Original article

Burnout syndrome among medical personnel involved in care of patients with neurological conditions at a tertiary care hospital in Bangkok Metropolis

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Abstract

Background: Medical personnel involved in care of patients with neurological conditions is dealing with unique group of patients with impairment of conscious and behavioral disturbances. Their job is assumed to be stressful and under pressure. However, the study on burnout syndrome in this group of medical personnel in Thailand is still lacking.

Objectives: The objective of this study was to investigate the prevalence and associated factors of burnout syndrome among medical personnel at a tertiary care hospital in Thailand.

Methods: A total of 107 medical personnel who were currently working with neurological patients were recruited. The questionnaires consist of: 1) Personal and work-related information; 2) 17 - item Happiness at work and job insecurity questionnaire; 3) Workplace violence questionnaire; and 4) Thai version of Maslach Burnout Inventory. Data were analyzed by descriptive and inferential statistics.

Results: The study showed 19.6% of subjects had a high level of burnout. Using logistic regression analysis, the factors significantly associated with high level of burnout were working with neurological patients on both inpatient and outpatient settings (OR = 10.43, 95% CI = 2.20 - 49.44, $P < 0.05$), had experienced psychological effects from verbal violence (OR = 3.75, 95% CI = 1.14 - 12.32, $P < 0.01$), and a score on item 4 of work happiness questionnaire (feeling of being motivated and empowered in workplace) (OR = 0.29, 95% CI = 0.12 - 0.69, $P < 0.05$).

Conclusion: Almost one-fifth of medical personnel caring for patients with neurological conditions had high level of burnout. The emphasis on work burden, treating others with respect especially verbally, and encouraging motivated and empowered activities in the workplace is essential to prevent high burnout.

Keywords: Burnout syndrome, medical personnel, neurological conditions, workplace violence.

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Medical personnel are one of the most stressful careers who are responsible to provide medical care to patients with critical illnesses. They have consistently long working hours and working under a high pressured condition. Therefore, working to meet oneself and patients' expectations made medical personnel feel highly fatigued and accumulated tension, emotional exhaustion, and boredom until it affected work, judging abilities, and personal life.

Although complete training in Neurosurgery takes several years and is highly competitive, Neurosurgeons tend to have more working hours than other professions 10.0%. [1] There is a report that this medical personnel field had decreased job satisfaction due to burnout. [2] Similarly, neurological and neurosurgical nurses reported long working hours and a high risk of burnout as well. [3]

This field of medical personnel deals with neurological patients with symptoms of various pathologies such as cerebral vessels (stroke), brain parenchyma, congenital abnormalities, or trauma. The patients have a high risk of impairment of conscious, self-helping, emotional, and behavioral disturbances. Thus, dealing with patients' families is one of a reason that increasing burnout syndrome in medical personnel. Nevertheless, there is still no broad study on this topic in Thailand.

The objective of this study was to investigate the prevalence and associated factors of burnout syndrome among subjects. And in order to raise an awareness and acknowledgement of burnout syndrome to increase work efficiency of medical personnel.

Materials and methods

The office of the research ethics review committee for research involving human subjects of Chulalongkorn University has approved this study (IRB no. 0190/2565). The subjects are 107 medical personnel, including physicians (residents and staffs), registered nurses, and nurse assistants who are currently working with neurological patients at a tertiary care hospital in Bangkok Metropolis. Hence, we are collecting data on every subject that meet the inclusion and exclusion criteria.

Besides, the subjects had received a paper on the study's objectives, including details, before deciding to join the study and signing the consent form. Nevertheless, this study will not expose subjects' identities.

Measurements

Personal and work-related information

Age, gender, marital status, education, position/ occupation, department, work experience in the care of patients with neurological diseases. Average working time per week, shift work, job characteristics, personnel adequacy, and symptoms of patients in care. Happiness at work and job insecurity questionnaire used to assess the level of work happiness and affecting factors of work happiness [4]: 7 items of happiness at work (Cronbach's alpha = 0.839) and 10 items of external factors affecting happiness at work divided into five relationships with supervisor (Cronbach's alpha = 0.924), and five relationships with colleagues (Cronbach's alpha = 0.914). Hence, 5 level of Likert rating scale: 5 means strongly agree until 1 means the least agree. We calculate the average of each score: 1.0 - 1.0 = lowest, 1.8 - 2.6 = low, 2.6 - 3.4 = moderate, 3.4 - 4.2 = high, and 4.2 - 5.0 = highest.

A 30-item Characteristics of Workplace Violence Questionnaire is adapted from the Work-place Violence in Health Sector Country Case Studies Research Instruments Survey Questionnaire by ILO/ ICN/WHO/PSI Geneva 2003 (Cronbach's alpha = 0.831) by Patcharatanasan N.[5]

A 4-item workplace violence and associated factors questionnaire were applied. Thai-version of Maslach Burnout Inventory was Divided to negative and positive questions. Negative questions are 9 items of emotional exhaustion (Cronbach's alpha = 0.92) and 5 items of depersona-lization (Cronbach's alpha = 0.91): 0 score means never felt like that until 6 score means feeling like that every day. The positive question is 8 items of personal accomplishment (Cronbach's alpha = 0.93): a 6 score means never felt like that until a 0 score means feeling like that every day. A 'High' level of burnout must have a score of emotional exhaustion over 27, a score of depersonalizations over 13, and a score of personal accomplishment over 39. 'Moderate' burnout level must have a score on emotional exhaustion between 17 - 26, a score on depersonalization between 7 - 12, and a score on personal accomplishment between 32 - 38. 'Low' level of burnout must have a score on emotional exhaustion between 0 - 16, a score on depersonalization between 0 - 6, and a score on personal accomplishment between 0 - 31.

Statistical analysis

Descriptive and inferential statistics were analyzed by using statistical software suits (SPSS) version 22. We use frequency, percentage, mean, standard deviation (SD), and 95% confidence interval (CI). Chi-square test unpaired student *t* - test, Fisher's exact test, and logistic regression are used to analyze the inferential statistics. $P < 0.05$ is considered statistically significant.

Results

We completed collecting data from all the 107 medical personnel. Regarding their characteristics, most of the personnel aged 33.8 years old. Mostly female 79.4%, male 20.6%. The majority are single, 67.3%. Thus, the average of work-related factors are shown in Table 1.

The average of work experience among the subjects is 8.8 ± 7.2 years. Mostly they work in shift 80.4%; 91.6% of them need to interact with the patient's body in particular, 92.5% need to communicate directly with patients, 91.6% need to communicate directly with patients' families, and 96.3% have an opinion that medical personnel are inadequate.

Table 1. The number and percentage of work-related factors, workplace violence occurrences, and burnout level among subjects.

General information	n	Percentage
Position/Occupation	**(n = 107)**	
Medical staff	5	4.7
Resident	9	8.4
Registered nurse	69	64.5
Nurse assistant	24	22.4
Department	**(n = 107)**	
Neurosurgical department	73	68.2
Neurological department	34	31.8
Settings of patient care responsibility	**(n = 107)**	
Inpatient	93	86.9
Inpatient + Outpatient	14	13.1
Average working hour per week*	**(n = 101)**	
≤ 40 hours/week	23	22.8
≥ 40 hours/week	78	77.2
(Mean = 64.4 hours/week, SD = 25.3)		
Workplace violence	**(n = 107)**	
Physical violence**	20	18.7
Verbal violence**	51	48.1
Sexual violence**	1	0.9
Burnout Syndrome level	**(n = 107)**	
Low level of burnout	7	6.5
Moderate level of burnout	79	73.8

*Missing data, **the subjects may select > 1 answer on the specific item of questionnaire

Table 2. A score on happiness at work, affecting factors of work happiness, and job insecurity.

Happiness at work (score out of 5)	Mean ± SD	Level
Happy with a current work	3.4 ± 0.8	Moderate
Enjoy working	3.4 ± 0.9	Moderate
Having good colleagues	4.1 ± 0.7	High
Being motivated and empowered in workplace	3.4 ± 0.9	High
There are other activities to do and not feel bored	3.9 ± 0.9	High
Satisfied with work environment	3.5 ± 0.8	High
Feel loved and attached to work	3.5 ± 0.9	High
Feel relaxed when talking to a supervisor	3.5 ± 0.9	High
Work hard because of having a good supervisor	3.6 ± 0.9	High
When making a mistake, the supervisor will give advice and encouragement	3.7 ± 0.8	High
Discuss things besides work with the supervisor	3.6 ± 0.9	High
Have a good understanding with the supervisor	3.8 ± 0.8	High
Have fun and enjoyed being with colleagues	4.1 ± 0.8	High
Comfortably discuss personal issues with colleagues	3.9 ± 0.9	High
Have a good team work	4.2 ± 0.7	Highest
Colleagues are sincere	4.0 ± 0.8	High
Comfortable with colleagues	4.1 ± 0.7	High

Table 3. A comparison of various characteristics with low-moderate levels of burnout and high levels of burnout using univariate analysis (Chi-square or *t* - test).

Factors (n = 107)	Low - Moderate Levels of burnout	High Levels of burnout	*P* - value
	Mean ± SD / n (%)	Mean ± SD / n (%)	
Age (year) (n = 106)	34.3 ± 9.3	31.6 ± 6.2	0.117
Working hours/week (n = 101)	59.6 ± 21.6	82.9 ± 30.0	< 0.001**
Happy with a current work	3.5 ± 0.8	3.1 ± 0.8	0.037*
Enjoy working	3.5 ± 0.9	3.1 ± 0.9	0.057
Having good colleagues	4.2 ± 0.7	4.0 ± 0.6	0.149
Being motivated and empowered in workplace	3.6 ± 0.8	2.9 ± 0.8	0.001**
There are other activities to do and not feel bored	3.5 ± 0.8	2.9 ± 1.0	0.005**
Satisfied with work environment	3.5 ± 0.8	3.1 ± 0.8	0.051
Feel loved and attached to work	3.6 ± 0.9	3.1 ± 0.9	0.023*
Feel relaxed when talking to a supervisor	3.6 ± 0.8	3.1 ± 1.0	0.023*
Work hard because of having a good supervisor	3.7 ± 0.8	3.1 ± 0.9	0.003**
When making a mistake, the supervisor will give advice and encouragement	3.8 ± 0.8	3.2 ± 0.8	0.007**
Discuss things besides work with the supervisor	3.6 ± 0.9	3.4 ± 0.8	0.396
Have a good understanding with the supervisor	3.8 ± 0.8	3.4 ± 0.7	0.021*
Have fun and enjoyed being with colleagues	4.2 ± 0.7	3.6 ± 0.8	0.004**
Comfortably discuss personal issues with colleagues	4.0 ± 0.8	3.6 ± 1.1	0.191
Have a good team work	4.3 ± 0.6	4.0 ± 0.9	0.048*
Colleagues are sincere	4.1 ± 0.7	3.8 ± 1.0	0.179
Comfortable with colleagues	4.1 ± 0.7	3.7 ± 0.9	0.008**

Table 3. (Cont.) A comparison of various characteristics with low-moderate levels of burnout and high levels of burnout using univariate analysis (Chi-square or *t* - test).

Factors (n = 107)	Low - Moderate Levels of burnout	High Levels of burnout	*P* - value
	Mean ± SD / n (%)	Mean ± SD / n (%)	
Being physician	7 (50.0)	7 (50.0)	0.006[a]**
Working in Neurosurgical department	56 (76.7)	17 (23.3)	0.198
Working on IPD and OPD settings	7 (50.0)	7 (50.0)	0.006[a]**
Working > 40 hours/week	58 (74.4)	20 (25.6)	0.038[a]*
Physical violence	15 (75.0)	5 (25.0)	0.537[a]
Patient as a violent person	14 (73.7)	5 (26.3)	0.524[a]
The incident occurred in the ward	15 (75.0)	5 (25.0)	0.537[a]
The supervisor is notified	5 (55.6)	4 (44.4)	0.072[a]
Verbal violence	37 (72.5)	14 (27.5)	0.045*
Patient as a violent person	28 (70.0)	12 (30.0)	0.039*
Patient's family as a violent person	17 (63.0)	10 (37.0)	0.009**
Medical personnel/ colleagues as a violent person	10 (71.4)	4 (28.6)	0.297[a]
Supervisor as a violent person	4 (66.7)	2 (33.3)	0.316[a]
The incident occurred in the ward	37 (74.0)	13 (26.0)	0.087
The incident occurred outside the ward (still in the hospital area)	3 (37.5)	5 (62.5)	0.006[a]**
The incident occurred outside the hospital	2 (66.7)	1 (33.3)	0.470[a]
Got psychological effects	17 (60.7)	11 (39.3)	0.002**
The supervisor is notified	16 (63.6)	8 (36.4)	0.030[a]*

*$P < 0.05$, **$P < 0.01$, [a]Fisher's Exact Test

Table 4. Associated factors with high level of burnout using logistic regression.

Factors	Adjusted OR	95% CI	*P* - value
Working on both IPD and OPD settings	10.4	2.2 - 49.4	0.003**
Got psychological effects from verbal violence	3.8	1.1 - 12.3	0.029*
Happiness at work: being motivated and empowered to work	0.3	0.1 - 0.7	0.005**

*$P < 0.05$, **$P < 0.01$

The score on these 17 questions of happiness at work allow us to measure the level of work happiness. (Table 2.) Thus, the comparison of various characteristics shows us the significant factors that associated with high burnout such as an overall working hours per week, job burden, work happiness, relationship with supervisors, relationship with colleagues, and verbal violence in workplace. (Table 3.) The associated factors with high level of burnout were analyzed by using logistic regression statistic. According to the results, medical personnel with high burnout were related with working in both IPD and OPD settings, having psychological effects from verbal violence, and having happiness at work. (Table 4.)

Discussion

The study has found the medical personnel who were caring for their neurological patients had an average of 19.6% burnout, 50.0% in resident/ medical staffs, and 15.1% in registered nurses/nurse assistants might be because physicians have more working hours, emotional fatigue, feelings of loss of identity, and higher burnout.[6]

The most common type of burnout was verbal violence, followed by physical violence, according to a study by Liu J.[7] Most verbal violence occurs inwards, outside wards, and outside the hospital area, respectively. Most of the subjects who experienced physical violence in the workplace also experienced

verbal violence. The most common perpetrators of physical and verbal violence were patients. To a great extent, verbal violence caused the most psychological impact and its result contributes significantly to a decrease in job satisfaction. It is the cause of taking leave from work [8] and eventually quit the job. [9]

In conclusion, we found that the high risk of burnout associated with having a workload, that requires care for patients in both IPD and OPD, was statistically significant, 10.4 times greater than those who worked only in the IPD setting. According to the study by Ślusarz R.[2], the occurrence of burnout is related to the type of ward that one is working with. 3.8 times more psychologically affected by verbal violence than those who did not. However, creating happiness at work by motivating and empowering in workplace will significantly protect medical personnel from a high level of burnout. Besides, work empowerment will help medical personnel achieve higher personal accomplishment and improve their effectiveness in working with others. [10]

These results lead us to the ways of preventing unnecessary actions that cause high burnout in a workplace and help us improving work efficiency of medical personnel on a daily basis by encouraging a positive working environment.

The limitations of this study were conducted only on healthcare workers caring for neurological patients at a tertiary hospital in Bangkok Metropolis. It cannot be used as a reference to all healthcare workers caring for neurological patients.

Conclusion

The study found that high burnout occurs in nearly one-fifth of medical personnel who were caring for their neurological patients due to workload and psychological effects from verbal violence. At the same time, high burnout can prevent by motivating and empowering work happiness. Organizations and those involved should pay attention to the issue of accumulated fatigue, including prioritizing a safe environment at work to reduce the risk of mental health problems, increase happiness, and improve work performance.

Conflicts of interest statement

Each of the authors has completed an ICMJE disclosure form. None of the authors declare any potential or actual relationship, activity, or interest related to the content of this article.

Data sharing statement

The present review is based on the references cited. Further details, opinions, and interpretation are available from the corresponding authors upon reasonable request.

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