Job Stressors and Job Stress among Teachers Engaged in Nursing Activity^a

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Abstract: Teachers and staff members engaged in nursing activity experience more stress than other workers. However, it is unknown whether teachers engaged in nursing activity in schools for handicapped children experience even greater stress. This study evaluated job stressors and job stress among such teachers using a cross-sectional study design. The subjects were all 1,461 teachers from all 19 prefectural schools for handicapped children in Shizuoka Prefecture, Japan. We used a brief job stress questionnaire for the survey and 831 teachers completed the questionnaire. Job stressors among teachers engaged in nursing activity were compared with those among teachers not engaged in nursing activity. Job stress among such teachers was estimated by the score for total health risk, and was compared with the score in the Japanese general population. Male and female teachers engaged in nursing activity had a significantly higher level of job stressors for physical work load and job control compared with those not engaged in nursing activity. The scores for total health risk among male and female teachers engaged in nursing activity were 102 points and 98 points, respectively. These scores were not markedly above 100 points which is the mean score in the Japanese general population.

Key words: Job stress, Job stressor, Teacher, Brief job stress questionnaire, Nursing activity

Introduction

We reported an association between low back pain and several job stressors among staff members in schools for handicapped children¹⁾. Most of the staff in our study were teachers¹⁾. Most teachers in such schools were not only teaching but also engaged in nursing activity¹⁾. However, we have not yet clarified levels of job stressors and job stress among teachers engaged in nursing activity.

There are some studies of job stress among general teachers^{2–5)}. These studies reported that teachers experience higher levels of stress in comparison with other occupations^{3–5)}. According to the teacher employment statistics in Japan, half of the leaves of absence granted to teachers were based on mental disorders⁶⁾. Previous studies reported that job stress among general teachers is associated with role overload⁷⁾, conflict for parents of children⁷⁾ and lack of support from supervisors or coworkers^{7, 8)}.

There are also some studies of job stress among staff engaged in nursing activity^{9–13)}. Job stress among care workers in Japanese social welfare facilities has also been

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reported to be excessive compared to that in the general Japanese populations⁹). Job stress among staff engaged in nursing activity was associated with conflict for patients or families of patients^{10, 13}), lack of social support¹¹), and physical work load¹³).

Because most teachers in schools for handicapped children were not only teaching and but also engaged in nursing activity we assumed that job stress among teachers engaged in nursing activity may be greater than that in the general population, as well as that in teachers not engaged in nursing activity. However, there has not been any study regarding job stress in this occupation, and few studies regarding job stressors among teachers for handicapped children^{14–16}).

This study evaluated job stressors and job stress among teachers engaged in nursing activity.

Methods

Study design and subjects

This study was a cross sectional survey of job stressors and job stress among teachers in schools for handicapped children.

The subjects of this study included all 1,461 teachers from all 19 prefectural schools for children in Shizuoka prefecture, Japan, which included 3 schools for the blind, 3 for deaf-mutes and 13 for physically handicapped and mentally retarded students. In these subjects, teachers who completed a questionnaire were eligible for this study. Subjects included teachers engaged in nursing activity and those not engaged in it. Nursing included activities such as assistance in movement, excretory function, feeding, skin care, and bathing.

Questionnaire

We used a brief job stress questionnaire, which was able to establish job stress, job stressors, psychological and somatic stress responses and modifying factors at the same time^{17, 18}). The scores for each job stressor, modifying factors and psychological and somatic responses were individually calculated by the standardized method¹⁹). These scores ranged from 0 to 5, with a lower score indicating a higher job stress level. The total health risk score demonstrated by the questionnaire was a comprehensive index of job stress, and comparable to the standardized score indicated by 100 points, which was considered the mean score in the general Japanese population^{18, 20}). That is, if the score for an occupational group is 120 points, the risk that individuals in that occupation may have something stress-related problems is considered 20% higher than that of the general Japanese population¹⁸).

A score of one hundred twenty points or higher indicates a higher risk of stress-related problems than the general Japanese population²⁰).

We sent the questionnaire to all 1,461 teachers in all Shizuoka prefectural schools for handicapped children in 2003. The questionnaire was distributed by the person in charge at each school. All participants gave written informed consent. This survey was approved by the board of education in Shizuoka prefecture.

Statistical analysis

We classified the subjects into two groups (teachers engaged in nursing activity group [A], teachers not engaged in nursing activity group [B]). We used student's t-test to compare mean ages among these groups.

We investigated the factors associated with nursing activity among men and women using ANCOVA. Age was included as a covariate in this analysis. The scores for each job stressor, modifying factors and psychological and somatic responses among teachers engaged in nursing activity were compared with those not engaged in it.

We calculated the score for the total health risk in each group. This score can be calculated by both work quantitative-control risk score and social support risk score²⁰). Because the score in this analysis was an absolute value, we could not analyze mean value, standard deviation in each group or significance of differences among groups. We compared the score of each group with the standardized scores in the general Japanese population for men and women, respectively.

We used SPSS ver.12.0 for all analyses.

Results

Among men and women the number and mean age (SD) of subjects engaged in nursing activity or not were shown in Table 1. Total number of subjects who completed the questionnaire was 831. Response rate was 56.9%. For both men and women, mean ages of subjects engaged in nursing activity were significantly different from those of subjects not engaged in nursing activity.

Table 2 shows the mean scores (SD) for job stressors in each group. The mean scores for physical work load and job control among teachers engaged in nursing activity were significantly lower than those among teachers not engaged in nursing activity for both men and women, as well as qualitative work load and work environment for women only, and interpersonal conflict for men only. Among men, the mean scores for reward to the work among teachers engaged

Table 1. The number of subjects and mean ages in each group

		[A] Nursing	[B] Not nursing	<i>p</i>
Men	N	198	83	
	mean age(SD)	37.9(8.8)	44.6(11.1)	<0.0001
Women	N	418	132	
	mean age(SD)	37.4(8.4)	40.1(10.3)	<0.0001

*Difference of mean age was analyzed by Student t-test.

Table 2. The mean scores (SD) for job stressors in each group

Item		[A] Nursing	[B] Not nursing	<i>p</i>
Quantitative work load	Men	2.87 (1.14)	2.82 (1.11)	0.531
	Women	2.48 (1.29)	2.65 (1.25)	0.410
Qualitative work load	Men	2.67 (0.98)	2.84 (0.98)	0.323
	Women	2.07 (0.82)	2.34 (0.88)	0.005
Physical work load	Men	1.87 (0.80)	2.75 (0.90)	0.000
	Women	1.70 (0.71)	2.61 (0.94)	0.000
Job control	Men	2.74 (1.05)	3.23 (1.18)	0.000
	Women	2.74 (0.88)	3.14 (0.99)	0.000
Utilization of technique	Men	3.01 (0.74)	3.23 (0.72)	0.065
	Women	3.10 (0.72)	3.15 (0.74)	0.390
Fit to the job	Men	3.16 (1.14)	3.29 (1.11)	0.258
	Women	3.25 (1.01)	3.28 (1.11)	0.624
Reward to the work	Men	3.74 (1.21)	3.96 (1.08)	0.023
	Women	4.10 (1.08)	3.82 (1.10)	0.000
Interpersonal conflict	Men	2.94 (1.08)	3.31 (1.02)	0.019
	Women	3.08 (1.03)	3.16 (1.00)	0.208
Work environment	Men	2.94 (0.83)	3.11 (0.87)	0.120
	Women	2.83 (0.88)	3.13 (0.76)	0.000

Differences between mean scores of each item in each group were analyzed by ANCOVA adjusted for age among men and women.

in nursing activity was significantly lower than that among teachers not engaged in nursing activity, but among women, the mean score for reward to the work among teachers engaged in nursing activity was significantly higher than that among teachers not engaged in nursing activity.

Table 3 shows mean scores (SD) for modifying factors in each group. Among women only, the mean score for support from coworkers among teachers engaged in nursing activity was significantly higher than that among teachers not engaged in nursing activity.

Table 4 shows mean scores (SD) for psychological and somatic responses in each group. Mean scores for fatigue among teachers engaged in nursing activity were significantly lower than those among teachers not engaged in nursing activity both men and women, while scores for irritation were

lower for women only, and those for anxiety for men only.

The scores for total health risk in each group are shown in Table 5. The scores for total health risk among male and female teachers engaged in nursing activity were 102 points and 98 points, respectively. These scores were close to 100 points, which is the mean score in the general Japanese population^{18, 20}, and were below 120 points.

Discussion

In this study, we clarified job stressors and job stress among teachers in school for handicapped children. Job stressors among teachers engaged in nursing activity were physical work load and job control for both men and women, interpersonal conflict and reward to the work among men

Table 3. The mean scores (SD) for modifying factors in each group

Item		[A] Nursing	[B] Not nursing	<i>p</i>
Support from supervisor	Men	3.03 (1.09)	3.19 (1.04)	0.459
	Women	3.37 (0.80)	3.27 (0.91)	0.313
Support from coworkers	Men	2.91 (1.01)	2.95 (0.92)	0.132
	Women	3.04 (0.91)	2.93 (1.03)	0.006
Satisfaction with work/home life	Men	3.15 (1.10)	3.16 (0.92)	0.699
	Women	3.02 (1.08)	3.05 (1.19)	0.000

Differences between mean scores of each item in each group were analyzed by ANCOVA adjusted for age among men and women.

Table 4. The mean scores (SD) for psychological and somatic responses in each group

Item		[A] Nursing	[B] Not nursing	<i>p</i>
Activity	Men	3.31 (1.06)	3.48 (1.04)	0.240
	Women	3.40 (0.98)	3.36 (1.17)	0.477
Irritated	Men	3.36 (1.20)	3.43 (1.06)	0.548
	Women	3.17 (1.08)	3.27 (1.06)	0.003
Fatigue	Men	2.94 (1.09)	3.23 (1.04)	0.005
	Women	2.66 (1.13)	3.27 (1.14)	0.006
Anxiety	Men	3.16 (0.99)	3.43 (0.91)	0.024
	Women	2.76 (0.97)	2.89 (1.01)	0.188
Depression	Men	2.91 (1.01)	2.95 (0.92)	0.132
	Women	3.04 (0.91)	2.93 (1.03)	0.006

Differences between mean scores of each item in each group were analyzed by ANCOVA adjusted for age among men and women.

Table 5. The scores for total health risk among men and women

		Total	[A] Nursing	[B] Not nursing
Total health risk	Men	112	102	102
	Women	99	98	91

and qualitative work load and work environment among women. To our knowledge, there are few previous studies investigating job stressors among such teachers. The scores among male and female teachers engaged in nursing activity were 102 points and 98 points, respectively. Those were not markedly above 100 points, which is the mean score in the general Japanese population^{18, 20)}. To our knowledge, there are no previous studies comparing job stress among teachers in schools for handicapped children with that in the general population.

Regarding teachers in school for handicapped children,

previous studies suggested that such teachers had higher stress due to physical work load¹⁴⁾, sustain¹⁴⁾, inadequate social support⁹⁾, inadequate salary^{15, 16)}, teaching poorly motivated students^{15, 16)}, excessive paperwork¹⁶⁾ and so on. Previous studies suggested that job stressors among general teachers were high quantitative work load⁷⁾, lack of support from supervisors⁸⁾, and so on. Previous studies suggested that job stressors among staff engaged in nursing activity were physical work load¹³⁾, conflict between staff and families of handicapped patients^{10, 13)}, and lack of social support¹¹⁾. Teachers engaged in nursing activity in this study showed characteristics of job stressors both among general teachers and staff members engaged in nursing activity.

We found that male and female teachers engaged in nursing activity had higher rate of fatigue compared to that in teachers not engaged in nursing activity. Furthermore, male teachers had higher rates of anxiety, and female teachers had higher rates of irritation. It might be easily understood that teachers engaged in nursing activity would experience higher rates of fatigue. A previous study suggested that staff engaged in nursing activity also had higher rates of anxiety than the general population⁹⁾. Those findings were similar to the results in this study.

We found that job stress among teachers engaged in nursing activity was not much higher than that in the general Japanese population. Previous studies reported job stress among general teachers²⁻⁵⁾ and staff engaged in nursing activities⁹⁾. Of these studies, we could compare our findings with those in a previous study of home helpers who were surveyed by the same questionnaire as used in this study⁹⁾. The score for total health risk in that study was 110 points, the score for quantity-control risk was 97 points, and the score for social support risk was 114 points. Those findings were similar to the results in this study. Though we assumed that job stress among teachers engaged in nursing activity may be greater than that in the general Japanese population, it

was not markedly greater. Teachers engaged in nursing activity have a high physical work load, but they may not have a markedly higher quantitative work load. Therefore, job stress among such teachers may not have markedly higher than that in the general population.

This study has several strong points. First, the sample size was quite large. Second, we used a novel brief job stress questionnaire that had previously been evaluated for reliability and validity¹⁷⁾ and had already been used in other studies^{9, 21)}. However, this study also has several limitations. First, the precise causation was unclear because our study was cross-sectional. Second, subjects were from only one prefecture in Japan, which may limit the generalization of this study.

Conclusion

Job stressors among teachers engaged in nursing activity were physical work load and job control among men and women, as well as interpersonal conflict and reward to the work among men, and qualitative work load among women. However, job stress among such teachers was not markedly higher than that in the general Japanese population.

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