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Working Conditions and Coping Profiles Relating to Job Satisfaction in Japanese Physicians Allied with Medical and Surgical Departments in Large Scale Municipal Hospitals

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Abstract

Objectives: To evaluate the differences in working conditions and coping profiles relating to job satisfaction between Japanese physicians allied with internal medicine related and surgery related departments. **Methods:** A self-administered questionnaire survey was performed among 132 male physicians working in two large scale municipal hospitals. **Results:** Concerning working conditions, only in physicians allied with internal medicine related departments (Group M, N = 66), daily hours allotted for lunch time, break, etc. were significantly longer, and daily visual display terminal usage hours were significantly shorter in the subgroup with job satisfaction, compared with those in the subgroup with dissatisfaction ($p < 0.05$). Only among physicians allied with surgery related departments (Group S, N = 66), daily numbers of taking charge of inpatients in the subgroup with job satisfaction were significantly larger in the satisfied group compared to the dissatisfied group ($p < 0.01$). In Group S after adjusted for score of burnout, degree of stress (%) and daily numbers of taking charge of inpatients, scores of physical demands and work environment stress in the subgroup with job satisfaction were significantly lower than those in the subgroup with job dissatisfaction ($p < 0.01$ or $p < 0.05$). In addition, score of coworker support in the subgroup with job satisfaction was significantly higher than those in the subgroup with job dissatisfaction ($p < 0.05$). After adjusted for factors described above either in Group M or Group S there were no significant differences in the scores of any coping between the subgroups with job satisfaction and dissatisfaction. **Conclusion:** These results suggest that there might be some differences in the working conditions related to job satisfaction between Japanese physicians allied with internal medicine related and those allied with surgery related departments.

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—Key words—

Job satisfaction, Physicians, Working condition

Introduction

Some recent studies have reported decline job satisfaction among physicians in many countries including Japan^{1)~3)}. Physician resignations have resulted in a number of hospitals curtailing or even failing to provide services in Japan¹⁾.

A lot of researches indicate a strong relationship between low levels of physicians' satisfaction, burnout^{4)~6)}, intention to leave^{7)~9)}, and job turnover³⁾¹⁰⁾¹¹⁾. In addition, several studies show that higher physicians' satisfaction is linked to patients' satisfaction and outcomes^{12)~14)}.

Several factors relating to working conditions have been identified to be associated with physician job satisfaction in other countries^{15)~17)}. These working conditions include, for instance, career satisfaction and relationships with patients and staff. However, there are only a few reports on the working conditions relating to job satisfaction among Japanese physicians. Recently, Wada et al¹⁸⁾ reported that job satisfaction was associated with fair income for men and women. As for men, physicians' job satisfaction was associated with good hospital

resources, high career satisfaction, good relationships with physicians' colleagues and good relationships with hospital staff. For women, job satisfaction was associated with patients.

It is well known that physicians' work content is considerably different according to the clinical departments⁴⁾⁻¹³⁾. Therefore, it seems that working conditions influencing to job satisfaction among Japanese physicians are different not only by sex, but also by the clinical departments where physicians belong to.

Coping an important factor affecting stress reactions, was defined by Dewe et al¹⁹⁾ as being the cognition and behaviors adopted by the individual following the recognition of a stressful encounter and, in some way, designed to deal with that encounter or its consequences. There were few studies on the relationship between job satisfaction and coping profile among physicians in Japan. Shimizu and Nagata²⁰⁾ reported that coping skills such as work system improvements, consultations and communication in the community and company influenced job satisfaction among full-time occupational physicians. Consultations and communication in the community and company are associated with the "support seeking" or "social support" type of coping which previous studies have been shown to have positively influenced job satisfaction²⁰⁾²¹⁾.

In this study, we compared the working conditions and coping profiles relating to job satisfaction between Japanese physicians allied with internal medicine related and surgery related departments in Japanese large scale municipal hospitals.

Subjects and Methods

Subjects and questionnaire

This study was conducted among 234 physicians (excluding residents) working in the large scale municipal hospitals A and B located in the central part of Japan. Through the personal sections of the two hospitals, a self-administered questionnaire was distributed and collected. It consisted of: not requiring a signature covering sex, age, body dimensions, occupational career, monthly working days, days off and night duties, daily and weekly effective working hours, daily hours for lunch time, break, etc., daily hours for on call, daily total staying hours in the hospital, daily personal computer usage hours, weekly numbers of outpatients to examine, daily numbers of taking charge of inpatients, monthly operation numbers, lifestyles (Morimoto's 8 items²²⁾ such as smoking, alcohol drinking and physical exercise), degree of stress (%) assessed by visual analogue scale, Brief Job Stress Questionnaire developed by the former Japan Ministry of Labour {17 items considered as the causes of the stress; 29 psychosomatic reactions caused by stress; and 10 other items that influence stress reactions (stress relieving items); total 56 items}²³⁾, 21 items from the Japanese translation version of the Pines Burnout Measure²⁴⁾, Brief Scales for Coping Profile (18 items) developed by Kageyama et al²⁵⁾, mental condition (3 items), and events during the one month preceding the investigation (18 items).

The responses for each item in the Brief Job Stress Questionnaire²³⁾ were obtained by using a 4-point Likert scale (1-4). According to the criteria, scores of 9 factors considered as the causes of the stress {psychological job demands (quantity), psychological job demands (quality), physical demands, human relations stress in the workplace, work environment stress, job control, skill application, job aptitude, and job worthwhileness}, 6 factors concerning the psychosomatic reactions caused by stress (vitality, irritability, fatigue, anxiety, depressive mood, and physical complaints), and 3 factors concerning the stress relieving (supervisor support, co-worker support, and family and friend support) were calculated.

Concerning the Pines Burnout Measure²⁴⁾, the responses for each item were obtained by using a 7-point Likert scale (1-7). According to the criteria, scores of burnout were calculated.

The responses for each item in the Brief Scales for Coping Profile²⁵⁾ were obtained by using a 4-point Likert scale. According to the criteria proposed by Kageyama et al, scores of 6 factors concerning the coping profile (active solution, avoidance and suppression, changing mood, changing a point of view, seeking help for solution, and emotional expression involving others) were calculated.

To measure job satisfaction, we used a 4-point Likert scale for overall job satisfaction, in which a response of "unsatisfied" was scored as 1, and response of "satisfied" was scored as 4. Physicians who were satisfied with their job were defined as those who answered "satisfied" and "just satisfied".

One hundred and fifty five subjects (132 males and 23 females) (66.2%) replied to the questionnaire. In

Table 1 Characteristics of the subjects allied with internal medicine and surgery related departments

Department: Group:	Internal medicine		Surgery	
	Job satisfaction (N = 47)	Job dissatisfaction (N = 19)	Job satisfaction (N = 45)	Job dissatisfaction (N = 21)
	Mean ± SD (Range)	Mean ± SD (Range)	Mean ± SD (Range)	Mean ± SD (Range)
Age (years)	40.4 ± 10.4 (26-62)	42.6 ± 8.3 (31-60)	38.5 ± 8.9 (27-62)	42.2 ± 9.1 (29-62)
Occupational career (years)	15.2 ± 10.6 (2.1-38)	17.9 ± 8.5 (5-35)	13.4 ± 8.7 (2.9-38)	16.9 ± 8.3 (4.1-32)
Monthly working days	25.0 ± 3.4 (20-31)	25.3 ± 3.9 (20-31)	25.4 ± 4.2 (10-31)	24.8 ± 3.3 (20-31)
Monthly night duties	1.9 ± 2.0 (0-8)	1.9 ± 2.2 (0-8)	1.7 ± 1.5 (0-9)	1.9 ± 2.6 (0-11)
Monthly days off	5.5 ± 2.8 (0-10)	4.9 ± 3.4 (0-10)	4.3 ± 2.8 (0-10)	4.8 ± 2.5 (0-9)
Daily effective working hours	11.9 ± 2.2 (8-16)	11.6 ± 2.0 (8-15)	11.1 ± 2.0 (7-15)	11.1 ± 1.4 (9-14)
Weekly effective working hours	68.6 ± 16.5 (37.9-112)	68.8 ± 18.6 (40.0-105)	67.4 ± 16.8 (36.3-105)	65.2 ± 12.6 (47.8-98)
Daily hours for lunch time, break and etc.	0.9 ± 0.3 (0.3-1.5) *	0.7 ± 0.3 (0-1)	0.6 ± 0.4 (0-1.5)	0.7 ± 0.4 (0-1.5)
Daily hours for on call	0.5 ± 1.0 (0-6)	0.3 ± 0.5 (0-2)	0.8 ± 2.4 (0-16)	0.3 ± 0.5 (0-1.5)
Daily hours for study by oneself	0.9 ± 0.8 (0-4)	0.7 ± 0.8 (0-3)	0.8 ± 0.6 (0-2.5)	0.5 ± 0.6 (0-2)
Daily hours for staying in the hospital due to other reasons except above	0.5 ± 1.8 (0-12)	0.2 ± 0.4 (0-1.5)	0.3 ± 0.6 (0-2)	0.7 ± 2.2 (0-10)
Daily total staying hours in the hospital	13.7 ± 2.5 (9.0-22)	12.9 ± 2.0 (8.5-17)	12.8 ± 1.9 (9.0-19)	13.4 ± 2.4 (11-22)
Daily sleeping hours	5.9 ± 1.0 (3-8)	6.1 ± 0.8 (5-8)	6.0 ± 0.8 (4.5-8)	5.8 ± 0.8 (4-7)
Daily smoking numbers	3.2 ± 6.2 (0-20)	2.5 ± 6.3 (0-20)	2.6 ± 6.0 (0-20)	0.8 ± 2.5 (0-10)
Weekly drinking days	1.1 ± 0.9 (0-3.3)	1.1 ± 1.1 (0-3.8)	0.7 ± 0.7 (0-2.5)	1.5 ± 1.9 (0-7.6)
Daily alcohol intake (g)	29.5 ± 25.5 (0-88)	29.6 ± 30.4 (0-103)	19.3 ± 18.5 (0-68)	41.1 ± 52.6 (0-205)
Drinking amount (Japanese Sake, gou/d) §	0.8 ± 0.4 (0-1)	0.8 ± 0.4 (0-1)	1.0 ± 0.2 (0-1)	0.7 ± 0.5 (0-1)
Score of life style (Morimoto's 8 items)	4.5 ± 1.5 (2-7)	4.3 ± 1.3 (2-7)	4.6 ± 1.3 (2-7)	4.4 ± 1.1 (2-6)
Daily VDTuse hours	4.2 ± 2.9 (0.5-14) *	6.0 ± 2.7 (1-11)	3.4 ± 2.3 (0.5-12)	2.8 ± 1.8 (0.3-6)
Score of burnout	2.8 ± 0.9 (1.4-5.2) **	4.6 ± 1.2 (2.4-6.7)	2.8 ± 1.0 (1.1-6) **	3.8 ± 1.2 (1.2-6.2)
Degree of stress (%)	60.5 ± 19.9 (20-100) *	74.6 ± 18.2 (40-100)	47.1 ± 24.1 (0-80) **	72.9 ± 14.1 (50-100)
Weekly numbers of outpatients to examine	78.6 ± 50.4 (0-240)	115.2 ± 105.4 (0-500)	71.3 ± 39.9 (10-170)	69.8 ± 64.9 (0-220)
Daily numbers of taking charge of inpatients	7.7 ± 5.0 (0-15)	7.7 ± 6.5 (0-20)	8.4 ± 6.1 (0-40) **	3.8 ± 4.1 (0-15)
Monthly operation numbers	2.1 ± 6.6 (0-30)	5.3 ± 13.2 (0-50)	14.5 ± 9.2 (0-50)	17.0 ± 11.5 (0-41)

Significant differences between the two groups; *p<0.05, **p<0.01

§: one "gou" is about 180 ml.

analysis, we used only the obtained data from male subjects.

In analysis, the subjects were divided into two groups; "physicians allied with internal medicine related departments such as internal medicine, pediatrics, dermatology, psychiatry, etc. (Group M)" and "physicians allied with surgery related departments such as general surgery, pediatric surgery, thoracic surgery, otolaryngology, ophthalmology, etc" (Group S).

The study was approved by the Ethical Committee of Gifu University Graduate School of Medicine.

Statistics

The significance of differences between two groups was tested using χ^2 test, t-test and analysis of covariance (ANCOVA). When the frequency was low (below 5), Fisher's exact test was used. The significance level was set at p<0.05. Statistical analysis was conducted with the SPSS software, version 12 (SPSS, Inc., Chicago, IL).

Results

The factor of "satisfied with the job" was reported by 47 (71.2%) physicians allied with internal medicine related departments and 45 (68.2%) subjects allied with surgery related departments. In the proceeding results, the physicians in each group were divided into two subgroups on the basis of their job satisfaction or dissatisfaction.

There were no significant differences in the percentages of subjects satisfied with their job in any rank between hospitals A and B.

Table 1 shows the characteristics of the subjects. Among both Groups M and S, score of burnout and degree of stress (%) were significantly lower in the subgroup with job satisfaction compared to the subgroup with job dissatisfaction (p<0.05 or p<0.01). Only in Group M, daily hours for lunch time, break and etc. in the subgroup with job satisfaction were significantly longer than those in the subgroup with job dissatisfaction

Table 2 Scores of the factors considered as the causes of the stress among subjects allied with internal medicine and surgery related departments

Department: Group:	Internal medicine		Surgery	
	Job satisfaction (N = 47)	Job dissatisfaction (N = 19)	Job satisfaction (N = 45)	Job dissatisfaction (N = 21)
	Estimated marginal mean \pm SE (95%CI)	Estimated marginal mean \pm SE (95%CI)	Estimated marginal mean \pm SE (95%CI)	Estimated marginal mean \pm SE (95%CI)
Psychological job demands (quantity)	10.3 \pm 0.3 (9.7-11)	10.4 \pm 0.6 (9.3-11.5)	9.8 \pm 0.3 (9.3-10.3)	9.1 \pm 0.4 (8.3-9.9)
Psychological job demands (quality)	10.2 \pm 0.3 (9.7-11)	10.9 \pm 0.5 (9.9-11.9)	10.1 \pm 0.3 (9.6-10.6)	10.3 \pm 0.4 (9.5-11.1)
Physical demands	2.8 \pm 0.2 (2.5-3.1)	2.7 \pm 0.3 (2.2-3.3)	3.0 \pm 0.1 (2.8-3.2) *	3.4 \pm 0.2 (3.1-3.7)
Human relations stress in the workplace	5.8 \pm 0.2 (5.3-6.3)	6.0 \pm 0.4 (5.1-6.9)	5.9 \pm 0.3 (5.3-6.4)	6.7 \pm 0.4 (5.9-7.5)
Work environment stress	1.9 \pm 0.1 (1.6-2.2)	2.4 \pm 0.3 (1.9-3.0)	2.1 \pm 0.1 (1.9-2.4) **	2.9 \pm 0.2 (2.4-3.3)
Job control	7.6 \pm 0.3 (7.0-8.2)	7.0 \pm 0.6 (5.8-8.1)	7.6 \pm 0.3 (7.0-8.3)	7.2 \pm 0.5 (6.2-8.2)
Skill application	3.3 \pm 0.1 (3.1-3.5)	3.3 \pm 0.2 (2.9-3.7)	3.2 \pm 0.1 (2.9-3.4)	3.5 \pm 0.2 (3.1-3.8)
Job aptitude	3.0 \pm 0.1 (2.8-3.2) *	2.6 \pm 0.2 (2.2-2.9)	3.2 \pm 0.1 (2.9-3.4)	2.7 \pm 0.2 (2.4-3.1)
Job worthwhileness	3.3 \pm 0.1 (3.1-3.5) **	2.6 \pm 0.2 (2.3-3.0)	3.3 \pm 0.1 (3.1-3.5) *	2.9 \pm 0.2 (2.5-3.2)

Adjusted for daily hours for lunch time, break and etc., daily VDTuse hours, score of burnout and degree of stress (%) in the subjects with internal medicine related departments.

Adjusted for score of burnout, degree of stress (%) and daily numbers of taking charge of inpatients in the subjects with surgery related departments.

Significant differences between the two subgroups: * $p < 0.05$, ** $p < 0.01$

Table 3 Scores of the psychosomatic reactions caused by the stress among physicians allied with internal medicine and surgery related departments

Department: Group:	Internal medicine		Surgery	
	Job satisfaction (N = 47)	Job dissatisfaction (N = 19)	Job satisfaction (N = 45)	Job dissatisfaction (N = 21)
	Estimated marginal mean \pm SE (95%CI)	Estimated marginal mean \pm SE (95%CI)	Estimated marginal mean \pm SE (95%CI)	Estimated marginal mean \pm SE (95%CI)
Vitality	6.2 \pm 0.3 (5.5-6.8)	5.6 \pm 0.6 (4.4-6.8)	6.4 \pm 0.3 (5.8-6.9)	6.0 \pm 0.5 (5.1-6.9)
Irritability	6.7 \pm 0.4 (6.0-7.4)	7.3 \pm 0.7 (6.0-8.6)	6.6 \pm 0.3 (6.0-7.2) *	8.0 \pm 0.5 (7.0-9.0)
Fatigue	7.7 \pm 0.3 (7.0-8.4)	7.5 \pm 0.6 (6.2-8.7)	6.7 \pm 0.3 (6.0-7.4)	6.8 \pm 0.6 (5.7-8.0)
Anxiety	6.9 \pm 0.3 (6.2-7.6)	7.0 \pm 0.6 (5.7-8.2)	6.0 \pm 0.3 (5.4-6.5)	6.9 \pm 0.5 (6.0-7.8)
Depressive mood	9.9 \pm 0.4 (9.0-11) *	12.0 \pm 0.8 (10.4-13.6)	9.3 \pm 0.4 (8.5-10)	10.5 \pm 0.6 (9.3-11.6)
Physical complaints	18.6 \pm 1.0 (17-21)	18.7 \pm 1.8 (15.2-22.2)	17.6 \pm 0.8 (16.0-19.3)	18.3 \pm 1.3 (15.7-20.9)

Adjusted for daily hours for lunch time, break and etc., daily VDTuse hours, score of burnout and degree of stress (%) in the subjects with internal medicine related departments.

Adjusted for score of burnout, degree of stress (%) and daily numbers of taking charge of inpatients in the subjects with surgery related departments.

Significant differences between the two subgroups: * $p < 0.05$

($p < 0.05$). Daily VDT use hours in the subgroup with job satisfaction were significantly shorter than those in the subgroup with job dissatisfaction ($p < 0.05$). Only in Group S, daily numbers of taking charge of inpatients were significantly larger in the subgroup with job satisfaction compared to the subgroup with job dissatisfaction ($p < 0.01$).

Table 2 shows the scores of the factors considered as the causes of the stress among subjects. In Group M after adjusted for daily hours for lunch time, break and etc., daily VDT use hours, score of burnout and degree of stress (%), scores of job attitude and job worthwhileness in the subgroup with job satisfaction were significantly higher than those in the subgroup with job dissatisfaction ($p < 0.01$ or $p < 0.05$). Also in Group S after adjusted for score of burnout, degree of stress (%) and daily numbers of taking charge of inpatients, score of job worthwhileness in the subgroup with job satisfaction was significantly higher than that in the subgroup with job dissatisfaction ($p < 0.05$). In addition, scores of physical demands and work environment stress in the subgroup with job satisfaction were significantly lower than those in the subgroup with job dissatisfaction ($p < 0.01$ or $p < 0.05$).

Table 3 shows the scores of the psychosomatic reactions caused by the stress among subjects. In Group M after adjusted for daily hours for lunch time, break and etc., daily VDT use hours, score of burnout and degree

Table 4 Scores of the factors which relieve the stress among subjects allied with internal medicine and surgery related departments

Department: Group:	Internal medicine		Surgery	
	Job satisfaction (N = 47)	Job dissatisfaction (N = 19)	Job satisfaction (N = 45)	Job dissatisfaction (N = 21)
	Estimated marginal mean \pm SE (95%CI)	Estimated marginal mean \pm SE (95%CI)	Estimated marginal mean \pm SE (95%CI)	Estimated marginal mean \pm SE (95%CI)
Supervisor support	8.4 \pm 0.4 (7.6–9.1)	7.2 \pm 0.7 (5.8–8.5)	8.3 \pm 0.3 (7.6–8.9)	7.1 \pm 0.5 (6.1–8.1)
Coworker support	8.6 \pm 0.3 (8.0–9.2)	7.6 \pm 0.6 (6.5–8.8)	8.8 \pm 0.3 (8.2–9.4) *	7.3 \pm 0.5 (6.3–8.3)
Family and friend support	9.7 \pm 0.3 (9.0–10)	9.8 \pm 0.6 (8.5–11.0)	9.7 \pm 0.3 (9.1–10.3)	10.5 \pm 0.5 (9.6–11.5)

Adjusted for daily hours for lunch time, break and etc., daily VDTuse hours, score of burnout and degree of stress (%) in the subjects with internal medicine related departments.

Adjusted for score of burnout, degree of stress (%) and daily numbers of taking charge of inpatients in the subjects with surgery related departments.

Significant differences between the two subgroups; * $p < 0.05$

Table 5 Prevalence of work-related events during the one month preceding the investigation in physicians allied with internal medicine related departments

Group:	Job satisfaction (N = 47)	Job dissatisfaction (N = 19)
	N (%)	N (%)
Big disease or injury	0 (0.0)	0 (0.0)
Traffic accident resulting in injury or death	0 (0.0)	0 (0.0)
Thing loss by traffic accident	1 (2.1)	0 (0.0)
Medical accident	1 (2.1)	0 (0.0)
Close to medical accident**	9 (19.1)	12 (63.2)
Asked the responsibility of the medical accident	0 (0.0)	2 (10.5)
Unachievement of the clinical duties*	2 (4.3)	5 (26.3)
Trouble with the patient**	3 (6.4)	7 (36.8)
Trouble with the coworker	1 (2.1)	1 (5.3)
Trouble with the supervisor	1 (2.1)	1 (5.3)
Trouble with the junior partner	0 (0.0)	0 (0.0)
Trouble with the nurse	1 (2.1)	2 (10.5)
Trouble with the clerk	1 (2.1)	1 (5.3)
Trouble with the resident	0 (0.0)	0 (0.0)
Sexual harassment	0 (0.0)	0 (0.0)
Discrimination or disadvantageous handling in the work	2 (4.3)	0 (0.0)
Duty form changed	5 (10.6)	4 (21.1)
Replacement of the supervisor	6 (12.8)	1 (5.3)

Significant differences between the two subgroups; * $p < 0.05$, ** $p < 0.01$

of stress (%), score of depressive mood in the subgroup with job satisfaction was significantly lower than that in the subgroup with job dissatisfaction ($p < 0.05$). In Group S after adjusted for score of burnout, degree of stress (%) and daily numbers of taking charge of inpatients, score of irritability in the subgroup with job satisfaction was significantly lower than those in the subgroup with job dissatisfaction ($p < 0.05$).

Table 4 shows the scores of the factors which relieve the stress among subjects. In Group S after adjusted for score of burnout, degree of stress (%) and daily numbers of taking charge of inpatients, score of coworker support in the subgroup with job satisfaction was significantly higher than those in the subgroup with job dissatisfaction ($p < 0.05$).

Table 5 shows the prevalence of work-related events during the one month preceding the investigation in Group M. In Group M, prevalence of close to medical accident, unachievement of the clinical duties and trouble with the patient in the subgroup with job satisfaction were significantly lower than those in the subgroup with job dissatisfaction ($p < 0.01$ or $p < 0.05$). In Group S, there were no significant differences in the prevalence of any work-related events during the one month preceding the investigation, between the subgroups with job satisfaction and with job dissatisfaction.

As for shows the mental condition during the one month preceding the investigation, among both Groups M and S, prevalence of the desire to resign from working at the hospital in the subgroup with job satisfaction was significantly lower than that in the subgroup with job dissatisfaction ($p < 0.01$). Only in Group M, prevalence of the feeling difficulty about communication with the nurse and the indifference to the changes of the condition of the patient caused by the fatigue due to work in the subgroup with job satisfaction were significantly lower than those in the subgroup with job dissatisfaction ($p < 0.05$ or $p < 0.01$).

Concerning the scores of the brief scales for coping profile for workers among subjects, after adjusted for above factors there were no significant differences in the score of active solution, avoidance and suppression, changing mood, seeking help for solution or emotional expression involving others either in Groups M or S between the subgroups with job satisfaction and with job dissatisfaction.

Discussion

In this study, 71% of male physicians allied with internal medicine related departments and 68% of male physicians allied with surgery related departments were determined as "satisfied with their job". It is interesting that there were no significant differences in the percentages of subjects satisfied in any rank between hospitals A and B. We reported before²⁶⁾ that 77% of the male physicians in the University Hospital were satisfied with their job. These values are almost same as other countries (75%)¹⁶⁾²⁷⁾. Relatively more physicians were satisfied with their job in our studies than in the study (55.4%) reported by Wada et al.¹⁸⁾. However, causes of the differences can not be confirmed. To clarify the Japanese physicians' job satisfaction more in details, further studies with larger number of subjects are required.

Concerning working conditions, Ye et al.²⁸⁾ reported that reducing daily VDT exposure and taking breaks are important to protect users from the adverse effects associated with VDT work such as eyestrain, neck or upper extremity pain, back pain, and psychological distress among workers. However, there were few researches on job satisfaction, and its relation to the daily VDT usage time and daily time spend for lunch time, break, etc. In this study, only in Group M, daily VDT use hours in the satisfied group were significantly shorter than those in the dissatisfied group and daily hours for lunch time, break, etc. in the satisfied group were significantly longer than those in the dissatisfied group. Therefore, it is considered that reducing time of VDT work and prolonging time for lunch time, break, etc. as proper as possible might be important to elevate job satisfaction among physicians allied with internal medicine related departments.

On the other hand, only in Group S, daily numbers of taking charge of inpatients in the subgroup with job satisfaction were significantly larger than those in the subgroup with job dissatisfaction. It is considered as one of the reasons of this result that in the surgery related departments, the more numbers of taking charge of inpatients, the more numbers of operations which a physician can perform.

Job satisfaction is associated with health conditions of workers including mental and psychological problems such as burnout, depression, and anxiety²⁹⁾. It is reported that there is a strong relationship between low levels of physicians' satisfaction and burnout⁹⁻⁶⁾. Recently, Tokuda et al.³⁰⁾ reported that in the path analysis, burnout and poor mental health were related directly to job satisfaction among hospital physicians and job dissatisfaction seems to be a strong factor for burnout resulting in poor mental health (standardized coefficients, about 0.65). Therefore, it seems that there might be a strong causal relationship between job dissatisfaction and burnout. In the present study, we also observed that score of burnout and degree of stress in the subgroup with job dissatisfaction were significantly higher than those in the subgroup with job satisfaction among both Groups M and S.

Regarding the problems relating to burnout³¹⁾, in the present study, not only in Group M but also Group S, prevalence of the desire to resign from working at the hospital in the subgroup with job satisfaction was significantly lower than that in the subgroup with job dissatisfaction. It is interesting that only in Group M, prevalence of the feeling difficulty about communication with the nurse and the indifference to the changes of the condition of the patient caused by the fatigue due to work in the subgroup with job satisfaction, were significantly lower than those in the subgroup with job dissatisfaction.

Therefore, in the discussion below, it is necessary to take into account the working conditions, burnout

and degree of stress discussed above, considering the results of relationship between job satisfaction and other factors such as coping profile among physicians.

As for the depression and anxiety, we also observed that only in Group M even after adjusted for daily hours for lunch time, break and etc., daily VDT use hours, score of burnout and degree of stress (%), score of depressive mood in the subgroup with job dissatisfaction was significantly higher than that in the subgroup with job satisfaction. In addition, in Group S even after adjusted for score of burnout, degree of stress (%) and daily numbers of taking charge of inpatients, score of irritability in the subgroup with job dissatisfaction was significantly higher than that in the subgroup with job satisfaction.

Wada et al.¹⁸⁾ reported that among Japanese male physicians job satisfaction was associated with fair income, good hospital resources, high career satisfaction, good relationships with physician colleagues and good relationships with hospital staff, but not with good relationships with patients. On the other hand, in other countries, physician job satisfaction has been reported to be influenced by good relationships with patients^{15)~18)}.

We also observed in Groups S even after adjusted for score of burnout, degree of stress (%) and daily numbers of taking charge of inpatients, that scores of work environment stress, considered to be related to good hospital resources in the subgroup with job satisfaction were significantly lower than those in the subgroup with job dissatisfaction. In addition, score of coworker support in the subgroup with job satisfaction was significantly higher than that in the subgroup with job dissatisfaction. Consequently, scores of job attitude or job worthwhileness in the subgroup with job satisfaction were significantly higher than those in the subgroup with job dissatisfaction.

As for the good relationships with patients, we also observed only in Group M that prevalence of close to medical accident, unachievement of the clinical duties and trouble with the patient in the subgroup with job satisfaction were significantly lower than those in the subgroup with job dissatisfaction. Thus, it is considered that good relationships with patients might be important for the prevention of job dissatisfaction among physicians especially those whose jobs are in connection with internal medicine related departments.

Wada et al.¹⁹⁾ reported that among Japanese physicians, workload was not associated with job satisfaction. We also observed that among both Groups M and S, there were no significant differences in the working conditions such as monthly working days, night duties, daily or monthly effective working time, or the scores of psychological job demands (quantity) or psychological job demands (quality) after adjusted for factors described above between the subgroups with job satisfaction and with job dissatisfaction. However, interestingly, only in Group S, score of physical demands even after adjusted for factors described above was significantly lower in the group with job satisfaction compared to the subgroup with job dissatisfaction.

Tokuda et al.³⁰⁾ reported that in the path analysis, work control can lead to job dissatisfaction among hospital physicians (standardized coefficient, 0.39). However, in this study, there were no significant differences in the score of job control between the subgroups with job satisfaction and with job dissatisfaction either in Groups M or S after adjusted for factors described above.

In this study, there were no significant differences in the score of physical complaints before or after adjusted for factors described above between the subgroups with job satisfaction and dissatisfaction either in Group M or Group S. Faragher et al.²⁹⁾ also reported that the correlation between job satisfaction and subjective physical illness was more modest ($r = 0.287$), compared with burnout, depression and anxiety.

Golbasi et al.³²⁾ reported that in a sample of hospital nurses, higher levels of job satisfaction were positively associated with positive coping strategies such as self-confident approach and optimistic approach, and negatively associated with negative coping strategies of the helpless approach. Katagiri et al.³³⁾ reported that burnout doctors tended not to select "challenging", which is a mode of task-oriented coping but to show "taking it out on others", which is a mode of emotion-oriented coping. Avoidance-oriented coping exerts no effect on burnout. In this study, after adjusted for factors described above either in Group M or Group S there were no significant differences in the scores of positive coping such as active solution, changing a point of view and seeking help for solution, or the scores of negative coping such as avoidance and suppression and emotional expression involving others between the subgroups with job satisfaction and dissatisfaction.

The main limitations of this study are as follows. We used a self-administered questionnaire and did not

make any direct observations of the tasks performed at work. Secondly, due to the small number of sample size of this study, we did not perform the multiple logistic regression analysis to elucidate the factors relating to job satisfaction among physicians. A third limitation is that we used a cross-sectional design and had incomplete work place participation, producing possible bias and limited ability to draw any causal inferences. Further studies are needed to clarify the differences in the factors relating to job satisfaction among physicians allied with internal medicine related departments and with surgery related departments in Japan. Despite these limitations, the present study indicates that there might be some differences in the working conditions and the coping profiles relating to job satisfaction between physicians allied with internal medicine related and those allied with surgery related departments in Japan.

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大規模自治体病院の内科系医師と外科系医師の仕事満足に関連する 勤務状況および対処特性

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—キーワード—

仕事満足, 勤務医, 勤務状況

【目的】内科系医師と外科系医師の仕事満足に関連する勤務状況と対処特性の相違を明らかにする。【目的】2つの大規模自治体病院の男性勤務医 132 名を対象に自記式アンケート調査を実施した。【結果】勤務状況に関して、内科系医師 (66 名) では、仕事満足群が不満足群より、休憩時間が有意に長く、1 日の VDT 使用時間が有意に短かった ($p < 0.05$)。外科系医師 (66 名) では、仕事満足群が不満足群より、1 日の受け持ち入院患者数が有意に多かった ($p < 0.01$)。外科系医師では、燃え尽き得点、ストレス度および 1 日の受け持ち入院患者数を調整した場合、自覚的な身体的負担および職場環境によるストレス得点は、仕事満足群が不満足群より有意に低かった ($p < 0.01$ または $p < 0.05$)。さらに、同僚のサポート得点は、仕事満足群が不満足群より有意に高かった ($p < 0.05$)。要因を調整した後は、どの対処行動得点も、内科系医師、外科系医師ともに、仕事満足群と不満足群で有意差はなかった。【結論】これらの結果は、内科系医師と外科系医師の間で、仕事満足に関連する勤務状況に何らかの相違が存在することを示唆している。

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