Original Article

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Factors Associated with Burnout Syndrome among Clinical Medical Students at Chonburi Hospital, Thailand

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Abstract:

Objective: Burnout syndrome causes chronic fatigue, loss of motivation, despair, decreased work performance, and depression. Clinical medical students risk developing burnout syndrome due to long-term learning pressure, responsibilities for patient care and night shifts. This study aimed to examine the factors associated with burnout syndrome among clinical medical students at Chonburi Hospital.

Material and Methods: A cross-sectional study was conducted from July 2022 and January 2023. Data were collected using the Maslach Burnout Inventory General Survey among 106 medical students. Descriptive statistics, chi-square, ANOVA, and the independent t-test were used to investigate the association among variables.

Results: Severe burnout syndrome was not found among clinical medical students. High emotional exhaustion was the most common burnout symptom among these medical students (53.8%). While 27.3% had high depersonalization, no medical students had low personal accomplishment. The factor related to high emotional exhaustion was 4th-year medical students. At the same time, the factors associated with high depersonalization were fourth-year medical students, males, and low accumulated grade point averages (GPAX).

Conclusion: The prevalence of severe burnout was not found among clinical medical students at Chonburi Hospital. However, males, fourth-year medical students, and low GPAX were risk factors for burnout symptoms. Therefore, screening, monitoring, and providing help to these at-risk medical students to reduce their chances of severe burnout should be encouraged.

Keywords: burnout, clinical medical students, depersonalization, emotional exhaustion

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Introduction

Burnout syndrome is a psychological alteration caused by a response to chronic work stress or interpersonal stress[1]. Prevalent in healthcare providers, this condition can cause them to experience both physical and mental exhaustion, leading to chronic fatigue, headaches, loss of motivation, and hopelessness[2]. Suppose that people with this condition do not receive proper treatment they can develop depression and insomnia, resulting in frequent absenteeism and decreased work productivity[3]. Generally, burnout syndrome is assessed based on three main symptoms: emotional exhaustion (EE), or feeling overwhelmed with emotional pressure and lack of energy to face work; depersonalization (DP), defined as having a negative attitude toward work, resulting in an indifferent response to work; and reduced personal accomplishment (PA), which refers to decreased self-efficacy and efficiency at work[4].

According to previous studies, the prevalence of burnout syndrome was as high as 45-56% among medical students[5,6]. When considering each problem, almost half of all medical students had a high level of EE, and one-third had a high level of DP[7]. Factors related to burnout syndrome among medical students include females[8], low academic performance[9], practice on the wards of major subjects[10], lack of motivation, difficulty adapting to medical learning styles and a desire to drop out[11].

Clinical medical students change their learning style, from studying in a preclinical classroom to practicing in the wards. Working in the wards, writing patient reports and working night shifts have resulted in stress from learning adjustments, maintaining relationships with people on the job, adapting to sleep deprivation and a lack of free time. These accumulate into continuous stress and cause a deterioration in their quality of life; additionally, the problem can affect their mental health and cause psychiatric disorders. Therefore, there is interest in studying the prevalence and risk factors of burnout syndrome in clinical medical students at Chonburi Hospital, so as to find ways to prevent this condition.

Material and Methods

Study design and population

This was a cross-sectional study among clinical medical students practicing at Chonburi Hospital, Thailand from July 2022 to April 2023. One hundred and six medical students participated in this study and completed the questionnaire. This study protocol was approved by the Chonburi Hospital Ethics Committee (code: 72/66/S/q).

Data collection

All clinical medical students practicing at Chonburi Hospital during the data collection period were included in this study. The objectives of the study were informed, and participants were provided assurances that all who participated would remain anonymous, in addition to all responses to the questionnaire would be kept confidential. This study used two questionnaires: a demographic information form and the Maslach Burnout Inventory-General Survey.

Research instruments

1. Demographic information form

This form recorded demographic characteristics including gender, cumulative grade point average (GPAX), and year level of medical students.

2. Maslach Burnout Inventory – General Survey (Thai version)[12]

This questionnaire is a standardized tool used to assess burnout syndrome. The self-reported questionnaire consisted of 22 items, rated on a 7-point Likert scale: 0 (never felt it) to 6 (feel it every day). The results are presented with respect to the high, moderate, and low severity of 3 core burnout symptoms: emotional exhaustion

(EE), depersonalization (DP), and personal accomplishment (PA). People with high EE, high DP, and low PA are considered to have severe burnout syndrome. This questionnaire had an overall Cronbach's alpha greater than 0.75.

Data analysis

Descriptive statistics were used to describe the percentage and mean±S.D. Fisher's exact test, the independent t-test, and ANOVA were used to analyze the association between demographic characteristics and symptoms of burnout. A p-value of <0.05 was considered statistically significant. All analysis were performed using IBM Statistical Package for the Social Sciences (SPSS) Statistics (version 25; IBM Corporation, Armonk, New York, USA).

Results

One hundred and six clinical medical students from Chonburi Hospital participated in this study (Table 1). More than half of the participants were male (53.8%). Participants were 22 to 24 years old, 33.0% in fourth-year, 34.9% in fifth-year, and 32.1% in sixth-year. More than half of the participants had a GPAX of ≥3.00 (53.8%). No participants with severe burnout syndrome were found.

Table 2 shows that clinical medical students had high levels of EE up to 53.8%. Meanwhile, nearly half of the clinical medical students (42.5%) had moderate DP symptoms. No clinical medical students with low levels of PA were found.

However, considering each year-level, it was found that fourth-year medical students had a significantly higher mean EE score than other years (p-value=0.015), and a higher proportion of fourth-year medical students had high EE levels (68.6%), comparing to other years. In the DP domain, the average score of fourth-year medical students was significantly higher than other years (p-value=0.042). Additionally, higher levels of DP (40%) were found in fourth-year medical students than other years.

Taking into account gender, men were associated with higher DP scores and a more significant proportion of high DP symptoms than women (p-value=0.002 and 0.002, respectively) (Table 3). At the same time, lower GPAX was significantly associated with a higher proportion of high DP symptoms (p-value=0.048); as shown in Table 4.

Table 1 Baseline characteristics of clinical medical students (N=106)

Demographic characteristics	Descriptive results
Gender	
Male	57(53.8)
Female	49 (46.2)
Age (years)[a]	22.1±0.4
Year level of clinical medical students	
4th year medical students	35 (33.0)
5th year medical students	37 (34.9)
6th year medical students	34 (32.1)
GPAX	
<3.00	49 (46.2)
≥3.00	57 (53.8)
Burnout syndrome	
Severe	0 (0.0)
Mild to moderate	106 (100)

GPAX=cumulative grade point average
Data presented as a number (percentage)
[a]Data presented as mean±standard deviation

Discussion

This study did not detect severe burnout among clinical medical students at Chonburi Hospital. These results are inconsistent with the study by Auchayasawat (2022), in which the prevalence of severe burnout syndrome among clinical medical students from Ubon Ratchathani University was as high as 31%[10]. At the same time, a meta-analysis of the global prevalence of medical students found that severe burnout was as high as 44.2%[13]. This difference may

be attributed to Chonburi Hospital's preventive measures against stress-related problems during medical student practice; such as arranging consultants to provide consulting services and organizing activities to encourage medical students to practice adaptive coping strategies to reduce the adverse effects of stress that can lead to severe burnout.

Considering all aspects of burnout syndromes, this study's participants had a high EE level of 53.8%, higher than other burnout symptoms. This result is consistent with a study by Frajerman et al. (2019), which found that clinical medical students had emotional exhaustion as their most prevalent problem[13]. Increased stress from heavy workloads and responsibilities, the anticipation of medical staff, studies, and examinations that are relatively more difficult than the preclinical level may be the reasons why clinical medical students feel easily exhausted with work and service to patients[14].

Table 2 Burnout symptoms of clinical medical students (N=106)

Burnout symptoms	Low level	Moderate level	High level	Average score[a]
EE	29 (27.3)	20 (18.9)	57 (53.8)	25.8±11.1
DP	32 (30.2)	45 (42.5)	29 (27.3)	9.8±4.9
PA	0 (0.0)	9 (8.5)	97 (91.5)	18.7±8.1

EE=emotional exhaustion, DP=depersonalization, PA=personal accomplishment
Data presented as a number (percentage), [a]Data presented as mean±standard deviation

Table 3 Comparing the symptoms of burnout syndrome among 3 year-levels of clinical medical students

Symptoms of burnout syndrome	4th year (n=35)	5th year (n=37)	6th year (n=34)	p-value
EE scores[a,b]	30.3±10.3	23.4±11.2	23.7±11.8	0.015*
Low level	5 (14.3)	15 (40.5)	9 (26.5)	0.121
Moderate level	6 (17.1)	7 (18.9)	7 (20.6)	
High level	24 (68.6)	15 (40.5)	18 (52.9)	
DP scores[a,b]	11.5±6.0	8.1±5.7	10.0±5.3	0.042*
Low level	7 (20)	17 (45.9)	8 (23.5)	0.038*
Moderate level	14 (40)	12 (32.4)	19 (55.9)	
High level	14 (40)	8 (21.6)	7 (20.6)	
PA scores[a,b]	19.4±7.6	18.9±8.7	17.7±7.7	0.701
Low level	0 (0.0)	0 (0.0)	0 (0.0)	0.758
Moderate level	3 (8.6)	4 (10.8)	2 (5.9)	
High level	32 (91.4)	33 (89.2)	32 (94.1)	

EE=emotional exhaustion, DP=depersonalization, PA=personal accomplishment
Data presented as number (percentage), [a]Data presented as mean±standard deviation
The comparison of differences were analyzed by chi-square test and [b]ANOVA
*Statistically significant at a p-value<0.05

Table 4 Comparison of the symptoms of burnout syndrome and their association with gender and GPAX

Symptoms of burnout syndrome	Male (n=57)	Female (n=49)	p-value	GPAX<3.00 (n=49)	GPAX≥3.00 (n=57)	p-value
EE scores[a,b]	27.5±12.52	27.2±10.38	0.907	28.3±12.2	26.6±10.9	0.439
Low level	14 (24.6)	9 (18.4)	0.374	11 (22.4)	12 (21.1)	0.655
Moderate level	11 (19.3)	15 (30.6)		10 (20.4)	16 (28.1)	
High level	32 (56.1)	25 (51.0)		28 (57.1)	29 (50.9)	
DP scores[a,b]	11.1±6.4	7.3±5.7	0.002*	10.6±6.6	8.3±6.0	0.064
Low level	13 (22.8)	26 (53.1)	0.002*	16 (32.7)	23 (40.4)	0.048*
Moderate level	21 (36.8)	15 (30.6)		13 (26.5)	23 (40.4)	
High level	23 (40.4)	8 (16.3)		20 (40.8)	11 (19.3)	
PA scores[a,b]	18.4±9.2	17.2±7.9	0.471	18.5±8.9	17.3±8.3	0.485
Low level	1 (1.8)	0 (0.0)	0.419	0 (0.0)	1 (1.8)	0.419
Moderate level	3 (5.3)	5 (10.2)		5 (10.2)	3 (5.3)	
High level	53 (93)	44 (89.8)		44 (89.8)	53 (93.0)	

EE=emotional exhaustion, DP=depersonalization, PA=personal accomplishment, GPAX=cumulative grade point average
Data presented as number (percentage), [a]Data presented as mean±S.D.
The comparison of differences were analyzed by chi-square test and [b]independent t-test
*Statistically significant at a p-value<0.05

This study found that fourth-year medical students had the highest proportion of high levels of EE and DP compared to other grades. The results of this study are similar to those of the Srikam (2014)[15] and Martini (2004)[16] studies, which found that emotional exhaustion and depersonalization of residents in the first year were greater than that of residents in the second and third years. This result may be explained by the observation that those with more knowledge and work experience can better cope with stress and be more attentive.

In this study, men were associated with a high level of depersonalization, which is consistent with Korkate's study (2019)[11]; as struggling men usually do not express or seek help[17]. For this reason, it can lead men to avoid facing pressure and neglecting others, which may explain this association with depersonalization.

Furthermore, a lower GPAX was associated with a high level of depersonalization, which is consistent with the studies by Srikam (2014)[15] and Apiwatanasiri (2007)[9] these found that medical students with a lower grade point overage were statistically significantly related to high levels of depersonalization. Medical students having insufficient knowledge can lead to insecurity in patient care and negative attitudes towards providing and responding to patients.

However, this study did not investigate many other factors related to burnout symptoms including current working environment, physical and mental health issues, financial problems, and attitudes toward studying medicine. Furthermore, this cross-sectional study design limits itself from concluding the cause and effect. Future longitudinal research should be conducted to determine the causes and investigate other burnout-related variables. Furthermore, the effectiveness of the implementation of the policy on stress prevention policy related to work in medical students at Chonburi Hospital should be studied, so as to benefit other medical schools in burnout syndrome prevention in medical students.

Conclusion

This study did not find severe burnout syndrome in clinical medical students at Chonburi Hospital. However, 4th-year medical students had higher emotional exhaustion and depersonalization. Male and a lower GPAX were related to depersonalization. Therefore, medical personnel should be encouraged to pay close attention to medical students with burnout risk factors. Additionally, policies should be formulated to prevent work-related stress to reduce negative consequences in the future.

Conflict of interest

All authors declare no conflict of interest.

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