

SLEEP QUALITY BY CLINICAL TRAINING STATUS AMONG MEDICAL STUDENTS AND ITS ASSOCIATED FACTORS: A CROSS-SECTIONAL STUDY IN DA NANG, VIETNAM

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SUPPLEMENTARY

Table S1. Associations between demographic, behavioural, and psychological characteristics and sleep quality among medical students

Characteristics	PSQI score	p-value	Categories of sleep quality				p- value
	Mean ± SD		Poor sleep quality		Good sleep quality		
			n	% (95%CI)	n	% (95%CI)	
Gender							
- Male	5.3 ± 2.3	0.266 ^c	119	46.6 (41.1 - 52.2)	147	53.4 (47.8 - 58.9)	0.650 ^a
- Female	5.5 ± 2.3		145	44.7 (38.9 - 50.8)	166	55.3 (49.2 - 61.1)	
BMI ¹							
- Underweight (<18.5kg/m ²)	5.4 ± 2.3	0.434 ^d	50	46.3 (37.1 - 55.7)	58	53.7 (44.3 - 62.9)	0.942 ^a
- Normal weight (18.5 – 22.9 kg/m ²)	5.5 ± 2.3		156	45.1 (39.9 - 50.4)	190	54.9 (49.6 - 60.1)	
-Overweight/Obesity (≥23 kg/m ²)	5.2 ± 2.4		57	46.7 (38.4 - 55.6)	65	53.3 (44.4 - 62.0)	
Academic performance							
- Excellent/ Very good (3.2 – 4.0 points)	5.3 ± 2.5	0.012^d	104	41.9 (35.9 - 48.2)	144	58.1 (51.8 - 64.1)	0.025^a
- Good (2.5 – <3.2 points)	5.4 ± 2.1		122	46.7 (40.8 - 52.8)	139	53.3 (47.2 - 59.2)	
- Average/Weak (<2.5 points)	6.4 ± 2.3		27	64.3 (48.8 - 77.2)	15	35.7 (22.8 - 51.1)	
- Unknown	-		11	42.3 (23.4 - 63.1)	15	57.7 (36.9 - 76.6)	
Clinical training status							
- Preclinical	5.2 ± 2.1	0.014^c	118	51.8 (45.9 - 57.6)	177	48.2 (42.4 - 54.1)	0.005^a
- Clinical	5.6 ± 2.4		146	40 (34.5 - 45.7)	136	60 (54.3 - 65.5)	
Use of computer/tablet							
- Yes	5.4 ± 2.3	0.245 ^c	252	46.2 (42 - 50.4)	294	53.8 (49.6 - 58)	0.418 ^a
- No	4.9 ± 2.5		12	38.7 (23.4 - 56.6)	19	61.3 (43.4 - 76.6)	
Use of smartphone							
- Yes	5.4 ± 2.3	0.479 ^c	262	45.6 (41.6 - 49.7)	312	54.4 (50.3 - 58.4)	0.595 ^b
- No	6.3 ± 3.1		2	66.7 (15.3 - 95.7)	1	33.3 (4.3 - 84.7)	
Lunch napping							
- None	5.4 ± 2.4	0.101 ^d	32	47.8 (36.1 - 59.6)	35	52.2 (40.4 - 63.8)	0.438 ^a
- 1 – 20 minutes/day	4.6 ± 2.1		12	35.3 (21.2 - 52.5)	22	64.7 (47.5 - 78.8)	
- > 20 minutes/day	5.5 ± 2.3		220	46.2 (41.8 - 50.7)	256	53.8 (49.3 - 58.2)	
Caffeine consumption							
- Yes	5.0 ± 2.2	0.011^c	197	49.9 (44.9 - 54.8)	198	50.1 (45.2 - 55.1)	0.003^a

Characteristics	PSQI score	p-value	Categories of sleep quality				p- value
	Mean ± SD		Poor sleep quality		Good sleep quality		
			n	% (95%CI)	n	% (95%CI)	
- No	5.6 ± 2.3		67	36.8 (30.1 – 44.1)	115	63.2 (55.9 - 69.9)	
Smoking							
- Yes	5.8 ± 1.8	0.451 ^c	11	57.9 (35.6 - 77.4)	8	42.1 (22.6 - 64.4)	0.280 ^a
- No	5.4 ± 2.3		253	45.3 (41.2 - 49.5)	305	54.7 (50.5 - 58.8)	
Alcohol drinking							
- Yes	5.6 ± 2.5	0.441 ^c	40	46 (35.8 - 56.5)	47	54 (43.5 - 64.2)	0.964 ^a
- No	5.3 ± 2.3		224	45.7 (41.3 - 50.2)	266	54.3 (49.8 - 58.7)	
Playing game							
- Yes	5.3 ± 2.2	0.393 ^c	130	43.9 (38.4 - 49.6)	166	56.1 (50.4 - 61.6)	0.364 ^a
- No	5.5 ± 2.4		134	47.7 (41.9 - 53.5)	147	52.3 (46.5 - 58.1)	
Doing exercise							
- None	5.4 ± 2.4	0.549 ^d	80	47.1 (39.7 - 54.6)	90	52.9 (45.4 - 60.3)	0.620 ^a
- < 5 days/week	5.5 ± 2.3		140	46.5 (40.9 - 52.2)	161	53.5 (47.8 - 59.1)	
- ≥ 5 days/week (with ≥ 30 minutes/day)	5.2 ± 2.2		44	41.5 (32.5 - 51.1)	62	58.5 (48.9 - 67.5)	
Sleep affected by light							
- Yes	6.2 ± 2.4	<0.001 ^c	133	58.8 (52.3 - 65.1)	93	41.2 (34.9 - 47.7)	<0.001 ^a
- No	4.9 ± 2.1		131	37.3 (32.4 - 42.5)	220	62.7 (57.5 - 67.6)	
Sleep affected by noise							
- Yes	6.1 ± 2.2	<0.001 ^c	182	56.3 (50.9 - 61.7)	141	43.7 (38.3 - 49.1)	<0.001 ^a
- No	4.6 ± 2.1		82	32.3 (26.8 - 38.3)	172	67.7 (61.7 - 73.2)	
Financial burden							
- Yes	5.5 ± 2.3	0.170 ^c	145	47.9 (42.3 - 53.5)	158	52.1 (46.5 - 57.7)	0.287 ^a
- No	5.3 ± 2.3		119	43.4 (37.7 - 49.4)	155	56.6 (50.6 - 62.3)	
Signs of anxiety disorder (GAD-7)							
- Yes	7.4 ± 2.8	<0.001 ^c	42	79.2 (66.3 - 88.1)	11	20.8 (11.9 - 33.7)	<0.001 ^a
- No	5.2 ± 2.1		222	42.4 (38.2 - 46.7)	302	57.6 (53.3 - 61.8)	
Signs of depressive disorder (PHQ-9)							
- Yes	6.9 ± 2.6	<0.001 ^c	59	71.1 (60.4 - 79.8)	24	28.9 (20.2 - 39.6)	<0.001 ^a
- No	5.1 ± 2.1		205	41.5 (37.2 - 45.9)	289	58.5 (54.1 - 62.8)	
Categorical variables are presented as number (percentage); Continuous variables are presented as median (Interquartile range).							
¹ BMI classification for Asia-Pacific populations.							
Statistical comparison using ^a Chi-square test, and ^b Fisher’s exact test. Statistical comparison using ^c T-test, and ^d ANOVA test. The bold p-value indicated statistical significance (p<0.05).							
Abbreviations: GAD-7: General Anxiety Disorder-7; PHQ-9: Patient Health Questionnaire-9; BMI: Body Mass Index; PSQI: Pittsburgh Sleep Quality Index.							

Table S2. Risk factors associated with poor sleep quality in medical students using Poisson multivariable regression model

Characteristics	Model 1 (Full model)		Model 2 No academic performance		Model 3 No academic performance or PMSS		Model 4 No academic performance, PMSS, financial burden or lifestyle	
	PR (95% CI)	p	PR (95% CI)	p	PR (95% CI)	p	PR (95% CI)	p
Currently in clinical training (Ref: preclinical)	1.37 (1.14 - 1.65)	0.001	1.30 (1.09-1.55)	0.004	1.34 (1.12-1.59)	0.001	1.32 (1.11-1.56)	0.001
Female (Ref: male)	1.02 (0.84 - 1.24)	0.813	0.99 (0.82-1.20)	0.916	0.97 (0.81-1.17)	0.775	0.99 (0.83-1.19)	0.932
BMI ¹ (Ref: Normal weight (18.5 – 22.9 kg/m²))								
- Underweight (<18.5kg/m ²)	1.12 (0.88 - 1.42)	0.366	1.10 (0.87-1.38)	0.436	1.09 (0.87-1.37)	0.461	1.05 (0.84-1.32)	0.673
- Overweight/Obesity (≥23 kg/m ²)	1.06 (0.86 - 1.32)	0.578	1.04 (0.84-1.29)	0.694	1.04 (0.84-1.29)	0.725	1.07 (0.86-1.32)	0.56
Academic performance (Ref: good (2.50 - ≤3.2 points))								
- Excellent/Very good (3.20 - 4.0 points)	0.88 (0.73 - 1.06)	0.178						
- Average/Weak (<2.5 pointed)	1.43 (1.08 - 1.89)	0.012						
Light affects sleep (Ref: No)	1.26 (1.04 - 1.53)	0.021	1.26 (1.04-1.53)	0.016	1.25 (1.03-1.51)	0.022	1.26 (1.04-1.53)	0.017
Noise affects sleep (Ref: No)	1.49 (1.19 - 1.86)	<0.001	1.52 (1.22-1.90)	<0.001	1.54 (1.24-1.93)	<0.001	1.53 (1.23-1.92)	<0.001
Caffeine consumption (Ref: No)	1.23 (0.99 - 1.53)	0.061	1.24 (1.01-1.53)	0.048	1.25 (1.02-1.55)	0.035		
Current smoking (Ref: No)	1.47 (0.94 - 2.30)	0.089	1.51 (0.96-2.40)	0.077	1.51 (0.95-2.41)	0.082		
Alcohol drinking (Ref: No)	0.86 (0.67 - 1.10)	0.235	0.83 (0.65-1.05)	0.124	0.81 (0.64-1.04)	0.106		
Doing exercise (Ref: none)								
- < 5 days/week	1.03 (0.84 - 1.26)	0.797	1.03 (0.84-1.26)	0.760	1.02 (0.84-1.25)	0.830		
- ≥ 5 days/week (with ≥ 30 minutes/day)	1.04 (0.79 - 1.37)	0.786	1.05 (0.79-1.38)	0.747	1.04 (0.79-1.38)	0.785		
Lunch napping (Ref: none)								
- 1 – 20 minutes/day	0.68 (0.42 - 1.10)	0.117	0.70 (0.44-1.10)	0.119	0.67 (0.43-1.06)	0.085	0.66 (0.42-1.04)	0.074
- > 20 minutes/day	0.86 (0.66 - 1.12)	0.275	0.87 (0.67-1.13)	0.286	0.85 (0.6-1.11)	0.238	0.84 (0.65-1.09)	0.198
Had financial burden (Ref: No)	0.98 (0.82 - 1.17)	0.822	0.98 (0.82-1.17)	0.784	1.03 (0.87-1.22)	0.730		
Had Anxiety symptoms (GAD-7) (Ref: No)	1.43 (1.15 - 1.78)	0.001	1.46 (1.18-1.81)	<0.001	1.54 (1.24-1.90)	<0.001	1.53 (1.24-1.90)	<0.001
Had Depression symptoms (PHQ-9) (Ref: No)	1.29 (1.07 - 1.57)	0.008	1.31 (1.09-1.58)	0.004	1.33 (1.10-1.61)	0.004	1.33 (1.09-1.61)	0.005
Had Medical school stress (PMSS) (Ref: No)	1.22 (1.00 - 1.48)	0.045	1.19 (0.98-1.44)	0.073				

Abbreviations: PR: Prevalence Ratios; 95% CI: 95% confidence interval; GAD-7: General Anxiety Disorder-7; PHQ-9: Patient Health Questionnaire-9; PMSS: Perceived Medical School Stress.

Model 1: Prevalence ratio (PR) for gender (male, female), BMI catogories (kg/m²: <18.5, 18.5-22.9, > 23), clinical training status, sleep affected by light (yes, no), sleep affected by noise (yes, no), caffeine consumption (drink tea or coffee or both in the past month), smoking (yes, no), alcohol (yes, no), doing exercise (none, <5 days/week, ≥ 5 days/week with ≥ 30 minutes/day), lunch napping (no, 1 – 20 minutes/day, >20 minutes/day), financial burden (yes, no), anxiety (yes, no), depression (yes, no); medical school pressure (yes, no)

Model 2: excluding academic performance from model 1;

Model 3: excluding academic performance and medical school pressure (PMSS) from model 1;

Model 4: excluding academic performance, medical school pressure, financial burden, lifestyle (caffeine consumption, smoking, alcohol, and doing exercise) from model 1;

¹ BMI classification for Asia-Pacific populations.

Table S2. Risk factors associated with poor sleep quality in medical students using Poisson multivariable regression model (continued)

Characteristics	Model 5 No academic performance, PMSS, financial burden, lifestyle, lunch napping, or PHQ-9		Model 6 No academic performance, PMSS, financial burden, lifestyle, lunch napping, or GAD-7		Model 7 No academic performance, PMSS, financial burden, lifestyle, napping, GAD-7, or PHQ-9		Model 8 Only includes gender and lifestyle	
	PR (95% CI)	p	PR (95% CI)	p	PR (95% CI)	p	PR (95% CI)	p
Currently in clinical training (Ref: preclinical)	1.31 (1.10-1.56)	0.002	1.30 (1.09-1.54)	0.003	1.25 (1.05-1.48)	0.014		
Female (Ref: male)	0.97 (0.82-1.15)	0.758	0.99 (0.84-1.18)	0.945	0.98 (0.83-1.17)	0.844	1.02 (0.84-1.23)	0.873
BMI ¹ (Ref: Normal weight (18.5 – 22.9 kg/m²))								
- Underweight (<18.5kg/m ²)								
- Overweight/Obesity (≥23 kg/m ²)								
Academic performance (Ref: good (2.50 - ≤3.2 points))								
- Excellent/Very good (3.20 - 4.0 points)								
- Average/Weak (<2.5 pointed)								
Light affects sleep (Ref: No)	1.25 (1.03-1.51)	0.025	1.27 (1.05-1.54)	0.016	1.32 (1.08-1.60)	0.005		
Noise affects sleep (Ref: No)	1.57 (1.26-1.96)	<0.001	1.50 (1.19-1.88)	0.001	1.50 (1.20-1.88)	<0.001		
Caffeine consumption (Ref: No)							1.35 (1.09-1.68)	0.007
Current smoking (Ref: No)							1.28 (0.83-1.97)	0.260
Alcohol drinking (Ref: No)							0.92 (0.69-1.21)	0.546
Doing exercise (Ref: none)								
- < 5 days/week							0.99 (0.81-1.21)	0.930
- ≥ 5 days/week (with ≥ 30 minutes/day)							0.89 (0.67-1.19)	0.433
Lunch napping (Ref: none)								
- 1 – 20 minutes/day								
- > 20 minutes/day								
Had financial burden (Ref: No)								
Had Anxiety symptoms (GAD-7) (Ref: No)	1.82 (1.52-2.17)	<0.001						
Had Depression symptoms (PHQ-9) (Ref: No)			1.57 (1.33-1.84)	<0.001				
Had Medical school stress (PMSS) (Ref: No)					1.33 (1.12-1.58)	0.001		

Abbreviations: PR: Prevalence Ratios; 95% CI: 95% confidence interval; GAD-7: General Anxiety Disorder-7; PHQ-9: Patient Health Questionnaire-9; PMSS: Perceived Medical School Stress.

Model 5: excluding academic performance, medical school pressure (PMSS), financial burden, lifestyle (caffeine consumption, smoking, alcohol, doing exercise), lunch napping, depression;

Model 6: excluding academic performance, medical school pressure (PMSS), financial burden, lifestyle (caffeine consumption, smoking, alcohol, doing exercise), lunch napping, anxiety;

Model 7: excluding academic performance, medical school pressure (PMSS), financial burden, lifestyle (caffeine consumption, smoking, alcohol, doing exercise), lunch napping, depression, anxiety;

Model 8: only including gender and lifestyle (caffeine consumption, smoking, alcohol, and exercise).

¹ BMI classification for Asia-Pacific populations.

Table S3. Results of sleep quality in university students using PSQI

No.	Author	Year of publication	Country	Sample size	Participant	Prevalence of poor sleep quality (PSQI >5)	Factors associated
1	Lemma et al. ¹	2012	Ethiopia	2230	University students	52.7%	- Female (aOR = 1.37, 95% CI: 1.08-1.73) - Physical activity (aOR = 1.27, 95% CI: 1.02-1.64)
2	Mohammadbeigi et al. ²	2016	Iran	380	Medical students	61.7%	- Cell-phone addiction (OR=4.52, 95% CI: 1.8-11.9) - Male (OR=1.54, 95% CI: 1.08-2.43) - Educational level (OR = 1.61, 95% CI:1.18-2.54)
3	Wang et al. ³	2016	China	6085	Medical students	27.8%	- Regular exercise more than three times a week (OR = 0.84, 95% CI: 0.75-0.95) - No skipping breakfast (OR = 0.77, 95% CI: 0.68-0.87) - Studying in higher grades (OR = 1.78, 95% CI: 1.56-2.03) - Interpersonal relationship level (OR = 1.8, 95% CI: 1.24-2.60)
4	Al-Khani et al. ⁴	2019	Saudi Arabia	95	Medical students	63.2%	- Depression (p=0.03) - Anxiety (p=0.007) - Stress (p=0.01) (OR or RR were not provided)
5	Li et al. ⁵	2020	China	6284	College students	31.0%	- Freshman (OR=1.523) - Alcohol use (OR=1.634) - Gambling behaviors (OR = 1.167) - Exercised for more than 30 min a week on less than one day (OR = 1.234) - The feelings of satisfied with parental love (OR = 1.849) - Harmonious/neutral relationship with classmates (OR = 2.206; OR = 1.700) - No study pressure of this academic year (OR = 0.210) - No truancy in the past month (OR = 0.510) - Never had self-injurious behaviors (OR = 0.413) - Very harmonious family relationship (OR = 0.377) - Frequent communication with parents (OR = 0.524) - The feelings of satisfied with maternal love (OR = 0.432) - Frequent excursions to gymnasium (OR = 0.770)
6	Alotaibi et al. ⁶	2020	Saudi Arabia	282	Medical students	77.0%	- Distress: well (OR = 0.108, 95% CI: 0.036-0.325) - Distress: mild (OR = 0.112, 95% CI: 0.035-0.358) - Daytime naps (OR = 0.453, 95%CI: 0.25-0.82)
7	Huang et al. ⁷	2020	China	443	College students	9.8% (PSQI >7)	- Male (OR = 2.8, 95% CI: 1.16-6.71) - Not having good physical health (OR = 2.61, 95% CI: 1.16-5.88) - Headache (OR = 2.47, 95% CI: 1.20-5.07) - More depressive symptom (OR = 2.17, 95% CI: 1.01-4.68)

No.	Author	Year of publication	Country	Sample size	Participant	Prevalence of poor sleep quality (PSQI >5)	Factors associated
							- > 4 years of smartphone use (OR = 3.38, 95% CI: 1.67-6.87) - > 5 hours of daily smartphone use (OR = 2.19, 95% CI: 1.04-4.63) - More severe inability to control MPA craving (OR = 2.04, 95% CI: 1.01-4.14)
8	Amiri et al. ⁸	2020	Iran	300	Medical students	51.3%	- Depression (aOR = 2.81, 95% CI:1.35-5.87) - Using smartphones in 24 hours (aOR = 1.13, 95% CI: 1.02-1.25)
9	Tran et al. ⁹	2021	Ho Chi Minh, Vietnam	874	Medical students	51.6%	- Using smartphone - Coffee consumption (OR or RR were not provided)
10	Nguyen et al. ¹⁰	2022	Hanoi, Vietnam	361	University students	33.8%	- Non-exercise students (OR = 1.99, 95%CI: 1.17-3.37) - Had more than 2 hours and above using mobile phones before sleeping (OR = 2.69, 95%CI: 1.3-5.56) - Waked up in the middle of the night because of cell phones (OR= 2.44, 95%CI: 1.37- 4.35)
11	Ngo Thi Huyen ¹¹	2022	Hanoi, Vietnam	220	Nursing students	44.5%	- Pressure of school result (OR = 2.0, 95% CI: 1.08-4.86) - Family expectations (OR = 2.1, 95% CI: 1.27-5.8) - Overtime participation (OR= 2.3, 95% CI: 1.81-4.54) - Alertness and balance at work (OR = 8.0, 95% CI: 4.29-15.25)
12	Mishra et al. ¹²	2022	India	288	Medical students	45.0%	- Doing exercise for <3 days/week (aOR = 1.81, 95% CI: 1.01-3.23) - Spending ≥8 h screen time/day (aOR = 2.02, 95%: 1.12–3.66) - Having anxiety symptoms (aOR = 3.61, 95% CI: 1.72–7.57) - Were not satisfied with own self (aOR = 2.69, 95% CI: 1.35–5.38)
13	Thaipisuttikul et al. ¹³	2022	Thailand	165	Medical students	63.6%	- Ademic concern (PR = 1.46, 95% CI: 1.21-1.78) - Nighttime activity without screen (PR = 1.43, 95% CI: 1.16-1.77)
14	Zhou et al. ¹⁴	2022	China	1063	Medical and non-medical students	53.7%	- Smoking (OR: 1.754) - Noisy dormitory environment (OR: 2.025) - Kipping breakfast more times per week (OR: 1.332) - Drinking coffee before sleep (OR: 2.111) - Playing with mobile phones for more than 45 minutes before sleep (OR: 1.745) - More time spent playing games per day (OR: 1.347) - Bad physical condition (OR: 2.507)

No.	Author	Year of publication	Country	Sample size	Participant	Prevalence of poor sleep quality (PSQI >5)	Factors associated
							- Severe academic stress (OR: 1.561)
15	Maciel et al. ¹⁵	2023	Brazil	996	University students	23.1%	- Female (PR = 1.81,95%CI: 1.33-2.45) - Concern about violence in the neighbourhood (PR = 2.21,95%CI: 1.48-3.28) - Discrimination at university (PR = 1.42, 95%CI: 1.08-1.86) - Food insecurity (PR = 1.45, 95%CI: 1.11-1.89)
16	Le et al. ¹⁶	2023	Thai Binh, Vietnam	280	Nursing students	Unknown	- Male (OR = 2.21, 95% CI: 1.02-4.77) - School year (OR = 0.31, 95% CI: 0.15-0.62) - Academic performance (OR = 5.45, 95% CI: 2.77-10.73) - Alcohol (OR = 2.27, 95% CI: 1.25-4.12) - Social pressure (OR = 2.85, 95% CI: 1.07- 7.58) - Academic pressure (OR = 4.34, 95% CI: 1.4-13.42)
17	Ly et al. ¹⁷	2023	Ho Chi Minh, Vietnam	570	Students of preventive medicine physician	44.0%	- School year (PR = 0.5, 95% CI: 0.32-0.78) - Academic performance (PR = 0.78, 95% CI: 0.64-0.95) - Poor social interaction (PR= 1.68, 95% CI: 1.37-2.05) Noise (PR = 1.2, 95% CI: 1.01-1.44)
18	Ali et al. ¹⁸	2023	Qatar	1549	University students	69.7%	- Good sleep hygiene (aOR = 3.66, 95% CI: 2.8-4.8, p <0.001).
19	Alshumrani et al. ¹⁹	2023	Saudi Arabia	260	Medical students	74.6%	- Total beverage consumption based on the BEVQ-15 score (OR = 0.93, p=0.02)
20	Tran et al. ²⁰	2023	Ho Chi Minh, Vietnam	1502	Medical students	50.27%	- Tea consumption - Level of stress experienced during the COVID-19 (OR or RR were not provided)
21	Hu et al. ²¹	2024	China	8458	University students	39.3%	- Higher physical activity (OR = 0.921; 95% CI: 0.779-1.090) - Earlier roommate bedtimes (OR = 0.799; 95% CI: 0.718-0.888) - Quieter dormitories (OR = 0.732; 95% CI: 0.647-0.828) - Higher psychological resilience (OR = 0.982; 95% CI, 0.979-0.984) - Female student (OR = 1.238; 95% CI: 1.109-1.382) - Being a senior (OR = 1.582; 95% CI: 1.344-1.863) - Regular smoking (OR = 1.833; 95% CI: 1.181-2.847), - Regular alcohol consumption (OR = 1.737; 95% CI: 1.065-2.833) - High academic stress (OR = 1.326; 95% CI: 1.012-1.736) - High employment stress (OR = 1.352; 95% CI: 1.156-1.582) - Dissatisfaction with dormitory hygiene (OR = 1.140; 95% CI: 1.028-1.265)

No.	Author	Year of publication	Country	Sample size	Participant	Prevalence of poor sleep quality (PSQI >5)	Factors associated
							- Poor self-rated physical health (OR = 1.969; 95% CI: 1.533-2.529)
22	Janatolmakan et al. ²²	2024	Iran	97	Nurses	74.2%	- Work experience ≥ 10 years (aOR = 4.38, 95% CI: 1.03-8.64, p = 0.045) - The type of work shifts: Rotating (aOR = 6.46, 95% CI: 2.16-19.31, p = 0.001)
23	Jie et al. ²³	2024	Malaysia	384	Dental students	51.6%	- Self-perceived poor academic performance (aOR = 2.95, 95% CI: 1.25–6.96, p = 0.013) - Students skipping class (aOR = 1.70, 95% CI: 1.00–2.91, p = 0.046)
24	Shafiee et al. ²⁴	2024	Iran	249	Medical students	71.1%	- Sleep duration in the last 24h was 7-8 hours (aOR = 0.275, 95% CI: 0.104-0.728)
25	Olarte-Durand et al. ²⁵	2024	Peru	310	Medical students	83.9%	- Stress (PR = 1.30, 95% CI: 1.08-1.57, p<0.01) - Anxiety (PR = 1.34, 95% CI: 1.09-1.56, p<0.01)
26	In our study		Danang, Vietnam	577	All medical students in the University of Danang, Vietnam	45.8%	- Being in clinical training (PR = 1.37; 95%CI: 1.14-1.65, p = 0.012) - Lower academic performance (PR = 1.43, 95% CI: 1.08-1.89, p < 0.001) - Being affected by noise (PR = 1.52, 95% CI: 1.22-1.90, p < 0.001) - Being affected by light (PR = 1.26, 95% CI: 1.04-1.53, p = 0.021) - Having stress symptoms (PR = 1.22; 95%CI: 1.00-1.48, p = 0.045) - Having anxiety symptoms (PR = 1.43; 95%CI: 1.15-1.78, p = 0.001) - Having depression symptoms (PR = 1.29; 95%CI: 1.07-1.57, p = 0.008)

Reference

1. Lemma, S., et al. The Epidemiology of Sleep Quality, Sleep Patterns, Consumption of Caffeinated Beverages, and Khat Use among Ethiopian College Students. *Sleep Disorders* **2012**, 583510 (2012).
2. Mohammadbeigi, A., et al. Sleep Quality in Medical Students; the Impact of Over-Use of Mobile Cell-Phone and Social Networks. *J Res Health Sci* **16**, 46-50 (2016).
3. Wang, L., et al. Prevalence and risk factors of poor sleep quality among Inner Mongolia Medical University students: A cross-sectional survey. *Psychiatry Research* **244**, 243-248 (2016).
4. Al-Khani, A.M., Sarhandi, M.I., Zaghloul, M.S., Ewid, M. & Saquib, N. A cross-sectional survey on sleep quality, mental health, and academic performance among medical students in Saudi Arabia. *BMC Res Notes* **12**, 665 (2019).
5. Li, Y., et al. Prevalence and correlates of poor sleep quality among college students: a cross-sectional survey. *Health and Quality of Life Outcomes* **18**, 210 (2020).
6. Alotaibi, A.D., Alosaimi, F.M., Alajlan, A.A. & Bin Abdulrahman, K.A. The relationship between sleep quality, stress, and academic performance among medical students. *J Family Community Med* **27**, 23-28 (2020).

7. Huang, Q., *et al.* Smartphone Use and Sleep Quality in Chinese College Students: A Preliminary Study. *Frontiers in Psychiatry* **11**(2020).
8. Janatmakan Amiri, A., Morovatdar, N., Soltanifar, A. & Rezaee, R. Prevalence of Sleep Disturbance and Potential Associated Factors among Medical Students from Mashhad, Iran. *Sleep Disorders* **2020**, 4603830 (2020).
9. Duc Si, T. & Thanh Hiep, N. Sleep quality during COVID-19 social distancing in students at University of Medicine Pham Ngoc Thach. *Vietnam Medical Journal* **509**(2022).
10. Nguyen Thi Thu, H., *et al.* Quality of sleep and its associated factors among students at Hanoi Medical University. *Journal of Health and Development Studies* **6**, 27-34 (2022).
11. Thi Huyen, N. Sleep quality among nursing students and some factors related at Dai Nam University. *Vietnam Medical Journal* **516**(2022).
12. Mishra, J., *et al.* Sleep quality and associated factors among undergraduate medical students during Covid-19 confinement. *Clin Epidemiol Glob Health* **15**, 101004 (2022).
13. Thaipisuttikul, P., Theansukont, T., Boonmueng, R. & Wisajun, P. Sleep quality problems in Thai medical students. *Sleep Sci* **15**, 244-248 (2022).
14. Zhou, Y., *et al.* Deteriorated sleep quality and influencing factors among undergraduates in northern Guizhou, China. *PeerJ* **10**, e13833 (2022).
15. Maciel, F.V., Wendt, A.T., Demenech, L.M. & Dumith, S.C. Factors associated with sleep quality in university students. *Cien Saude Colet* **28**, 1187-1198 (2023).
16. Le, T.H. & Nguyen, V.D. Associated factors to sleep quality of nursing students at Thai Binh University of medicine and pharmacy in 2022. *Vietnam Medical Journal* **528**(2023).
17. Ly, H.M. & Pham, T.V.P. Sleep quality and related factors among students of preventive medicine physician at University of Medicine and Pharmacy at Ho Chi Minh City in the context of the COVID-19 pandemic in 2022. *Vietnam Medical Journal* **524**(2023).
18. Ali, R.M., Zolezzi, M., Awaisu, A. & Eltorki, Y. Sleep Quality and Sleep Hygiene Behaviours Among University Students in Qatar. *Int J Gen Med* **16**, 2427-2439 (2023).
19. Alshumrani, R., *et al.* Consumption of energy drinks and their effects on sleep quality among medical students. *J Family Med Prim Care* **12**, 1609-1614 (2023).
20. Tran, D.S., *et al.* Stress and sleep quality in medical students: a cross-sectional study from Vietnam. *Front Psychiatry* **14**, 1297605 (2023).
21. Hu, B., Wu, Q., Wang, Y., Zhou, H. & Yin, D. Factors associated with sleep disorders among university students in Jiangsu Province: a cross-sectional study. *Front Psychiatry* **15**, 1288498 (2024).
22. Janatolmakan, M., Naghipour, A. & Khatony, A. Prevalence and factors associated with poor sleep quality among nurses in COVID-19 wards. *Sci Rep* **14**, 16616 (2024).
23. Jie, K.Y., *et al.* Factors associated with poor sleep quality among dental students in Malaysia. *PeerJ* **12**, e17522 (2024).
24. Shafiee, A., *et al.* The prevalence of sleep disturbance and its possible associated factors among iranian medical students: A cross-sectional study with a national meta-analysis. *Sleep Med X* **7**, 100107 (2024).
25. Olarte-Durand, M., *et al.* Mood and Sleep Quality in Peruvian Medical Students During COVID-19 Pandemic. *Rev Colomb Psiquiatr (Engl Ed)* **53**, 47-54 (2024).

Table S4. Survey Questionnaire

English version

No.	Questions	Answer										
General Characteristics												
A01	What is your gender?	☐ Male ☐ Female										
A02	Which year are you currently in at your university?	☐ Year 1 ☐ Year 2 ☐ Year 3 ☐ Year 4 ☐ Year 5 ☐ Year 6										
A03	What is your year of birth?	[][][][]										
A04	What is your current height and weight?	Height [] cm Weight [] kg										
A05	In the past month, have you worked part-time job at night?	☐ Yes ☐ No										
A06	In the past month, have you gone on night duty at the hospital?	☐ Yes ☐ No - If YES, how many nights per week have you worked night shifts? [] nights/week										
A07	What was your academic performance classification in the most recent semester?	☐ Excellent (3.60 – 4.00) ☐ Very good (3.20 – 3.59) ☐ Good (2.50 – 3.19) ☐ Average (2.00 – 2.49) ☐ Weak (<2.00)										
A08	What electronic devices have you usually used in the past month?	<table border="1"> <thead> <tr> <th>Devices</th><th>Yes/No?</th></tr> </thead> <tbody> <tr> <td>Computer, tablet</td><td>☐ Yes ☐ No</td></tr> <tr> <td>Smartphone</td><td>☐ Yes ☐ No</td></tr> </tbody> </table>	Devices	Yes/No?	Computer, tablet	☐ Yes ☐ No	Smartphone	☐ Yes ☐ No				
Devices	Yes/No?											
Computer, tablet	☐ Yes ☐ No											
Smartphone	☐ Yes ☐ No											
A09	In the past month, have you usually taken naps?	☐ Yes ☐ No - If YES, how many days per week have you usually been taking naps? [] DAYS/WEEK - If YES, on average, how many minutes per day have you usually napped? [] MINUTES/DAY										
A10	In the past month, which stimulant(s) have you usually used?	<table border="1"> <thead> <tr> <th></th><th>Yes/No?</th></tr> </thead> <tbody> <tr> <td>Smoke</td><td>☐ Yes ☐ No</td></tr> <tr> <td>Coffee</td><td>☐ Yes ☐ No</td></tr> <tr> <td>Tea</td><td>☐ Yes ☐ No</td></tr> <tr> <td>Alcohol</td><td>☐ Yes ☐ No</td></tr> </tbody> </table>		Yes/No?	Smoke	☐ Yes ☐ No	Coffee	☐ Yes ☐ No	Tea	☐ Yes ☐ No	Alcohol	☐ Yes ☐ No
	Yes/No?											
Smoke	☐ Yes ☐ No											
Coffee	☐ Yes ☐ No											
Tea	☐ Yes ☐ No											
Alcohol	☐ Yes ☐ No											
A11	In the past month, how often have you played video games?	☐ Not at all ☐ < 1 time/week ☐ 1 – 2 times/week ☐ ≥ 3 times/week										
A12	In the past month, have you exercised?	☐ Yes ☐ No - If YES, on average, how many days per week have you usually exercised?										

		[] DAYS/WEEK - If YES, how many minutes per day have you usually spent on exercise? [] MINUTES/DAY			
Pittsburgh Sleep Quality Index (PSQI)					
B01	During the past month, what time have you usually gone to bed at night? (Ex: 23h00)	[]			
B02	During the past month, how long (in minutes) has it usually taken you to fall asleep each night?	[]			
B03	During the past month, what time have you usually gotten up in the morning?	[]			
B04	During the past month, how many hours of actual sleep did you get at night? (This may be different than the number of hours you spent in bed)	[]			
B05	During the past month, how often have you had trouble sleeping because you...	<i>Not during the past month</i>	<i>Less than once a week</i>	<i>Once or twice a week</i>	<i>Three or more times a week</i>
	a. Cannot get to sleep within 30 minutes	☐	☐	☐	☐
	b. Wake up in the middle of the night or early morning	☐	☐	☐	☐
	c. Have to get up to use the bathroom	☐	☐	☐	☐
	d. Cannot breathe comfortably	☐	☐	☐	☐
	e. Cough or snore loudly	☐	☐	☐	☐
	f. Feel too cold	☐	☐	☐	☐
	g. Feel too hot	☐	☐	☐	☐
	h. Have bad dreams	☐	☐	☐	☐
	i. Have pain	☐	☐	☐	☐
	j. Other reason(s), please describe:	☐	☐	☐	☐
B06	During the past month, how would you rate your sleep quality overall?	☐ Very good ☐ Fairly good ☐ Fairly bad ☐ Very bad			
B07	During the past month, how often have you taken medicine to help you sleep?	☐ Not during the past month ☐ Less than once a week ☐ Once or twice a week ☐ Three or more times a week			
B08	During the past month, how often have you had trouble staying awake while driving, eating meals, or engaging in social activity?	☐ Not during the past month ☐ Less than once a week ☐ Once or twice a week ☐ Three or more times a week			
B09	During the past month, how much of a problem has it been for you to keep up enough enthusiasm to get things done?	☐ No problem at all ☐ Only a very slight problem ☐ Somewhat of a problem			

		☐ A very big problem				
Perceived Medical School Stress (PMSS)						
<i>Please provide your assessment of the following statements and check the appropriate box</i>		Strongly disagree	Disagree	Neut ral	Agree	Strongly agree
C01	Medical School fosters a sense of anonymity and feelings of isolation among students	☐	☐	☐	☐	☐
C02	I am concerned that I will not be able to endure the long hours and responsibilities associated with clinical training and practice	☐	☐	☐	☐	☐
C03	I do not know what the faculty/administration expect of me	☐	☐	☐	☐	☐
C04	Medical training controls my life and leaves too little time for other activities	☐	☐	☐	☐	☐
C05	I am concerned that I will be unable to master the entire pool of medical knowledge	☐	☐	☐	☐	☐
C06	This medical school is fostering a physician role at the expense of one's personality and interests	☐	☐	☐	☐	☐
C07	Medical school is more competitive than I expected	☐	☐	☐	☐	☐
C08	The attitude of too many of the faculty is that students should be subjected to "baptism by fire	☐	☐	☐	☐	☐
C09	The majority of students feel that success in medical school is in spite of the administration rather than because of it	☐	☐	☐	☐	☐
C10	Medical school is cold, impersonal, and needlessly bureaucratized	☐	☐	☐	☐	☐
C11	Decisions regarding electives and clerkships are made on the basis of information obtained from fellow students and not from the faculty	☐	☐	☐	☐	☐
C12	Medical school is more of a threat than a challenge	☐	☐	☐	☐	☐
C13	Personal finances are a source of concern to me	☐	☐	☐	☐	☐
D01	In the past month, have any types of light in your bedroom (or outside the room) affected your sleep?	☐ Not during the past month ☐ Less than once a week ☐ Once or twice a week ☐ Three or more times a week				
D02	In the past month, have any types of light in your bedroom (or outside the room) affected your sleep?	☐ Not during the past month ☐ Less than once a week ☐ Once or twice a week ☐ Three or more times a week				
Generalized Anxiety Disorder-7 (GAD-7)						
<i>Over the Last 2 weeks, how often have you been bothered by any of the following problems?</i>		Not at all	Several days	More than half the days	Nearly everyday	
E01	Feeling nervous, anxious or on edge	☐	☐	☐	☐	
E02	Not being able to stop or control worrying	☐	☐	☐	☐	
E03	Worrying too much about different things	☐	☐	☐	☐	
E04	Trouble relaxing	☐	☐	☐	☐	

E05	Being so restless that it is hard to sit still	☐	☐	☐	☐
E06	Becoming easily annoyed or irritable	☐	☐	☐	☐
E07	Feeling afraid as if something awful might happen	☐	☐	☐	☐
Patient Health Questionnaire-9 (PHQ-9)					
F01	Little interest or pleasure in doing things	☐	☐	☐	☐
F02	Feeling down, depressed, or hopeless	☐	☐	☐	☐
F03	Trouble falling or staying asleep, or sleeping too much	☐	☐	☐	☐
F04	Feeling tired or having little energy	☐	☐	☐	☐
F05	Poor appetite or overeating	☐	☐	☐	☐
F06	Feeling bad about yourself – or that you are a failure or have let yourself or your family down	☐	☐	☐	☐
F07	Trouble concentrating on things, such as reading the newspaper or watching television	☐	☐	☐	☐
F08	Moving or speaking so slowly that other people could have noticed. Or the opposite – being so fidgety or restless that you have been moving around a lot more than usual	☐	☐	☐	☐
F09	Thoughts that you would be better off dead, or of hurting yourself in some way	☐	☐	☐	☐

Vietnamese version

TT	Câu hỏi	Trả lời						
Đặc điểm chung								
A01	Giới tính của bạn?	☐ Nam ☐ Nữ						
A02	Hiện tại, bạn đang là sinh viên năm thứ mấy?	☐ Năm 1 ☐ Năm 2 ☐ Năm 3 ☐ Năm 4 ☐ Năm 5 ☐ Năm 6						
A03	Năm sinh của bạn?	[][][][]						
A04	Chiều cao, cân nặng hiện tại của bạn?	Chiều cao [] cm Cân nặng [] kg						
A05	Trong tháng qua , bạn có đi làm thêm vào buổi tối không?	☐ Có ☐ Không						
A06	Trong tháng qua , bạn có đi trực lâm sàng tại bệnh viện vào buổi tối không?	☐ Có ☐ Không - Nếu CÓ , bạn trực bao nhiêu buổi/tuần? [] BUỔI/TUẦN						
A07	Xếp loại học lực của bạn trong học kỳ gần nhất ?	☐ Xuất sắc ☐ Giỏi ☐ Khá ☐ Trung bình ☐ Kém						
A08	Trong tháng qua , bạn thường sử dụng thiết bị điện tử nào sau đây?	<table border="1"> <tr> <th>Thiết bị</th> <th>Có/Không?</th> </tr> <tr> <td>Máy tính, Máy tính bảng</td> <td>☐ Có ☐ Không</td> </tr> <tr> <td>Điện thoại</td> <td>☐ Có ☐ Không</td> </tr> </table>	Thiết bị	Có/Không?	Máy tính, Máy tính bảng	☐ Có ☐ Không	Điện thoại	☐ Có ☐ Không
Thiết bị	Có/Không?							
Máy tính, Máy tính bảng	☐ Có ☐ Không							
Điện thoại	☐ Có ☐ Không							
A09	Trong tháng qua, bạn có thường ngủ trưa không?	☐ Có ☐ Không						

TT	Câu hỏi	Trả lời			
		- Nếu CÓ, bạn thường ngủ trưa bao nhiêu ngày/tuần? [] NGÀY/TUẦN - Nếu CÓ, trung bình bạn thường ngủ trưa trong bao nhiêu phút/ngày? [] PHÚT/NGÀY			
A10	Trong tháng qua, bạn thường sử dụng chất kích thích nào sau đây?	Thức uống		Có/Không?	
		Thuốc lá		☐ Có	☐ Không
		Cà phê		☐ Có	☐ Không
		Trà		☐ Có	☐ Không
		Rượu/bia		☐ Có	☐ Không
A11	Trong tháng qua, tần suất chơi game điện tử của bạn như thế nào?	☐ Không lần nào ☐ < 1 lần/tuần ☐ 1 – 2 lần/tuần ☐ ≥ 3 lần/tuần			
A12	Trong tháng qua, bạn có tập thể dục không?	☐ Có ☐ Không - Nếu CÓ, trung bình bạn thường tập thể dục bao nhiêu ngày/tuần? [] NGÀY/TUẦN - Nếu CÓ, bạn thường dành bao nhiêu phút để tập thể dục mỗi ngày? [] PHÚT/NGÀY			
PSQI					
B01	Trong tháng qua, bạn thường đi ngủ buổi tối lúc mấy giờ? (Ví dụ: 23h00)	BẮT ĐẦU ĐI NGỦ LÚC [] GIỜ			
B02	Trong tháng qua, mỗi đêm bạn thường mất bao lâu mới chợp mắt được? (Phút)	THỜI GIAN ĐỂ CÓ THỂ CHỢP MẮT [] PHÚT			
B03	Trong tháng qua, bạn thường thức dậy buổi sáng lúc mấy giờ?	THỨC DẬY LÚC [] GIỜ			
B04	Trong tháng qua, mỗi đêm thực tế bạn ngủ được bao nhiêu giờ? (số giờ này có thể khác so với số giờ bạn nằm trên giường)	SỐ GIỜ NGỦ THỰC TẾ MỖI ĐÊM [] GIỜ			
B05	Trong tháng qua, bạn thường thấy khó ngủ vì:	Không lần nào trong tháng qua	< 1 lần/tuần	1 – 2 lần/tuần	≥ 3 lần/tuần
	(a) Không thể ngủ được trong vòng 30 phút	☐	☐	☐	☐
	(b) Thức giấc vào lúc nửa đêm hoặc sáng sớm	☐	☐	☐	☐
	(c) Phải dậy để vào nhà tắm/nhà vệ sinh	☐	☐	☐	☐
	(d) Khó thở	☐	☐	☐	☐
	(e) Ho hoặc ngứa to	☐	☐	☐	☐
	(f) Cảm thấy quá lạnh	☐	☐	☐	☐
	(g) Cảm thấy quá nóng	☐	☐	☐	☐
	(h) Thấy đau	☐	☐	☐	☐

TT	Câu hỏi	Trả lời				
	(i) Gặp ác mộng	☐	☐	☐	☐	
	(j) Lý do khác, hãy mô tả:	☐	☐	☐	☐	
B06	Trong tháng qua , bạn tự đánh giá chất lượng giấc ngủ mình như thế nào?	☐ Rất tốt ☐ Khá tệ		☐ Khá tốt ☐ Rất tệ		
B07	Trong tháng qua , bạn có thường dùng thuốc ngủ (<i>theo đơn của bác sĩ hoặc tự mua dùng</i>) để giúp mình ngủ được?	☐ Không lần nào ☐ 1 – 2 lần/tuần		☐ < 1 lần/tuần ☐ ≥ 3 lần/tuần		
B08	Trong tháng qua , bạn có thường gặp khó khăn khi phải giữ đầu óc tỉnh táo lúc lái xe, ăn uống hoặc tham gia hoạt động xã hội?	☐ Không lần nào ☐ 1 – 2 lần/tuần		☐ < 1 lần/tuần ☐ ≥ 3 lần/tuần		
B09	Trong tháng qua , bạn có gặp khó khăn trong việc duy trì hứng thú hoàn thành các công việc không?	☐ Không có khó khăn gì ☐ Khá khó khăn		☐ Chỉ khó khăn một chút ☐ Rất khó khăn		
Bạn hãy đưa ra nhận định của mình về các mệnh đề sau và đánh dấu ✓ vào ô phù hợp.		Rất không đồng ý	Không đồng ý	Trung lập	Đồng ý	Rất đồng ý
C01	Trường y khiến tôi tăng cảm giác mình không được ai biết đến và bị cô lập với sinh viên khác	☐	☐	☐	☐	☐
C02	Tôi lo ngại mình sẽ không thể chịu đựng nhiều giờ học kéo dài và những trách nhiệm liên quan đến việc học và thực hành lâm sàng	☐	☐	☐	☐	☐
C03	Tôi không biết nhà trường mong đợi điều gì ở tôi	☐	☐	☐	☐	☐
C04	Việc học y chiếm phần lớn thời gian của tôi và tôi có quá ít thời gian cho các hoạt động khác	☐	☐	☐	☐	☐
C05	Tôi lo ngại mình sẽ không thể nắm vững toàn bộ lượng kiến thức y khoa	☐	☐	☐	☐	☐
C06	Trường y đang thúc đẩy bác sĩ nâng cao chuyên môn nhưng khiến tôi mất đi cá tính và thời gian cho các mối quan tâm khác	☐	☐	☐	☐	☐
C07	Trường y cạnh tranh hơn tôi đã nghĩ	☐	☐	☐	☐	☐
C08	Rất nhiều cán bộ của trường có quan điểm là sinh viên thực tập nên tự tìm cách xoay sở khi gặp khó khăn	☐	☐	☐	☐	☐
C09	Phần lớn sinh viên cảm thấy việc thành công ở trong trường y không phụ thuộc vào hệ thống quản lý và không phải do hệ thống đó	☐	☐	☐	☐	☐
C10	Trường y lạnh lùng, không tương thân tương ái và quan liêu không cần thiết	☐	☐	☐	☐	☐
C11	Các quyết định về môn học tự chọn và tua lâm sàng dựa trên thông tin lấy từ những sinh viên khóa trước, không phải từ nhà trường	☐	☐	☐	☐	☐
C12	Trường y mang tính đe dọa hơn là thách thức	☐	☐	☐	☐	☐
C13	Các khoản chi tiêu cá nhân là mối lo ngại của tôi	☐	☐	☐	☐	☐
D02	Trong tháng qua , bạn có bị bất cứ loại ánh sáng nào trong phòng ngủ (<i>hoặc ngoài phòng</i>) tác động đến giấc ngủ của bạn không?	☐ Không lần nào ☐ 1 – 2 lần/tuần		☐ < 1 lần/tuần ☐ ≥ 3 lần/tuần		

TT	Câu hỏi	Trả lời			
D03	Trong tháng qua, bạn có bị bất cứ loại tiếng ồn nào trong phòng (hoặc ngoài phòng) tác động đến giấc ngủ của bạn không?	☐ Không lần nào ☐ < 1 lần/tuần ☐ 1 – 2 lần/tuần ☐ ≥ 3 lần/tuần			
Trong 2 tuần vừa qua, bạn thường gặp phải bất cứ một trong các vấn đề sau ở mức độ nào?					
Hãy đánh dấu ✓ vào ô phù hợp cho các nhận định bên dưới.		Không có	Vài ngày	Quá nửa số ngày/tuần	Hầu như mọi ngày
GAD-7					
E01	Cảm thấy căng thẳng, lo lắng hoặc bất an	☐	☐	☐	☐
E02	Không thể ngưng hoặc kiểm soát lo lắng	☐	☐	☐	☐
E03	Lo lắng quá mức về nhiều thứ	☐	☐	☐	☐
E04	Khó thư giãn	☐	☐	☐	☐
E05	Bứt rứt đến mức khó ngồi yên	☐	☐	☐	☐
E06	Trở nên dễ bực bội hoặc cáu kỉnh	☐	☐	☐	☐
E07	Cảm thấy lo lắng như thể điều gì khủng khiếp có thể xảy ra	☐	☐	☐	☐
PHQ-9					
F01	Ít quan tâm hoặc thích thú trong mọi công việc	☐	☐	☐	☐
F02	Cảm thấy thất vọng, chán nản hoặc tuyệt vọng	☐	☐	☐	☐
F03	Khó ngủ hoặc khó ngủ lâu, hoặc ngủ quá nhiều	☐	☐	☐	☐
F04	Cảm thấy mệt mỏi hoặc gần như kiệt sức	☐	☐	☐	☐
F05	Chán ăn hoặc ăn quá nhiều	☐	☐	☐	☐
F06	Cảm thấy chán bản thân – hoặc cảm thấy mình vô dụng hay đã làm bản thân hoặc gia đình thất vọng	☐	☐	☐	☐
F07	Khó tập trung vào việc gì đó, chẳng hạn như đọc báo hoặc xem tivi	☐	☐	☐	☐
F08	Di chuyển hoặc nói chậm đến mức người khác có thể nhận thấy? Hoặc quá bồn chồn hoặc bứt rứt đến nỗi chuyển động nhiều hơn bình thường	☐	☐	☐	☐
F09	Nghĩ rằng mình nên chết quách đi cho xong hay muốn tự làm mình tổn thương theo cách nào đó	☐	☐	☐	☐