to off-site medical resources such as psychiatric or psychosomatic specialists. These experts made a more comprehensive examination and reported their diagnosis, with the employee's informed consent, back to the on-site health care staff who then started appropriate SSP and TSP.

In the SSP the OP and the OHNs advised employees with mental disorders on seeking further social support. They performed standardized and semi-structured interviews with the employee on his familial and official relationships and where necessary mediated between the employee and family members or his managers with his consent. The OP advised, facilitated communication with his family, and explained the nature of his disease, according to the prescribed method of treatment. This intervention was standardized.

In the TSP the OP and the OHNs supported and encouraged the employee with mental disorders to remain committed to, and comply with, the treatment prescribed by his own physician. They performed standardized and semi-structured interviews with him about the degree of communication with his physician, his understanding of the treatment, and advice on lifestyle given by his physician. They then went on to give him additional information on his illness, healthier lifestyles, and advice on communicating with his physician, according to his physician's treatment.

In the MEP the OP and CP gave a series of standardized lectures to managers. The CP educated them on the basic

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Fig. 1. Mental health care program in a manufacturing plant

skills of active listening, controlling work stress among employees, and how to easily check employees' mental health status. The OP lectured them about how to cooperate with the health care section on their return-to-work.

Study subjects

The field of our study was a plant which produced industrial chemicals in the Kanto area and employed about two thousand workers in 1992. Their age strata were 18–29 yr-old (20.7%), 30–39 yr-old (26.1%), 40–49 yr-old (43.8%), and 50–59 yr-old (9.4%).

The subjects were 1,259 male employees who were working in the plant from April 1992 to March 1997 and were 82.3% of the male employees enrolled in 1992. Their mean age (\pm SD) was 37.6 ± 9.6 yr-old in 1992. Female employees were excluded due to their small sample size.

Outcome measures

The sickness absence per worker was determined by consecutive days calculated from the medical certification made by physicians. In the manufacturing plant, employees who took entitled holidays to treat illness submitted a medical certificate to the health care section.

We referred to previous studies^{10, 11}) and calculated the duration of sickness absence and sickness absence day rate, which were defined as:

Duration of sickness absence = Cumulative duration of sickness absence during the observed period

Sickness absence day rate = (Total duration of sickness absence during the observed period) / (The number of persons observed \times 365 \times 2.5)

The periods observed = From April 1992 to September 1994 and from October 1994 to March 1997

Sickness absence was subcategorized into non-mental disorders and mental disorders by OP's interview records or by medical certificates submitted to the health care section. We defined mental disorders as those classified from F10 to F59 in the ICD-10¹²). The diagnoses as mental disorders included alcohol dependence, schizophrenia, depression, depressive state, reactive depression, neurosis, autonomic dysfunction, psychosomatic disorders, and neurasthenia. Non-mental disorders included musculoskeletal, cardiovascular,

cerebrovascular, respiratory, and digestive diseases.

We also classified duration of sickness absence as short sickness absence (<75 d) and long sickness absence (\geq 75 d) to compare the distribution of sickness absence before the program's introduction with that after it. We employed the same standard point of 75 d per 2.5 yr (= 30 d per yr) that was used in a previous study¹³).

Statistical analysis

With the agreement of the manufacturing plant officials we compared prior sickness absence from April 1992 to September 1994 with that of the mental health care program period from October 1994 to March 1997.

The difference in the sickness absence day rate before and after the program's introduction was compared by the Mantel-Haenszel chi-square test with a stratification by four age stratifications (18–29, 30–39, 40–49, 50–59).

Data were analyzed with SPSS version 10.0 J.

Results

Sickness absence day rates due to mental disorders decreased significantly from 0.06% before the program's introduction to 0.03% after but the sickness absence day rate due to non-mental disorders increased significantly from 0.17% before the introduction to 0.29% after. The sickness absence day rate due to all disorders also increased significantly from 0.23% to 0.31% (Table 1).

In short sickness absence, sickness absence day rates due to mental disorders increased from 0.01% to 0.03%, whereas that due to non-mental disorders decreased from 0.14% before to 0.08% after the program's introduction (Table 2).

Nevertheless, in long sickness absence, the sickness absence day rate due to mental disorders decreased from 0.05% to 0%, whereas that due to non-mental disorders increased from 0.04% before to 0.21% after the program's introduction (Table 3).

Discussion

It has been difficult to investigate the sickness absence of Japanese worksites, especially sickness absence due to mental disorders, as the Japanese business culture has a strong tendency to hide employees' health status for reasons of privacy protection. The situation is further complicated by the difficulty in distinguishing between

Table 1. Sicknees absence day rate before and after the mental health care program

	Before	After	
Mental disorders	0.06%	0.03%	***
Non-mental disorders	0.17%	0.29%	***
All disorders	0.23%	0.31%	***

1)***: $p < .001$ by the Mantel-Heanszel chi-square test with stratification by age group.

Table 2. Sickness absence day rate in short sickness absence (<75 d) before and after the mental health care program

	Before	After
Mental disorders	0.01%	0.03%
Non-mental disorders	0.14%	0.08%
All disorders	0.14%	0.11%

sickness absence and entitled holidays which are often used to cover periods of illness¹⁸). We therefore considered the use of medical certification to be a more reliable indicator of sickness absence.

During the period observed there had been no such organizational or psychosocial changes at least in the company (re-organization or lay-offs) which would have contributed effectively to sickness absence¹⁴⁻¹⁷).

We studied the trends in sickness absence during a short period (2.5 yr) both before and after the program's introduction. Most previous studies investigated sickness absence for 1-5 yr after programs were introduced^{5-9, 19}). Our period of observation was considered to be sufficient for our purpose.

We found that the sickness absence day rate due to all disorders increased significantly from before the introduction of the program to that of after. This finding was considered to result from aging of the subjects and the pre-return-to-work interviews by the OP, in which the OP interviewed and diagnosed the physical and mental status of the employees on sickness absence. If they exhibited lower physical or mental activities than those needed for the work, the company recommended them to prolong their sickness absence to recover more fully.

In our results, the reduction in short sickness absence due to all disorders after the introduction also was compatible with Kawakami's study⁹), in which the stress reduction program submitted to the supervisors decreased the short duration of absence due to sickness in a manufacturing company.

The TSP was performed to improve communication in health professional-patient relationships. Few studies have investigated the effect of improving health

Table 3. Sickness absence day rate in long sickness absence (≥ 75 d) before and after the mental health care program

	Before	After
Mental disorders	0.05%	0%
Non-mental disorders	0.04%	0.21%
All disorders	0.09%	0.21%

professional-patient communication but it was considered to be empirically related to the treatment.

The SSP was carried out to ensure that an employee with a mental disorder had more social support from his family and managers, which correlated with the recovery from clinical depression and the reduced stress reactions through improvement of work environment by managers in previous studies^{9, 20}). Family members have been identified as the first line of defense in supporting other family members in a crisis. They affect patients' health habits, their ability to cope with illness, and their compliance with treatment²¹). The SSP was considered to improve family members-doctor communication, and to have a favorable effect on the treatment of mental disorders.

The MEP was also considered to facilitate an early linkage between employees with mental diseases and off-site medical resources, their early return-to-work, and to exert a favorable influence on the duration of sickness absence due to mental diseases.

The present study had two limitations. The first was that the present study had a pre-experimental design with no reference. We could not entirely remove the different factors from the MCAp affecting changes in sickness absence or reveal the precise relationship between the MCAp and the sickness absence. Further studies should investigate the relationship between sickness absence and mental health care programs according to the guidelines for the promotion of workers' mental health at work¹) by well-designed methods.

Another limitation was the possibility of a misclassification of sickness absence, although we sought to divide sickness leave into mental and non-mental categories as accurately as possible based on medical certificates and OP's interview records.

In conclusion, the trends in sickness absence due to mental disorders changed in the 2.5 yr after the introduction of a mental health care program which consisted of SSP, TSP, and MEP at a Japanese worksite. Further study should investigate the relationship between sickness absence and the mental health care program with reference to our study by a well-designed method.

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