



ความชุกของความเหนื่อยล้าและปัจจัยที่เกี่ยวข้อง ในแพทย์ใช้ทุน แพทย์ประจำบ้าน คณะแพทยศาสตร์ โรงพยาบาลสงขลานครินทร์

The Prevalence and Associated Factors of Burnout Syndrome among Residents in Training at Faculty of Medicine, Songklanagarind Hospital

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บทคัดย่อ

วัตถุประสงค์ ศึกษาความชุกของความเหนื่อยล้าและปัจจัยที่เกี่ยวข้องในแพทย์ใช้ทุน แพทย์ประจำบ้าน โรงพยาบาลสงขลานครินทร์

วิธีการศึกษา เป็นการศึกษาภาคตัดขวาง เก็บข้อมูลในแพทย์ใช้ทุน แพทย์ประจำบ้าน ที่ศึกษาอยู่ที่ คณะแพทยศาสตร์ มหาวิทยาลัยสงขลานครินทร์ ในช่วงเดือนมกราคมถึงเมษายน พ.ศ.2561 โดยใช้แบบสอบถาม 3 ส่วนคือ 1) ข้อมูลทั่วไป 2) แบบวัดความเหนื่อยล้า The Maslach Burnout Inventory (MBI) 16-17 ฉบับภาษาไทย และ 3) แบบสอบถามสุขภาพ (Patient Health Questionnaire-9 Thai version (PHQ-9)) วิเคราะห์ข้อมูลทั่วไป ข้อมูลความเหนื่อยล้าโดยใช้สถิติเชิงพรรณนา และวิเคราะห์ปัจจัยที่เกี่ยวข้องกับความเหนื่อยล้าโดยใช้ chi-square และ logistic regression

ผลการศึกษา แพทย์ใช้ทุน แพทย์ประจำบ้าน 244 ราย ร่วมมือในการตอบแบบสอบถาม เป็นเพศหญิง ร้อยละ 55.7 และมีภาวะซึมเศร้า ร้อยละ 24.6 มีอายุเฉลี่ย 27.2 ± 2.2 ปี มีจำนวนชั่วโมงในการทำงานต่อวันเฉลี่ย 10.3 ± 2.3 ชั่วโมง พบความชุกของอาการเหนื่อยล้าคือ ร้อยละ 100 โดยมีคะแนนความเหนื่อยล้าทางด้านความเหน็ดเหนื่อยทางอารมณ์สูงสุด (คะแนนเฉลี่ย 25.3 ± 12.6) และพบปัจจัยที่สัมพันธ์กับความเหน็ดเหนื่อยทางอารมณ์คือ จำนวนชั่วโมงในการทำงานต่อวัน ในขณะที่สาขาที่เกี่ยวข้องชาญและการรับรู้ว่ามีภาวะเครียดจากการทำงานมีความสัมพันธ์กับการลดคุณค่าด้านบุคคล ผู้วิจัยไม่สามารถวิเคราะห์ปัจจัยในส่วนของผลสัมฤทธิ์ด้านบุคคลได้ เพราะจำนวนประชากรไม่เพียงพอ

สรุป แพทย์เฉพาะทางสาขาหลักและสาขาย่อยมีภาวะเหนื่อยล้า โดยปัจจัยที่เกี่ยวข้องกับความเหนื่อยล้า คือ จำนวนชั่วโมงทำงานต่อวัน ชนิดของสาขาแพทย์เฉพาะทาง และการรับรู้ว่ามีภาวะเครียดจากการทำงาน

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ABSTRACT

Objective : This study aims to assess the prevalence and associated factors of burnout syndrome among residents, who work at Faculty of Medicine, Songklanagarind Hospital.

Method : This was a cross-sectional designed study, which was conducted in order to survey all residents, who worked and trained at the Faculty of Medicine, Songklanagarind Hospital from; January to April 2018. The questionnaire comprised of 3 parts: 1) demographic data 2) the Maslach Burnout Inventory (MBI) Thai version questionnaire 3) patient health questionnaire-9 Thai version (PHQ-9) for evaluating depression. The data were analyzed in order to describe the behavior of the sample by descriptive statistics. The factors associated with burnout syndrome were analyzed by using chi-square test and logistic regression.

Results : The total number of participants were 244 residents, 55.7% of them were females. And 24.6% of them had depression. The mean age of participants was; $27.2\% \pm 2.2$ years old, with the mean, working hours per day being; 10.3 ± 2.3 . The total prevalence of burnout syndrome among residents was 100%, with the highest score found to be within the emotional exhaustion section (the mean score was 25.3 ± 12.6). Amount of working hours, per day, were related to emotional exhaustion, whereas the type of specialty, as well as perception of having stress from work, were associated with depersonalization. The sample size was not adequate for the personal accomplishment section analysis.

Conclusions : All residents, who work within either major, or minor specialties suffered from burnout syndrome. The factors associated with burnout syndrome are; work hours per day, type of specialty, the perception of having stress from work.

Keywords : burnout, professional, medicine, physicians, hospital

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Introduction

The term “burnout” was firstly used to describe a syndrome of exhaustion observed among mental health, or human service professionals.^{1,2} It is a condition of emotional exhaustion (EE), depersonalization (DP) and decreased sense of personal accomplishment (PA).³ Burnout may be related to work over loading, and involved in emotionally demanding contact with people such as; clients and patients.^{2,3}

Nowadays, both physical and mental health care providers are concerned about having “burnout syndrome” due to, the hard working nature of their profession. The nature of stress, plays a role in producing physical illnesses, and mental maladaptation emphasizes physician’s morbidity. Current studies have indicated that the rates of morbid-mortality from; vascular disease, cirrhosis of the liver and traffic accidents were three times higher in physicians than in the general population.⁴ Regarding psychological models, a previous, qualitative study found that some professionals showed emotional mismanagement due to lack of subjective recognition of affective experiences. Therefore, they considered themselves as inadequate in their performance of work, and had decreased self-values. At the same time, they were busy helping others, but were unable to help themselves by asking for help.²

As we know, individuals who suffer from burnout syndrome (BS) fail to adapt, due to exhaustion and the depletion of psychological resources needed to cope with the demands required for working with people. This is because there are imbalances between; excessive work demands and limited coping resources.⁵⁻⁷

In part, many studies conducted on the well-being of interns, and resident physicians were popular topics due to their importance⁸, implication⁹ and solution.¹⁰ Most studies suggested that burnout levels among residents were high, with the prevalence of burnout being approximately 76.0%.¹⁰ Overwhelming working periods, responsibilities for other lives , tremendous responsibility in the workplace coupled with a high degree of work at home were all the resident’s stresses, and set them up for the development of burnout syndrome.^{10,11} However, the resident’s own psychological distress having had immediate, or long-term consequences for their patients was debated.¹² In so saying, burnout syndrome was related to depression, and the risk of alcohol usage in many groups of population¹⁰ such as; the study found that 21.5% of medical residents in Siriraj Hospital suffered from depression.¹²

In Thailand, there has been a study concerning burnout syndrome, however this was only among nurses¹³ and psychiatrists.¹⁴ The study conducted among psychiatrists showed that; nearly half of Thai psychiatrists (44.7%) described moderate to high levels of emotional exhaustion, whereas most of them had a low level of depersonalization (82.9%), and felt a high rate of personal accomplishment (79.0%). These result could imply that there was a high level of burnout syndrome within the section of emotional exhaustion among Thai psychiatrists, but only a few of them neglected, and mistreated their patients. Furthermore, most of them still felt that they were capable of doing their work efficiently.¹⁵

Due to there being, to our knowledge, no study of burnout syndrome among residents in Thailand’s southern areas. Then the objective of

this study is to assess the prevalence, level, and factors that be associated with burnout syndrome among residents at Faculty of Medicine, Songklanagarind hospital. The data from this study may be helpful for mental health prevention, and to develop a psychological supporting systems within the organization.

Material and methods

Ethical consideration

This study descriptive was approved by the Ethics Committee of the Faculty of Medicine, Prince of Songkla University (REC: 60-305-03-4).

Study design

A cross-sectional study was conducted in order to survey the data of all residents, who worked and trained at; the Faculty of Medicine, Songklanagarind hospital, from; January to April 2018.

Population

All residents working, and training at; the Faculty of Medicine, Songklanagarind Hospital from; January to April 2018.

Inclusion and exclusion criteria

Inclusion criterion included all residents (355 people), who have worked and trained at the Faculty of Medicine, Songklanagarind Hospital, who would or could complete the questionnaire.

Exclusion criterion included residents, who didn't work or train at the Faculty of Medicine, Songklanagarind Hospital during the data collection period, or residents who could not complete the questionnaire, including those not comfortable with participation in the study.

Methodology

A research assistant contacted the residents in every department, and provided them with the

rationale along with an overview of the research. The research assistant distributed self-reporting questionnaires, thoroughly explaining that it comprised of 3 parts. Next, the research assistant explained, and provided the residents with an information sheet. The residents took 5-10 minutes to consider whether to participate in the study or not, after which, the research assistant handed out documentation that assured volunteers that their identities would be protected. Adhering to a policy of strict confidentiality, signatures of participants were not required, and all the participants retained the right to withdraw from the research at any time.

Not all the questionnaires were collected at the time of being distributed, as participants were permitted to finish, and then return the questionnaires later. There were 2 options for submitting the questionnaire; placement it in the solid box, at the front of the classroom, or dropping it in a solid box, located at the Psychiatric Department at a later time. Thus, participant confidentiality was protected.

Instruments

The questionnaire comprised of 3 parts:

1) Demographic characteristics included; age, year of training, religious preference, hometown, parental marriage status, income, and underlying diseases.

2) The Maslach Burnout Inventory (MBI) Thai version questionnaire, comprised of 3 parts; Emotional exhaustion (Cronbach's alpha coefficient=0.9), depersonalization (Cronbach's alpha coefficient=0.7), and reduced occupational accomplishment (Cronbach's alpha coefficient=0.7)^{16,17}

3) Patient health questionnaire-9 Thai version (PHQ-9), which consisted of 9 questions,

with a 4-rating Likert Scale for evaluating depression. The minimum and maximum scores were 0-4 for each question. The cut-off score was ≥ 9 with 84.0% sensitivity, 77.0% specificity, 21.0% positive predictive value (PPV) and 99.0% negative predictive value (NPV). The internal consistency reliability was assessed with Cronbach's alpha of 0.8-0.9. When the score was ≥ 9 , it indicated depression.¹⁸

Statistical analysis

All data were performed using the R software package, and were analyzed in order to describe the behavior of the sample, using the descriptive statistic method. The results were presented as; a frequency, percentage, average and standard deviation. The associated factors of burnout syndrome were analyzed using logistic regression.

Results

Demographic data

The total number of residents participating in this study were; 244. The response rate was 68.7%. Among the participants, there were 136 females (55.7%) and 108 males (44.3%). The mean age was 27.2 ± 2.2 years. The participants were minor specialty residents (50.5%), and major specialty residents (49.5%). Most of them were Buddhist (95.5%), single (80.7%), and having a mean amount of working hours, per day, of 10.3 ± 2.3 , with the mean amount of 'out of working times working hours, per week, being; 29.9 ± 16.2 . Among the participants, they reported the types of stressors from working to be; too high a work load (55.7%), lack of self-efficiency in work (13.7%), job discordance from their own life style (11.3%), having problems with co-workers (7.1%), and an inappropriate income (4.7%) (Table 1).

Table 1 Demographic characteristics (n=244)

Demographic characteristics	Number (%)
Gender	
Male	108 (44.3)
Female	136 (55.7)
Hometown	
Songkhla	192 (78.7)
3 southern border provinces	13 (5.3)
Others	31 (12.7)
No answer	2 (0.8)
Religion	
Buddhism	233 (95.5)
Islam	5 (2.0)
Christianity	4 (1.6)
Others (no religion)	2 (0.8)
Marital status	
Single	197 (80.7)
Married/couple	42 (17.2)
No answer	5 (2.0)
Affiliation	
Intern	179 (73.4)
Resident	65 (26.6)
Year of training	
1	80 (32.8)
2	57 (23.4)
3	62 (25.4)
4	38 (15.6)
5	7 (2.9)
Type of specialty	
Major Specialty	
Surgeon	40 (16.4)
Orthopedist	25 (10.2)
Pediatric	21 (8.6)
Physician	19 (7.8)
Gynecologist and obstetrician	16 (6.6)
Minor Specialty	
Ophthalmologist	7 (2.9)
Psychiatrist	8 (3.3)
Oto-rhino-laryngologist	19 (7.8)
Radiologist	27 (11.1)
Anesthesiologist	22 (9.0)
Emergency medicine physician	11 (4.5)
Family physician	23 (9.4)

Table 1 Demographic characteristics (n=244) cont.

Demographic characteristics	Number (%)
Amount of working hour (per day)	
Mean ± S.D.(min-max)	10.3±2.3 (1-20)
Amount of out of time working hour (per week)	
Mean ± S.D.(min-max)	20.9±16.2 (1-72)
Perception of having work-stress	
No	30 (12.3)
Yes	212 (86.9)
No answer	2 (0.8)
Type of stress from work (n=212)	
Too high a work load	118 (55.7)
Lack of self-efficiency in work	29 (13.7)
Job discord from life style	24 (11.3)
Having problems with medical teams	15 (7.1)
Inappropriate income	10 (4.7)
Having physical illness	5 (2.4)
Having problems with patients: being sued	2 (0.9)
Other	9 (4.2)

Prevalence of burnout syndrome

Burnout syndrome comprised of the; condition of emotional exhaustion (EE), depersonalization (DP) and a decreased sense of personal accomplishment (PA). According to this survey, the mean score as well as standard deviation (S.D.) of EE, DP and PD were; 25.3±12.6, 8.0±6.8, and 13.9±8.8, respectively. No one had a zero score for all 3 parts of burnout syndrome. There were 2, 27, and 3 people who had zero score in part of; EE, DP, PA, respectively. There were 45.9% and 24.2% of the participants having a high level of EE and DP, respectively. Whereas, 96.7% of the participants had a high level of PA. The gender proportion of this high EE was; 42.6% in the males, and 48.5% in the females (Table 2).

Table 2 Experience of burnout syndrome (n=244)

Experience of burnout	Total (%)	Male (%)	Female (%)
		n=108	n=136
Emotional exhaustion (EE)			
Low (0-16)	71 (29.1)	34 (31.5)	37 (27.2)
Moderate (17-26)	61 (25.0)	28 (25.9)	33 (24.3)
High (up from 27)	112 (45.9)	46 (42.6)	66 (48.5)
Mean±S.D. (min-max)	25.3±12.6 (0-54)	24.5±13.0 (0-54)	25.8±12.2 (0-54)
Depersonalization (DP)			
Low (0-6)	122 (50.0)	50 (46.3)	72 (52.9)
Moderate (7-12)	63 (25.8)	26 (24.1)	37 (27.2)
High (up from 13)	59 (24.2)	32 (29.6)	27 (19.9)
Mean±S.D. (min-max)	8.0±6.8 (0-29)	8.9±7.5 (0-26)	7.3±6.5 (0-29)
Personal Accomplishment (PA)			
Low (up from 39)	5 (2.0)	3 (2.8)	2 (1.5)
Moderate (32-38)	2 (0.8)	0	2 (1.5)
High (0-31)	236 (96.7)	105 (97.2)	131 (96.3)
No answer	1 (0.4)	0	1 (0.7)
Mean±S.D. (min-max)	13.9±8.8 (0-48)	13.9±8.4 (0-44)	14.0±9.1 (0-48)

Depression screening

According to the Patient Health Questionnaire-9 Thai version (PHQ-9), 24.6% of residents (29.8% of males and 22.5% of females) had depression (Table 3). There was no difference between the proportion of depression and gender (p-value= 0.262).

Associated factors related to burnout syndrome

We compared between the groups of only EE and DP, because of the lack in sample size within the PA groups. Variables with p-values were calculated from the univariate analysis, and those that were lower than 0.2 were included in the multivariate analysis. The results showed that; there were statistically significant associated factors related to burnout syndrome (Table 4).

The amount of working hours, per day were related to EE (p-value = 0.038), and the type of

specialist and stress-perception from work were related to DP (p-value <0.001 and 0.006, respectively) (Table 5).

The result from multiple logistic regression showed that; the participants, who had an amount of working hours, per day of more than 12 hours, had a 2.6 greater risk of EE, when compared with the participants who had lower working hours, per day (95% CI=1.2, 5.4) (Table 5).

The major specialist residents had a 2.6 greater risk of DP, when compared with residents who were minor specialist residents (95% CI=1.5, 4.5) after adjusting for perception of having stress from working. Along with this, the residents who perceived having stressor from work had a 3.4 greater risk of DP, when compared with residents who perceived themselves as having no stressors from work (95% CI=1.4, 8.7) after adjusting for type of specialist (Table 5).

Table 3 Screening Results for Depression by PHQ-9 (n=244)

Results	Total (%)	Male (%)	Female (%)
		n =108	n =136
Patient health questionnaire-9 (PHQ-9)			
No depression	173 (70.9)	73 (70.2)	100 (77.5)
Depression	60 (24.6)	31 (29.8)	29 (22.5)
No answer	11 (4.5)	4 (3.7)	7 (5.1)

Table 4 Results of univariate analysis: association between demographic data and burnout syndrome: EE and DP

Demographic characteristics	EE		Chi2	DP		Chi2
	Low (n=71)	Moderate/ high (n=173)	P-value	Low (n=122)	Moderate/ high (n=122)	P-value
Gender			0.556			0.367
Male	34 (47.9)	74 (42.8)		50 (41.0)	58 (47.5)	
Female	37 (52.1)	99 (57.2)		72 (59.0)	64 (52.5)	
Hometown			0.646			0.824
southern provinces	59 (83.1)	133 (77.8)		98 (80.3)	94 (78.3)	
3 southern border provinces	3 (4.2)	10 (5.8)		7 (5.7)	6 (5.0)	
Other provinces	9 (12.7)	28 (16.4)		17 (13.9)	20 (16.7)	
Marital status			0.101			0.050
Single	52 (75.4)	145 (85.3)		91 (77.1)	106 (87.6)	
Married/couple	17 (24.6)	25 (14.7)		27 (22.9)	15 (12.4)	
Year of training			0.489			0.271
1	18 (25.4)	62 (35.8)		37 (30.3)	43 (35.2)	
2	16 (22.5)	41 (23.7)		27 (22.1)	30 (24.6)	
3	22 (31.0)	40 (23.1)		38 (31.1)	24 (19.7)	
4	13 (18.3)	25 (14.5)		18 (14.8)	20 (16.4)	
5	2 (2.8)	5 (2.9)		2 (1.6)	5 (4.1)	
Type of specialist			0.144			< 0.001
Major	36 (50.7)	107 (61.8)		58 (47.5)	85 (69.7)	
Minor	35 (49.3)	66 (38.2)		64 (52.5)	37 (30.3)	
Amount of working hour (per day)			0.032			0.033
1-8	27 (38.6)	41 (24.3)		42 (35.3)	26 (21.7)	
9-11	26 (37.1)	61 (36.1)		43 (36.1)	44 (36.7)	
≥12	17 (24.3)	67 (39.6)		34 (28.6)	50 (41.7)	
Perception of having stress from work			< 0.001			0.010
No	24 (34.8)	6 (3.5)		22 (18.3)	8 (6.6)	
Yes	45 (65.2)	167 (96.5)		98 (81.7)	114 (93.4)	
PHQ-9			< 0.001			0.001
No depression	66 (97.1)	107 (64.8)		98 (83.8)	75 (64.7)	
Depression	2 (2.9)	58 (35.2)		19 (16.2)	41 (35.3)	

PHQ-9 = Patient health questionnaire-9

Table 5 Factors associated with EE and DP (n=232)

Factors	EE			DP		
	Crude OR (95%CI)	Adjusted OR (95%CI)	P LR-test	Crude OR (95%CI)	Adjusted OR (95%CI)	P LR-test
Amount of working hours (per day)			0.038			-
1-8	1	1		-	-	
9-11	1.6 (0.8, 3.1)	1.6 (0.8, 3.1)		-	-	
≥12	2.6 (1.2, 5.4)	2.6 (1.2, 5.4)		-	-	
Type of specialist			-			<0.001
Minor	-	-		1	1	
Major	-	-		2.6 (1.5, 4.4)	2.6 (1.5, 4.5)	
Perception of having stress from working			-			0.006
No	-	-		1	1	
Yes	-	-		3.4 (1.4, 8.5)	3.4 (1.4, 8.7)	

OR= Odds ratio, CI= Confidence interval, LR = Likelihood Ratio

Discussion

To our knowledge within this decade, this study is the first study of burnout syndrome among resident physicians in Thailand's southern areas. The results of the study would be helpful when applied to the current residency training programs in Thailand, because it shows all residents at Songklanagarind Hospital had burnout syndrome. That was a higher prevalence than the previous study among residents of King Chulalongkorn memorial hospital described low level of burnout in each dimension.¹⁹ In this study, the mean score of both; EE and DP, indicated a moderate level of burnout syndrome, whereas the mean score of PD indicated a high level of burnout syndrome. That meant, there was both; emotional exhaustion and depersonalization among residents, but only a few

of them (3.3%) neglected or mistreated their patients. Most of them were still very capable of doing their jobs efficiently. The reasons of these outcomes may be the nature of people who choose to be medical doctors themselves, need to be perfect and have achievement. Another possible cause may be the influence from medical training programs and professionalism curriculums of respective medical schools, which mainly focuses responsibility on "patients" and "empathy". Although the residents feel too tried, but they couldn't abandon or neglect their patients. Then the residency training programs shouldn't overlook the resident's personal health but should be aware of, and promote the quality of life among residents.

Regarding the associated factors of burnout syndrome, the data from this survey concerning

in-office workloads (>12 hours/day) was associated to the risk of EE, whereas the amount of 'out of time' working hours had no significant relation. In addition, stress-perception from work, and major specialist doctors were related to DP. The reasons of these outcomes may be, EE and DP possibly came from the stress or burden of work, but did not come from the amount of work. From this study, too high a work load (55.7%), and a lack of self-efficiency in work (13.7%) were the major stressors in their work. Hence, if the residents worked, and took care their patients very well, they gained positive feedback and had a sense of fulfillment, or success in their life, so they may not have felt tired, but they may have had an inflated, self-esteem, thus also having a sense of powerfulness instead.

According to the Patient Health Questionnaire-9 Thai version (PHQ-9) for depression screening, 24.6% of residents (29.8% of males and 22.5% of females) had depression. This data seems to be the same as a previous study²⁰ that found; the overall, pooled prevalence of depression among resident physicians was 28.8%, ranging from 20.9% to 43.2%, depending on the instrument used. However, one should beware that said depression may arise from burnout syndrome. Therefore, the resident training program should have a system of depression screening, and continuously support for the prevention of burnout syndrome.

Limitation

This study was designed to be cross-sectional, and used self-reporting for assessment. Thus, the results could not be used for summing up what the causes and effects were for burnout syndrome among resident physicians. In addition, the study was quantitative, and the sample size was limited to only the residents of the Faculty of Medicine, Songklanagarind hospital. Hence, it is too soon to generalize for another medical school.

Implication and future recommendation

Further studies on this topic, should use a more qualitative or cohort method, and cover more medical schools within Thailand, in so saying a multi-center study should be conducted. From this study, the Faculty of Medicine should concern for residents' mental health prevention or develop a psychological supporting systems within the organization.

Conclusion

All residents, who work in either major or minor specialties suffered from burnout syndrome. The factors associated to burnout syndrome are: work hours per day, type of specialty, perception of having stress from work.

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