Factors Associated with Psychological Distress, Fear, and Coping Strategies during the COVID-19 Pandemic in Thailand: A Cross-Sectional Study

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Abstract

Introduction: Despite being initially perceived as a local infectious disease, COVID-19 has emerged as one of the most perilous global health threats, significantly impacting the psychological well-being of individuals worldwide.

Objective: This cross-sectional descriptive study investigates the psychological distress, fear, and coping mechanisms among Thai people residing in Thailand during the COVID-19 pandemic.

Methods: This online cross-sectional survey targeted Thai individuals during the first and third waves of the COVID-19 pandemic. Participants aged 18 and above who provided consent self-reported their responses to the Kessler Psychological Distress Scale, Fear of COVID-19 Scale, and Brief Resilient Coping Scale. Data collection occurred between November 2020 and January 2021 across four regions of Thailand. Univariate and multivariate logistic regression analyses explored associations between contextual factors and the variables of interest.

Results: Out of 498 survey respondents, with an average age of 43.07 (SD = 13.69) years, 81.9% were female, and 61.6% self-identified as healthcare workers, with 47.59% identified as frontline healthcare workers. Findings revealed that 46% of participants experienced moderate-to-very high levels of psychological distress, 14.3% reported high levels of fear of COVID-19, and 35.1% exhibited low resilient coping. Factors such as changes in employment status or financial situations, comorbidities, contact with known or suspected COVID-19 cases, recent healthcare utilization for COVID-19-related stress, and elevated fear of COVID-19 were associated with higher levels of psychological distress. Conversely, being nurses and perceived better mental health status were linked to more effective coping strategies.

Conclusion: These results emphasize the critical importance of government interventions to safeguard the psychological well-being of healthcare workers and the broader Thai population. Urgent measures to bolster resilience among these groups during and after the pandemic are imperative.

Keywords

COVID-19, psychological distress, Thai community, frontline healthcare worker, coping, fear of COVID-19

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Introduction

The severity of symptoms leading to death in infectious cases made coronavirus disease-2019 (COVID-19) one of the most dangerous diseases for people globally. Moreover, the variant kept people in fear and worried about "unknown" effects as time passed, while the consequences during and after infection also made life more difficult. Therefore, a study of the psychological impact is still needed despite the repeated occurrence of new waves of infections.

The psychological impact of COVID-19, that is, psychological distress, fear of COVID-19, and resilience in coping, has been studied and has varied based on specific local contextual factors such as health status, employment, and government support across various socioeconomic backgrounds, policies, and healthcare delivery systems. One systematic review including 107 studies across 32 countries with 398,771 participants reported the prevalence of psychological distress, depression, and anxiety at 50.0%, 28.0%, and 26.9% among the general population, respectively (Nochaiwong et al., 2021). A study of healthcare workers also reported distress, depression, and anxiety at 71.5%, 50.4%, and 44.6%, respectively; 41.5% of these workers were frontline healthcare workers (Lai et al., 2020).

It is not the infectiousness that causes people's suffering; however, the consequences of a pandemic, which compelled people to stay home and sometimes closed the business sector, may cause them to struggle with their daily lives. A study of 78 countries found that mental health decreased while people experienced mandatory lockdowns, especially for those who had trouble with their financial situations and lacked access to basic supplies (Gloster et al., 2020). Contextual factors, therefore, contributed to people's stress beyond the stress-related effects of infection itself.

Although people in Thailand have been vaccinated with first, second, and third doses at 85.9%, 79.8%, and 37.8%, respectively, infection and mortality rates are still high. It was reported that, on August 4, 2022, there were 34,056 new cases of infection, with the cumulative total of COVID-19-related deaths at 30,143 since the beginning of the pandemic (Workpoint News, 2022). This statistic worried Thai people about the infectiousness of COVID-19 despite the vaccination campaign and the fact that the government had called for the end of the pandemic in July 2022. The self-reported mental status of Thais during COVID-19 via the mental health check-in application of the Mental Health Department, Ministry of Public Health, indicated that 7.16% self-reported high stress, 8.48% were at risk of depression, 4.67% were at risk of suicide, and 4.23% were at risk of burnout (Department of Mental Health, MOPH, n.d.a).

Moreover, the suicide rate among the Thai population increased from 6.64 per 100,000 in 2019 to 7.37 per 100,000 in 2020 during the first and second waves of the COVID-19 pandemic (Department of Mental Health, MOPH, n.d.b). Therefore, how Thais respond to such a pandemic and what contextual factors are associated with their mental health condition will be important information for local governments, healthcare providers, and the Thai healthcare system in order to plan for further assistance.

Review of Literature

The COVID-19 pandemic has markedly escalated levels of psychological distress across various populations, with studies documenting its pervasiveness and intensity. A critical review by Xiong et al. (2020) notes the widespread impact of the pandemic on mental health, citing increased symptoms of anxiety, depression, and psychological distress globally. This is particularly evident in the research of Wang et al. (2020), which found that the immediate psychological responses during the initial phase of the COVID-19 outbreak included high rates of anxiety, depression, and stress among the Chinese population. Similarly, a study conducted in Italy, one of the early European epicenters of the pandemic, by Rossi et al. (2020) reported significant levels of psychological distress, particularly among healthcare workers and individuals with preexisting health conditions. These findings are echoed in a cross-sectional study by Özdin and Bayrak Özdin (2020), highlighting the severe psychological impact and higher stress levels in the Turkish population during the pandemic. Collectively, these studies underscore the urgent need for effective mental health strategies and interventions to address the growing psychological distress caused by COVID-19.

Furthermore, the pervasive fear associated with the COVID-19 pandemic has been a significant psychological phenomenon affecting individuals globally. Ahorsu et al. (2020) developed the Fear of COVID-19 Scale (FCV-19S), capturing the various dimensions of fear related to the pandemic. Their findings highlighted the extensive psychological impact of this fear on daily functioning and mental health. Concurrently, coping strategies have emerged as critical in managing this fear and the related stress. A study by Cheng et al. (2020) emphasized the role of positive coping strategies, such as seeking social support and engaging in problem-solving, in reducing the negative psychological impact of the pandemic. Bäuerle et al. (2020) explored online-based interventions as effective means for stress reduction and coping enhancement in the general population. Furthermore, frontline healthcare workers have been found to benefit from specific coping strategies, like mindfulness and resilience training, as shown in research by Pollock et al. (2020). These studies collectively suggest that understanding and fostering effective coping mechanisms are vital for mitigating the fear and psychological distress caused by the COVID-19 pandemic.

The concept of resilience coping has gained significant attention in the context of the COVID-19 pandemic, especially among frontline healthcare workers and the general population. A pivotal study by Labrague and De Los Santos (2020) emphasizes the resilience of healthcare workers during the pandemic, highlighting coping mechanisms that mitigate stress and burnout.

This resilience is not limited to healthcare professionals; research by Polizzi et al. (2020) explores resilience strategies in the general population, emphasizing the importance of adaptive coping skills in maintaining mental health during the pandemic. Similarly, a study by Killgore et al. (2020) underscores the role of social support and adaptive coping strategies in fostering resilience among American adults. In the context of frontline workers, Walton et al. (2020) identified specific resilience-building strategies, including peer support and psychological first aid, as crucial for managing the extraordinary stressors faced by this group. These studies collectively underscore the importance of resilience and coping strategies in navigating the unprecedented challenges posed by the COVID-19 pandemic.

Contextual factors, which serve as either buffers or stressors, impact how people deal with the COVID-19 pandemic. A study of the psychological impact of the COVID-19 pandemic across 17 countries found that 69% of people experienced psychological distress at moderate-to-very high levels. Gender, employment status, and comorbidity with mental health were highly associated with psychological distress and fear of COVID-19 (Rahman et al., 2021). This study also revealed that the careers of healthcare workers, such as doctors, reported higher psychological distress among healthcare providers but less fear of COVID-19. In contrast, nurses reported being more resilient in coping with its consequences. Financial issues are an inevitable stressor associated with higher psychological distress, such as fear, anxiety, depression (Rahman et al., 2021), insomnia, frustration, and anger (Brooks et al., 2020). Based on Lazarus and Folkman's (1984) stress appraisal model, individuals will utilize their personal resources, such as coping ability and social support, to anticipate a stressful event, which, in this circumstance, was the COVID-19 pandemic and the related situation impacts, such as a mandatory lockdown. Contextual conditions, including personal and social support resources, are vital in individuals' interaction with the anticipated situation (Lazarus & Folkman, 1984). If one's coping ability and other external support resources are enough to control a stressful life event, one will be more adaptive and experience less distress. The studies on specific contextual factors, that is, personal context related to psychological distress, fear of COVID-19, and coping ability of individuals in each country, will help to tailor specific interventions for their actual needs and problems. Therefore, this study aimed to explore the psychological distress, fear of COVID-19, and resilience coping of Thai people living in Thailand and facing the COVID-19 pandemic during the first to third waves.

Methods

Design

As a component of a larger international collaborative research endeavor investigating the psychological distress experienced by healthcare workers and individuals across 17 countries, as detailed in Rahman et al. (2021), this study focuses on participants residing in Thailand. Data were gathered from Thai residents within Thailand between November 2020 and January 2021 using a cross-sectional online survey method deemed appropriate for the lockdown context. The survey covered geographical regions, including the North, Northeast, Central, and South of Thailand.

Research Questions

1. What are the psychological distress, fear of COVID-19, and coping strategies among Thai people living in Thailand during the COVID-19 pandemic?
2. What are the contextual factors influenced by those three variables?

Sample

The sample size was calculated using OpenEpi. The study population and estimated prevalence of stress varied across participating countries (17 countries). Therefore, keeping the population size at 100,000,000, assuming 50% prevalence of stress globally, 95% confidence intervals (CIs), and 80% power, the estimated minimum sample size was 385 for each country. Therefore, the sample size for this study was required to be at least 385. Snowball sampling was used to select the study participants. All Thai participants, at least 18 years old and willing to participate in the study, were included.

Inclusion Criteria

All Thai residents who were at least 18 years old and consented to participate in this study were eligible for this study.

Institute Review Board Approval

Ethics approval was obtained from the research ethics committees of the PI's institute, with the approval number 125/2020. Each participant read the consent form provided with a plain language summary and ticked their consent on the online form before they entered to answer the questionnaire with anonymity. The privacy and confidentiality of the collected data were maintained.

Data Collection

An online link was created using a structured survey questionnaire via Google Forms. The plain language information statement (PLIS) and the consent form appeared on the first screen. Only the participants who provided consent and agreed to participate in the study could move to the next screen, which contained a single eligibility criterion requiring

them to be at least 18. The subsequent screens contained the full study questionnaire. All the responses were anonymous. The bilingual experts translated the English version of the PLIS, the consent form, and the study questionnaire into Thai using the back-translation procedure to ensure meaning equivalence. An invitation with the online survey link and a quick response (QR) code was shared on social media platforms, online community networks, and by email. Text messages using SMS and the Line application were also shared. In addition, flyers containing the QR codes were distributed and posted in university/healthcare settings. Any questionnaires which were completed in less than 1 min were excluded.

Study Tools

The structured survey questionnaire was adopted from a previous study conducted in Australia (Rahman et al., 2020). Psychological distress was measured using the 10 items of the Kessler Psychological Distress Scale (K-10) (Furukawa et al., 2003), fear was measured using the FCV-19S (Ahorsu et al., 2022), which has seven items, and coping was measured using the Brief Resilient Coping Scale (BRCS) (Sinclair & Wallston, 2004) which has four items. For this study, psychological distress (based on the K-10 scoring) was categorized into low (score 10–15) and moderate-to-very high (score 16–50); fear of COVID-19 (based on the FCV-19S scoring) was categorized into low (score 7–21) and high (score 22–35); and coping (based on the BRCS scoring) was categorized into low (score 4–13) and medium-to-high (score 14–20). The reliability of those tools in the English version was examined in the Australian study and was 0.92, 0.87, and 0.66, respectively. Moreover, it was found that these tools work indifferently for migrants and nonmigrants (Rahman et al., 2021). All instruments were back-translated into Thai by two bilingual experts to ensure meaning equivalence and were pilot-tested with 30 Thai participants for reliability testing. The Cronbach's alpha coefficients of the instruments were 0.91, 0.86, and 0.78, respectively.

Statistical Analyses

The database was downloaded from the Google platform, and Stata statistical software Stata/SE V.15.0 for Windows (StataCorp, College Station, USA, 2017) was used for data analyses. Descriptive statistics, including frequencies and percentages, were generated for categorical variables; mean and standard deviation (SD) were generated for continuous variables. Participants who took <1 min to complete the questionnaire were excluded from the analyses.

Univariate and multivariate logistic regression analyses examined the association between contextual factors and each of the three variables. The results are presented with odds ratios (ORs) and 95% CIs. In addition, multivariate analyses were conducted by adjusting age, gender, living status, education, and employment status. Finally, adjusted ORs (AORs) with 95% CIs were reported.

Results

Sample Characteristics

A total of 498 people who met the inclusion criteria and completed the survey were included in the study. The mean age (±SD) of the participants was 43.07 (±13.69) years, and the majority (81.9%) were females. Most lived with their family members (76.1%) and had completed a bachelor's degree or higher (88.0%). In total, 81.5% had jobs adversely affected by COVID-19, with 34.1% reporting a moderate to a great deal of perceived distress due to a change in employment status. More than half (61.6%) self-identified as healthcare workers, while most were nurses (52.2%). About two-thirds of the participants (59.6%) reported that COVID-19 had impacted their financial situation. The majority (90%) had never been smokers, and 23.6% reported drinking alcohol in the 4 weeks prior to data collection. However, 38.1% had a history of comorbidities such as cardiac disease, stroke, hypertension, diabetes, cancer, hyperlipidemia, or chronic respiratory illness. Most (66.9%) participants did not know whether they had been exposed to COVID-19, with 33.4% of participants still visiting healthcare providers in person (Table 1).

Research Question Results

Psychological Distress, Fear of COVID-19, and Resilient Coping. Nearly half of the study participants ($n = 229$; 46%) experienced moderate-to-very high levels of psychological distress, 14.3% ($n = 71$) had high levels of fear of COVID-19, and 323 (64.9%) exhibited moderate-to-high resilient coping (Table 2).

Factors Associated with Psychological Distress. It was found that jobs affected by COVID-19 (having an income source), moderate-to-high perceived distress due to change of employment status, COVID-19-impacted financial status and change in financial status, having other physical comorbidities, direct contact with known/suspected case of COVID-19, self-identification as a patient and visiting a healthcare provider within 6 months, use of healthcare service to overcome COVID-19-related stress in the last 6 months, and high levels of fear of COVID-19 were associated with moderate-to-very high levels of psychological distress while being older (60+ years) and having a better perception of the status of one's own mental health were associated with lower psychological distress (Table 3).

Factors Associated with Fear of COVID-19. Table 4 shows that jobs affected by COVID-19 (having an income source),

Table 1. Characteristics of the Sample.

Characteristics	Total, *n* (%)
Total study participants	498
Age (in years)	498
Mean (±SD)	43.07 (13.69)
Range	20–77
Age groups	498
18–29 years	115 (23.1)
30–59 years	324 (65.1)
60 years and above	59 (11.8)
Gender	498
Male	86 (17.3)
Female	408 (81.9)
Other	3 (0.6)
Prefer not to say	1 (0.2)
Living status	494
Live without family members (on your own/shared house/other)	118 (23.9)
Live with family members (partner and/or children)	376 (76.1)
Highest educational/vocational qualification	497
Grades 1–12	43 (8.6)
Trade/certificate/diploma	17 (3.4)
Bachelor's degree and above	437 (88.0)
Current employment condition	494
Job affected by COVID-19 (lost job/working hours reduced/afraid of job loss)	404 (81.8)
Have an income source (employed/government benefits)	90 (18.2)
Perceived distress due to change of employment status	478
Moderate to a great deal	170 (35.56)
A little to none	308 (64.44)
Improved working situation due to change of employment status	474
A little to none	385 (81.22)
Moderate to a great deal	89 (18.78)
Self-identification as frontline or essential service worker	498
No	237 (47.59)
Yes	261 (52.41)
Self-identification as a healthcare worker	498
No	191 (38.4)
Yes, doctor	10 (2.0)
Yes, nurse	260 (52.2)
Yes, other healthcare worker	37 (7.4)
COVID-19-impacted financial situation	498
Yes, impact positive	18 (3.62)
Yes, impact negative	279 (56.02)
No	201 (40.36)
Affected by the change in a financial situation	493
Not at al	83 (16.84)
Unsure	98 (19.88)
Somewhat	231 (46.85)
A great extent	81 (16.43)
History of comorbidities	498
No	308 (61.8)
Psychiatric/mental health problem	4 (0.8)
Other comorbidities[a]	186 (37.3)
Comorbidities	498
No	308 (61.85)
Single comorbidity	130 (26.10)
Multiple comorbidities	60 (12.05)
Perceived status of own mental health	498

(continued)

Table 1. Continued.

Characteristics	Total, n (%)
Poor to fair	114 (22.89)
Good to excellent	384 (77.11)
Smoking	498
Have smoked (daily/nondaily/ex)	50 (10.0)
Have never smoked	448 (90.0)
Increased smoking over the last 6 months	498
Yes	8 (32)
No	17 (68)
Not applicable	473 (95)
Current alcohol drinking (last 4 weeks)	495
Yes	117 (23.6)
No	378 (76.4)
Increased alcohol drinking over the last 6 months	117
Yes	20 (96.0)
No	97 (4.0)
Contact with known or suspected cases of COVID-19	493
No	328 (66.53)
Unsure	64 (12.98)
Yes, had indirect contact	55 (11.16)
Yes, provided direct care	46 (9.33)
Experience related to the COVID-19 pandemic	472
No known exposure to COVID-19	453 (96.0)
Tested positive for COVID-19	2 (0.4)
Tested negative for COVID-19 and self-isolated	15 (3.2)
Had recent overseas travel history and was in quarantine	2 (0.4)
Self-identification as a patient (visited a healthcare provider in the last 6 months)	495
No	313 (63.23)
Yes	182 (36.77)
Healthcare service utilization in the last 6 months	498
Visited healthcare providers in person	166 (33.3)
Telehealth consultation with healthcare providers/national helpline	3 (0.6)
both	2 (0.4)
No	327 (65.7)
Healthcare services used to overcome COVID-19-related stress in the last 6 months	491
No	438 (89.21)
Yes	53 (10.79)

[a]Cardiac disease/stroke/hypertension/diabetes/cancer/hyperlipidemia/chronic respiratory illness.

Table 2. Level of Psychological Distress (K-10), Fear of COVID-19 (FCV-19S), and Resilient Coping (BRCS) (n = 498).

Outcome variables	Level	
	Moderate-to-high (score 16–50)	Low (score 10–15)
Psychological distress	229 (46%)	269 (54%)
Range = 10–50		
Mean (SD) = 16.59 (6.23)		
Fear of COVID-19	High (score 22–35)	Low (score 7–21)
Range = 7–35	71 (14.3)	427 (85.7)
Mean (SD) = 16.12 (5.37)		
Coping	Moderate-to-high (score 14–20)	Low (score 4–13)
Range = 4–20	323 (64.9)	175 (35.1)
Mean (SD) = 14.51(2.39)		

Table 3. Associated Factors for High Psychological Distress among the Study Population (Based on the K-10 Score).

Characteristics	Low (score 10–15), n (%)		Moderate–to–very High (score 16–50), n (%)		Unadjusted analyses				Adjusted analyses			
							95% CI				95% CI	
	n	%	n	%	P	OR	Lower	Upper	P	AOR	Lower	Upper
Age groups	269	54.0	229	46.0								
18–29 years	47	40.9	68	59.1	Ref				Ref			
30–59 years	174	53.7	150	46.3	.019	0.60	0.39	0.92	.132	0.70	0.44	1.11
60+ years	48	81.4	11	18.6	<.000	0.16	0.07	0.34	<.000	0.18	0.08	0.40
Gender	267	54.0	227	46.0								
Male	46	53.5	40	46.5	Ref				Ref			
Female	221	54.2	187	45.8	.909	0.97	0.61	1.55	.803	0.94	0.58	1.53
Living status	267	54.0	227	46.0								
Live without family members (on your own/shared house/other)	59	50.0	59	50.0	Ref				Ref			
Live with family members (partner and/or children)	208	55.3	168	44.7	.312	0.81	0.53	1.22	.844	1.05	0.67	1.63
Highest educational/vocational qualification	268	53.9	229	46.1								
Grades 7–12/secondary/higher secondary/intermediate	16	37.2	27	62.8	Ref				Ref			
Certificate/diploma/trade qualifications	8	47.1	9	52.9	.484	0.67	0.21	2.08	.640	1.34	0.39	4.56
Bachelor's/master's/PhD	244	55.8	193	44.2	.022	0.47	0.25	0.89	.660	0.85	0.41	1.77
Current employment condition	268	54.3	226	45.7								
Jobs affected by COVID–19 (lost job/working hours reduced/afraid of job loss)	230	56.9	174	43.1	Ref				Ref			
Have an income source (employed/government benefits)	38	42.2	52	57.8	.012	1.81	1.14	2.87	.043	1.69	1.02	2.80
Perceived distress due to change in employment status	254	53.1	224	46.9								
A little to none	190	61.7	118	38.3	Ref				Ref			
Moderate to a great deal	64	37.6	106	62.4	<.000	2.67	1.81	3.92	<.000	2.27	1.49	3.44
Improved working situation due to change of employment status	250	52.7	224	47.3								
A little to none	211	54.8	174	45.2	Ref				Ref			
Moderate to a great deal	39	43.8	50	56.2	.063	1.55	0.98	2.47	.146	1.43	0.88	2.30
Self-identification as frontline or essential service worker	269	54.0	229	46.0								
No	137	57.8	100	42.2	Ref				Ref			
Yes	132	50.6	129	49.4	.106	1.34	0.94	1.91	.718	1.08	0.73	1.60
Self-identification as a healthcare worker	269	54.0	229	46.0								
No	103	53.9	88	46.1	Ref				Ref			
Yes, doctor	6	60.0	4	40.0	.708	0.78	0.21	2.85	.578	1.51	0.36	6.38
Yes, nurse	137	52.7	123	47.3	.795	1.05	0.72	1.53	.309	1.26	0.81	1.96
Yes, other healthcare worker	23	62.2	14	37.8	.358	0.71	0.35	1.47	.462	0.75	0.35	1.61
COVID-19-impacted financial situation	269	54.0	229	46.0								
No impact	128	63.7	73	36.3	Ref				Ref			
Yes, impacted positively	11	61.1	7	38.9	.828	1.12	0.41	3.00	.960	0.97	0.35	2.69

(continued)

Table 3. Continued.

Characteristics	Low (score 10–15), n (%)		Moderate–to–very High (score 16–50), n (%)		Unadjusted analyses		95% CI		Adjusted analyses		95% CI	
	n	%	n	%	P	OR	Lower	Upper	P	AOR	Lower	Upper
Yes, impacted negatively	130	46.6	149	53.4	<.000	2.01	1.39	2.91	.043	1.51	1.01	2.26
Affected by the change in a financial situation	264	53.5	229	46.5								
Not at all	66	79.5	17	20.5	Ref				Ref			
Unsure	56	57.1	42	42.9	.002	2.91	1.50	5.67	.015	2.35	1.18	4.65
Somewhat	114	49.4	117	50.6	<.000	3.98	2.20	7.20	<.000	3.07	1.66	5.68
A great extent	28	34.6	53	65.4	<.000	7.35	3.64	14.84	<.000	5.55	2.66	11.60
Co-morbidities	269	54.0	229	46.0								
No	169	54.9	139	45.1	Ref				Ref			
Psychiatric/mental health issues	0	0.0	4	100.0	No estimate due to no events occurring in either arm							
Other co-morbidities[a]	100	53.8	86	46.2	.811	1.05	0.73	1.51	.023	1.63	1.07	2.48
Co-morbidities	269	54.0	229	46.0								
No	169	54.9	139	45.1	Ref				Ref			
Single co-morbidity	67	51.5	63	48.5	.523	1.14	0.76	1.72	.029	1.65	1.05	2.60
Multiple co-morbidities	33	55.0	27	45.0	.985	0.99	0.57	1.73	.078	1.79	0.94	3.43
Perceived status of own mental health	269	54.0	229	46.0								
Poor to fair	29	25.4	85	74.6	Ref				Ref			
Good to excellent	240	62.5	144	37.5	<.000	0.20	0.13	0.33	<.000	0.22	0.14	0.36
Smoking	269	54.0	229	46.0								
Have never smoked	242	54.0	206	46.0	Ref				Ref			
Have smoked (daily/non-daily/ex)	27	54.0	23	46.0	.998	1.00	0.56	1.80	.887	1.05	0.53	2.11
Increased smoking over the last 6 months	14	56.0	11	44.0								
No	11	64.7	6	35.3	Ref				Ref			
Yes	3	37.5	5	62.5	.209	3.06	0.53	17.46	.329	6.19	0.16	240.63
Current alcohol drinking (last 4 weeks)	266	53.7	229	46.3								
No	212	56.1	166	43.9	Ref				Ref			
Yes	54	46.2	63	53.8	.061	1.49	0.98	2.26	.343	1.26	0.78	2.02
Increased alcohol drinking over the last 6 months	54	46.2	63	53.8								
No	47	48.5	50	51.5	Ref				Ref			
Yes	7	35.0	13	65.0	.276	1.75	0.64	4.75	.130	2.43	0.77	7.66
Contact with known/suspected case of COVID-19	264	53.5	229	46.5								
No	192	58.5	136	41.5	Ref				Ref			
Unsure	29	45.3	35	54.7	.053	1.70	0.99	2.92	.228	1.42	0.80	2.50
Yes, had indirect contact	15	27.3	40	72.7	<.000	3.76	2.00	7.09	<.000	3.46	1.80	6.64

(continued)

Table 3. Continued.

Characteristics	Low (score 10–15), n (%)		Moderate-to-very High (score 16–50), n (%)		Unadjusted analyses		95% CI		Adjusted analyses		95% CI	
	n	%	n	%	P	OR	Lower	Upper	P	AOR	Lower	Upper
Yes, provided direct care	28	60.9	18	39.1	.763	0.91	0.48	– 1.71	.491	0.79	0.41	1.54
Experience related to the COVID-19 pandemic												
No known exposure to COVID-19	249	52.8	223	47.2	Ref				Ref			
Tested positive for COVID-19	242	53.4	211	46.6	.923	1.15	0.07	– 18.44	.979	1.04	0.06	17.04
Tested negative for COVID-19 and self-isolated	1	50.0	1	50.0	.135	2.29	0.77	– 6.82	.142	2.29	0.76	6.92
Had recent overseas travel history and was in quarantine	5	33.3	10	66.7	.923	1.15	0.07	– 18.44	.903	1.19	0.07	19.96
	1	50.0	1	50.0								
Self-identification as a patient (visited a healthcare provider in the last 6 months)	266	53.7	229	46.3								
No	186	59.4	127	40.6	Ref				Ref			
Yes	80	44.0	102	56.0	.001	1.87	1.29	– 2.70	<.000	2.22	1.50	3.30
Healthcare service use in the last 6 months	72	42.1	99	57.9								
In-person visit to a healthcare provider	71	42.8	95	57.2	Ref				Ref			
Telehealth consultation/use of national helpline	0	0.0	3	100.0	No estimate due to no events occurring in either arm							
Used both services	1	50.0	1	50.0	.838	0.75	0.05	– 12.15	.772	0.61	0.02	17.04
Healthcare services used to overcome COVID-19-related stress in the last 6 months	263	53.6	228	46.4								
No	245	55.9	193	44.1	Ref				Ref			
Yes	18	34.0	35	66.0	.003	2.47	1.36	– 4.49	.004	2.55	1.36	4.79
Level of fear of COVID-19 (FCV-19S categories)	269	54.0	229	46.0								
Low (score 7–21)	244	57.1	183	42.9	Ref				Ref			
High (score 22–35)	25	35.2	46	64.8	.001	2.45	1.45	– 4.14	.001	2.51	1.44	4.37
Level of coping (BRCS categories)	269	54.0	229	46.0								
Low resilient copers (score 4–13)	92	52.6	83	47.4	Ref				Ref			
Medium-to-high resilient copers (score 14–20)	177	54.8	146	45.2	.634	0.91	0.63	– 1.32	.873	0.97	0.66	1.43

Note. OR = odds ratio; CI = confidence interval; AOR = adjusted odds ratio; K-10 = Kessler Psychological Distress; FCV-19S = Fear of COVID-19 Scale; BRCS = Brief Resilient Coping Scale. Adjusted for age, gender, living status, education, and employment status.
[a]NE: no estimate due to no events occurring in either arm.

Table 4. Associated Factors for Fear of COVID-19 among the Study Population (Based on the FCV-19S Score).

Characteristics	Low (score 7–21), n	%	High (score 22–35), n	%	Unadjusted analyses P	OR	95% CI Lower	Upper	Adjusted analyses P	AOR	95% CI Lower	Upper
Age groups	427	85.7	71	14.3								
18–29 years	95	82.6	20	17.4	Ref				Ref			
30–59 years	283	87.3	41	12.7	.209	0.69	0.38	1.23	.300	0.71	0.38	1.35
60+ years	49	83.1	10	16.9	.942	0.97	0.42	2.23	.783	0.88	0.36	2.17
Gender	423	85.6	71	14.4								
Male	77	89.5	9.0	10.5	Ref				Ref			
Female	346	84.8	62.0	15.2	.259	1.53	0.73	3.22	.332	1.45	0.68	3.10
Living status	423	85.6	71	14.4								
Live without family members (on your own/shared house/other)	103	87.3	15	12.7	Ref				Ref			
Live with family members (partner and/or children)	320	85.1	56	14.9	.556	1.20	0.65	2.22	.273	1.45	0.75	2.80
Highest educational/vocational qualification	426	85.7	71	14.3								
Grades 7–12/secondary/higher secondary/intermediate	35	81.4	8	18.6	Ref				Ref			
Certificate/diploma/trade qualifications	10	58.8	7	41.2	.075	3.06	0.89	10.52	.098	3.01	0.82	11.11
Bachelor's/master's/PhD	381	87.2	56	12.8	.290	0.64	0.28	1.46	.670	0.82	0.32	2.07
Current employment condition	423	85.6	71	14.4								
Jobs affected by COVID-19 (lost job/working hours reduced/afraid of job loss)	355	87.9	49	12.1	Ref				Ref			
Have an income source (employed/government benefits)	68	75.6	22	24.4	.003	2.34	1.33	4.13	.032	1.97	1.06	3.67
Perceived distress due to change in employment status	409	85.6	69	14.4								
A little to none	280	90.9	28	9.1	Ref				Ref			
Moderate to a great deal	129	75.9	41	24.1	<.000	3.18	1.88	5.37	.001	2.77	1.56	4.92
Improved working situation due to change of employment status	404	85.2	70	14.8								
A little to none	342	88.8	43	11.2	Ref				Ref			
Moderate to a great deal	62	69.7	27	30.3	<.000	3.46	1.99	6.02	<.000	3.50	1.97	6.25
Self-identification as frontline or essential service worker	427	85.7	71	14.3								
No	206	86.9	31	13.1	Ref				Ref			
Yes	221	84.7	40	15.3	.475	1.20	0.73	1.99	.289	1.36	0.77	2.40
Self-identification as a healthcare worker	427	85.7	71	14.3								
No	155	81.2	36	18.8	Ref				Ref			
Yes, doctor	10	100.0	0	0.0	No estimate due to no events occurring in either arm							
Yes, nurse	229	88.1	31	11.9	.043	0.58	0.35	0.98	.145	0.64	0.35	1.17
Yes, other healthcare worker	33	89.2	4	10.8	.246	0.52	0.17	1.57	.565	0.72	0.23	2.24
COVID-19-impacted financial situation	427	85.7	71	14.3								
No impact	183	91.0	18	9.0	Ref				Ref			

(continued)

Table 4. Continued.

Characteristics	Low (score 7–21), n (%)		High (score 22–35), n (%)		Unadjusted analyses		95% CI		Adjusted analyses		95% CI	
	n	%	n	%	P	OR	Lower	Upper	P	AOR	Lower	Upper
Yes, impacted positively	13	72.2	5	27.8	.019	3.91	1.25	12.22	.037	3.58	1.08	11.87
Yes, impacted negatively	231	82.8	48	17.2	.011	2.11	1.19	3.76	.025	2.04	1.09	3.79
Affected by the change in financial situation	423	85.8	70	14.2								
Not at all	80	96.4	3	3.6	Ref		–		Ref		–	
Unsure	90	91.8	8	8.2	.214	2.37	0.61	9.24	.174	2.60	0.66	10.29
Somewhat	191	82.7	40	17.3	.005	5.58	1.68	18.58	.004	6.00	1.75	20.52
A great extent	62	76.5	19	23.5	.001	8.17	2.31	28.87	.003	7.10	1.92	26.20
Comorbidities	427	85.7	71	14.3								
No	269	87.3	39	12.7	Ref		–		Ref		–	
Psychiatric/mental health issues	2	50.0	2	50.0	.057	6.90	0.94	50.38	.135	6.92	0.55	87.15
Other comorbidities[a]	156	83.9	30	16.1	.283	1.33	0.79	2.22	.091	1.67	0.92	3.01
Comorbidities	427	85.7	71	14.3								
No	269	87.3	39	12.7	Ref		–		Ref		–	
Single comorbidity	106	81.5	24	18.5	.116	1.56	0.90	2.72	.033	1.95	1.06	3.61
Multiple comorbidities	52	86.7	8	13.3	.887	1.06	0.47	2.40	.499	1.37	0.55	3.43
Perceived status of own mental health	427	85.7	71	14.3								
Poor to fair	88	77.2	26	22.8	Ref		–		Ref		–	
Good to excellent	339	88.3	45	11.7	.003	0.45	0.26	0.77	.007	0.46	0.26	0.80
Smoking	427	85.7	71	14.3								
Have never smoked	386	86.2	62	13.8	Ref		–		Ref		–	
Have smoked (daily/nondaily/ex)	41	82.0	9	18.0	.426	1.37	0.63	2.95	.358	1.52	0.62	3.74
Increased smoking over the last 6 months	18	72.0	7	28.0								
No	11	64.7	6	35.3	Ref		–		Ref		–	
Yes	7	87.5	1	12.5	.258	0.26	0.03	2.66	.129	0.05	0.00	2.34
Current alcohol drinking (last 4 weeks)	424	85.7	71	14.3								
No	325	86.0	53	14.0	Ref		–		Ref		–	
Yes	99	84.6	18	15.4	.713	1.11	0.62	1.99	.842	1.07	0.55	2.07
Increased alcohol drinking over the last 6 months	99	84.6	18	15.4								
No	82	84.5	15	15.5	Ref		–		Ref		–	
Yes	17	85.0	3	15.0	.958	0.96	0.25	3.70	1.000	1.00	0.22	4.48
Contact with known/suspected case of COVID-19	423	85.8	70	14.2								
No	287	87.5	41	12.5	Ref		–		Ref		–	
Unsure	53	82.8	11	17.2	.314	1.45	0.70	3.01	.336	1.45	0.68	3.11
Yes, had indirect contact	45	81.8	10	18.2	.254	1.56	0.73	3.32	.161	1.76	0.80	3.89
Yes, provided direct care	38	82.6	8	17.4	.360	1.47	0.64	3.38	.481	1.37	0.57	3.25

(continued)

Table 4. Continued.

Characteristics	Low (score 7–21), n (%)		High (score 22–35), n (%)		Unadjusted analyses		95% CI		Adjusted analyses		95% CI	
	n	%	n	%	P	OR	Lower	Upper	P	AOR	Lower	Upper
Experience related to the COVID-19 pandemic	406	86.0	66	14.0								
No known exposure to COVID-19	390	86.1	63	13.9	Ref				Ref			
Tested positive for COVID-19	0	0.0	2	100.0	No estimate due to no events occurring in either arm							
Tested negative for COVID-19 and self-isolated	14	93.3	1	6.7	.434	0.44	0.06	3.42	.383	0.38	0.04	3.36
Had recent overseas travel history and was in quarantine	2	100.0	0	0.0	No estimate due to no events occurring in either arm							
Self-identification as a patient (visited a healthcare provider in the last 6 months)	266	53.7	229	46.3								
No	186	59.4	127	40.6	Ref				Ref			
Yes	80	44.0	102	56.0	.442	1.22	0.73	2.04	.538	1.18	0.69	2.01
Healthcare service use in the last 6 months	142	83.0	29	17.0								
In-person visit to a healthcare provider	137	82.5	29	17.5	Ref				Ref			
Telehealth consultation/use of national helpline	3	100.0	0	0.0	No estimate due to no events occurring in either arm							
Used both services	2	100.0	0	0.0	No estimate due to no events occurring in either arm							
Healthcare services used to overcome COVID-19-related stress in the last 6 months	421	85.7	70	14.3								
No	382	87.2	56	12.8	Ref				Ref			
Yes	39	73.6	14	26.4	.009	2.45	1.25	4.79	.036	2.13	1.05	4.30
Total study participants (K10 categories)	427	85.7	71	14.3								
Low (score 10–15)	244	90.7	25	9.3	Ref				Ref			
Moderate-to-very high (score 16–50)	183	79.9	46	20.1	.001	2.45	1.45	4.14	.001	2.49	1.43	4.34
Level of coping (BRCS categories)	427	85.7	71	14.3								
Low resilient copers (score 4–13)	136	77.7	39	22.3	Ref				Ref			
Medium-to-high resilient copers (score 14–20)	291	90.1	32	9.9	<.000	0.38	0.23	0.64	.001	0.42	0.25	0.71

Note. OR = odds ratio; CI = confidence interval; AOR = adjusted odds ratio; K-10 = Kessler Psychological Distress; FCV-19S = Fear of COVID-19 Scale; BRCS = Brief Resilient Coping Scale. Adjusted for age, gender, living status, education, and employment status.
[a]NE: no estimate due to no events occurring in either arm.

moderate-to-high perceived distress due to change in employment status, moderate to a great deal of improvement in working situation due to change in employment status, COVID-19-impacted financial situation (both positive and negative), affected by the change in financial situation, single comorbidity, healthcare service used to overcome COVID-19-related stress in the last 6 months, and moderate-to-highly perceived psychological distress were associated with high levels of fear of COVID-19 while a better-perceived status of one's own mental health and medium-to-highly resilient copers were associated with lower levels of fear of COVID-19 (Table 4).

Factors Associated with Resilient Coping. Table 5 shows that living with family members, jobs affected by COVID-19 (having an income source), moderate-to-high perceived distress due to change in employment status, and a high level of fear of COVID-19 were associated with less resilient coping. However, when adjusting the confounders, having an income source and employment status were not statistically significant. On the other hand, being a nurse and having a better-perceived status of one's own mental health resulted in better resilient coping (Table 5).

Discussion

This study was one of the first studies to explore psychological distress, fear of COVID-19, and resilient coping among Thai people who lived in Thailand during the pandemic of COVID-19 (first to third waves). The present study revealed that 46% of study participants experienced moderate-to-very high levels of psychological distress, 14.3% had high levels of fear of COVID-19, while resilient coping was moderate-to-high at 64.7%.

These results align with other studies that reported psychological distress, including stress, anxiety, and depression in people around the globe, such as in China (Qiu et al., 2020), Malaysia (Bahar Moni et al., 2021), Australia (Rahman et al., 2021), Italy (Mazza et al., 2020; Moccia et al., 2020), the UK (Smith et al., 2020), Columbia (Pedrozo-Pupo et al., 2020), Japan (Ueda et al., 2020), and the USA (Liu et al., 2020) although the measurement tools were different. When considering similar tools to measure psychological distress, this study found that Thai participants experienced the lowest levels of psychological distress when compared to other countries who participated in this collaborative study, especially compared with 10 countries where it was reported at a high level, that is, Hong Kong, Oman, Libya, Kuwait, Saudi Arabia, UAE, Jordan, Syria, Palestine, and Egypt (Rahman et al., 2021). When compared to other studies using similar measurements, it was also found that participants in this study reported less psychological distress when compared with those in Malaysia (Bahar Moni et al., 2021) (46% and 62.1%, respectively) and lower fear of COVID-19 (14.3% and 27.1%, respectively).

Interestingly, results were very similar for resilience coping (64.9% and 65.1%, respectively). However, the present study did not find that gender was associated with psychological distress, although there were more female participants, similar to the Malaysian study. This was also different from other studies, which found that being female was more likely to result in higher psychological distress (Qiu et al., 2020; Rahman, Hoque et al., 2020; Rahman, Islam et al., 2021).

Interestingly, participants in this study with an income source were more likely to have higher psychological distress, more fear of COVID-19, and less resilience coping. However, this could be because the pandemic could threaten their security, making them feel more vulnerable. The financial hardship and fear of COVID-19 were also found in another qualitative study in Thailand during an early pandemic. The sociocultural way of coping, such as turning to religion, practicing acceptance, being kind, being generous, and sharing, was the coping that Thais employed to ease their stressful life event (Naemiratch et al., 2022).

Notably, nurses in Thailand demonstrated remarkable resilience despite the intense workload and stress of the pandemic. The healthcare workers were over half of this study sample, accounting for 61.6%. Among this, with 260 nurses responding to the survey, accounting for 52.2% of the sample, the robustness of the findings is evident. This high participation rate is attributed to effective communication channels facilitated by connections with nurse educators, universities, and hospitals. Their participation in the survey likely served as a platform to voice their burdensome workload and stress. Nurses served as the majority of frontline workers during the pandemic. A systematic review conducted by Alnajjad et al. (2022) and a scoping review by Allobaney et al. (2020) emphasize nurses' pivotal role in addressing the challenges of the COVID-19 pandemic. Alnajjad specifically highlights that nurses represent the majority of frontline workers.

Additionally, Wahyuningsih et al. (2020) underscore the multitude of challenges experienced by nurses, such as fatigue, discomfort, anxiety, and stress, emphasizing the necessity for resilience and professionalism in caring for COVID-19 patients. These findings resonate with a study conducted in Nepal, which revealed elevated stress levels among nurses amid the pandemic (Neupane et al., 2020). Moreover, US nurses experienced considerable stress, particularly concerning workplace issues, as evidenced by research conducted by Arnetz et al. (2020). Collectively, these findings suggest that although nurses in Thailand may have exhibited better coping mechanisms, the pandemic's global impact has significantly affected nurses' mental well-being worldwide.

Interestingly, living with family members resulted in a higher fear of COVID-19. This might be because people worry about either getting infected or transmitting the virus to their loved ones, and ironically, this living condition is

Table 5. Associated Factors for Coping among the Study Population (Based on the BRCS Score).

Characteristics	Low (score 7–21), n (%)		High (score 22–35), n (%)		Unadjusted analyses		95% CI		Adjusted analyses		95% CI	
	n	%	n	%	P	OR	Lower	Upper	P	AOR	Lower	Upper
Age groups	427	85.7	71	14.3								
18–29 years	95	82.6	20	17.4	Ref				Ref			
30–59 years	283	87.3	41	12.7	.209	0.69	0.38	1.23	.300	0.71	0.38	1.35
60+ years	49	83.1	10	16.9	.942	0.97	0.42	2.23	.783	0.88	0.36	2.17
Gender	423	85.6	71	14.4								
Male	77	89.5	9.0	10.5	Ref				Ref			
Female	346	84.8	62.0	15.2	.259	1.53	0.73	3.22	.332	1.45	0.68	3.10
Living status	423	85.6	71	14.4								
Live without family members (on your own/shared house/other)	103	87.3	15	12.7	Ref				Ref			
Live with family members (partner and/or children)	320	85.1	56	14.9	.556	1.20	0.65	2.22	.273	1.45	0.75	2.80
Highest educational/vocational qualification	426	85.7	71	14.3								
Grades 7–12/secondary/higher secondary/intermediate	35	81.4	8	18.6	Ref				Ref			
Certificate/diploma/trade qualifications	10	58.8	7	41.2	.075	3.06	0.89	10.52	.098	3.01	0.82	11.11
Bachelor's/master's/PhD	381	87.2	56	12.8	.290	0.64	0.28	1.46	.670	0.82	0.32	2.07
Current employment condition	423	85.6	71	14.4								
Jobs affected by COVID-19 (lost job/working hours reduced/afraid of job loss)	355	87.9	49	12.1	Ref				Ref			
Have an income source (employed/government benefits)	68	75.6	22	24.4	.003	2.34	1.33	4.13	.032	1.97	1.06	3.67
Perceived distress due to change in employment status	409	85.6	69	14.4								
A little to none	280	90.9	28	9.1	Ref				Ref			
Moderate to a great deal	129	75.9	41	24.1	<.000	3.18	1.88	5.37	.001	2.77	1.56	4.92
Improved working situation due to change of employment status	404	85.2	70	14.8								
A little to none	342	88.8	43	11.2	Ref				Ref			
Moderate to a great deal	62	69.7	27	30.3	<.000	3.46	1.99	6.02	<.000	3.50	1.97	6.25
Self-identification as frontline or essential service worker	427	85.7	71	14.3								
No	206	86.9	31	13.1	Ref				Ref			
Yes	221	84.7	40	15.3	.475	1.20	0.73	1.99	.289	1.36	0.77	2.40
Self-identification as a healthcare worker	427	85.7	71	14.3								
No	155	81.2	36	18.8	Ref				Ref			
Yes, doctor	10	100.0	0	0.0	No estimate due to no events occurring in either arm							
Yes, nurse	229	88.1	31	11.9	.043	0.58	0.35	0.98	.145	0.64	0.35	1.17
Yes, other healthcare worker	33	89.2	4	10.8	.246	0.52	.17	1.57	.565	0.72	0.23	2.24
COVID-19-impacted financial situation	427	85.7	71	14.3								
No impact	183	91.0	18	9.0	Ref				Ref			

(continued)

Table 5. Continued.

Characteristics	Low (score 7–21), n (%)		High (score 22–35), n (%)		Unadjusted analyses				Adjusted analyses			
							95% CI				95% CI	
	n	%	n	%	P	OR	Lower	Upper	P	AOR	Lower	Upper
Yes, impacted positively	13	72.2	5	27.8	.019	3.91	1.25	12.22	.037	3.58	1.08	11.87
Yes, impacted negatively	231	82.8	48	17.2	.011	2.11	1.19	3.76	.025	2.04	1.09	3.79
Affected by the change in financial situation	423	85.8	70	14.2								
Not at all	80	96.4	3	3.6	Ref				Ref			
Unsure	90	91.8	8	8.2	.214	2.37	0.61	9.24	.174	2.60	0.66	10.29
Somewhat	191	82.7	40	17.3	.005	5.58	1.68	18.58	.004	6.00	1.75	20.52
A great extent	62	76.5	19	23.5	.001	8.17	2.31	28.87	.003	7.10	1.92	26.20
Comorbidities	427	85.7	71	14.3								
No	269	87.3	39	12.7	Ref				Ref			
Psychiatric/mental health issues	2	50.0	2	50.0	.057	6.90	0.94	50.38	.135	6.92	0.55	87.15
Other comorbidities[a]	156	83.9	30	16.1	.283	1.33	0.79	2.22	.091	1.67	0.92	3.01
Comorbidities	427	85.7	71	14.3								
No	269	87.3	39	12.7	Ref				Ref			
Single comorbidity	106	81.5	24	18.5	.116	1.56	0.90	2.72	.033	1.95	1.06	3.61
Multiple comorbidities	52	86.7	8	13.3	.887	1.06	0.47	2.40	.499	1.37	0.55	3.43
Perceived status of own mental health	427	85.7	71	14.3								
Poor to fair	88	77.2	26	22.8	Ref				Ref			
Good to excellent	339	88.3	45	11.7	.003	0.45	0.26	0.77	.007	0.46	0.26	0.80
Smoking	427	85.7	71	14.3								
Have never smoked	386	86.2	62	13.8	Ref				Ref			
Have smoked (daily/nondaily/ex)	41	82.0	9	18.0	.426	1.37	0.63	2.95	.358	1.52	0.62	3.74
Increased smoking over the last 6 months	18	72.0	7	28.0								
No	11	64.7	6	35.3	Ref				Ref			
Yes	7	87.5	1	12.5	.258	0.26	0.03	2.66	.129	0.05	0.00	2.34
Current alcohol drinking (last 4 weeks)	424	85.7	71	14.3								
No	325	86.0	53	14.0	Ref				Ref			
Yes	99	84.6	18	15.4	.713	1.11	0.62	1.99	.842	1.07	0.55	2.07
Increased alcohol drinking over the last 6 months	99	84.6	18	15.4								
No	82	84.5	15	15.5	Ref				Ref			
Yes	17	85.0	3	15.0	.958	0.96	0.25	3.70	1.000	1.00	0.22	4.48
Contact with known/suspected case of COVID-19	423	85.8	70	14.2								
No	287	87.5	41	12.5	Ref				Ref			
Unsure	53	82.8	11	17.2	.314	1.45	0.70	3.01	.336	1.45	0.68	3.11
Yes, had indirect contact	45	81.8	10	18.2	.254	1.56	0.73	3.32	.161	1.76	0.80	3.89
Yes, provided direct care	38	82.6	8	17.4	.360	1.47	0.64	3.38	.481	1.37	0.57	3.25

(continued)

Table 5. Continued.

Characteristics	Low (score 7–21), n (%)		High (score 22–35), n (%)		Unadjusted analyses		95% CI		Adjusted analyses		95% CI	
	n	%	n	%	P	OR	Lower	Upper	P	AOR	Lower	Upper
Experience related to the COVID-19 pandemic	406	86.0	66	14.0								
No known exposure to COVID-19	390	86.1	63	13.9	Ref				Ref			
Tested positive for COVID-19	0	0.0	2	100.0	No estimate due to no events occurring in either arm							
Tested negative for COVID-19 and self-isolated	14	93.3	1	6.7	.434	0.44	0.06	3.42	.383	0.38	0.04	3.36
Had recent overseas travel history and was in quarantine	2	100.0	0	0.0	No estimate due to no events occurring in either arm							
Self-identification as a patient (visited a healthcare provider in the last 6 months)	266	53.7	229	46.3								
No	186	59.4	127	40.6	Ref				Ref			
Yes	80	44.0	102	56.0	.442	1.22	0.73	2.04	.538	1.18	0.69	2.01
Healthcare service use in the last 6 months	142	83.0	29	17.0								
In-person visit to a healthcare provider	137	82.5	29	17.5	Ref				Ref			
Telehealth consultation/use of national helpline	3	100.0	0	0.0	No estimate due to no events occurring in either arm							
Used both services	2	100.0	0	0.0	No estimate due to no events occurring in either arm							
Healthcare services used to overcome COVID-19-related stress in the last 6 months	421	85.7	70	14.3								
No	382	87.2	56	12.8	Ref				Ref			
Yes	39	73.6	14	26.4	.009	2.45	1.25	4.79	.036	2.13	1.05	4.30
Total study participants (K10 categories)	427	85.7	71	14.3								
Low (score 10–15)	244	90.7	25	9.3	Ref				Ref			
Moderate-to-very high (score 16–50)	183	79.9	46	20.1	.001	2.45	1.45	4.14	.001	2.49	1.43	4.34
Level of coping (BRCS categories)	427	85.7	71	14.3								
Low resilient copers (score 4–13)	136	77.7	39	22.3	Ref				Ref			
Medium-to-high resilient copers (score 14–20)	291	90.1	32	9.9	<.000	0.38	0.23	0.64	.001	0.42	0.25	0.71

Note. OR = odds ratio; CI = confidence interval; AOR = adjusted odds ratio; K-10 = Kessler Psychological Distress; FCV-19S = Fear of COVID-19 Scale; BRCS = Brief Resilient Coping Scale. Adjusted for age, gender, living status, education, employment status.
[a]NE: no estimate due to no events occurring in either arm.

also associated with less coping. Therefore, living with family members may not serve as a support resource in this circumstance. Another Thai study found that healthcare workers employed problem-focused coping and positive attitudes to deal with stress during the COVID-19 pandemic. Marital status and having children were also found to be associated with their choice of coping strategies (Yubonpunt et al., 2022), while personal characteristics were found to have a direct effect on the psychological well-being of frontline workers in Thailand (Wuttiphan, 2022). Resilience is an important personal resource for all Thais, including older people (Soonthornchaiya, 2020).

The factors associated with a high level of psychological distress and a very high level of fear of COVID-19 were job status and financial situation, which were also associated with a low level of coping. Although the Thai government established a project for financial aid during the pandemic to promote traveling and support daily expenses for the general population, this should be tailored to specific conditions, such as for those who have financial problems or received the impact of COVID-19 on their business. Based on this study, the people who perceived moderate to a great deal of stress from changing their employment and financial status were the most vulnerable group.

Lastly, people with comorbidities were also more likely to have higher psychological distress and higher fear of COVID-19. This is especially true when, nowadays, people who die when infected by COVID-19 or after getting the vaccine are mostly people who have another comorbid condition. Therefore, enhancing the resilience coping for people who have noncommunicable diseases and integrating care between mental and physical diseases should be considered as another care model during this pandemic.

Strengths and Limitations

This study stands out as one of the pioneering investigations into the psychological distress, fear of COVID-19, and coping mechanisms among Thai individuals during the first to third waves of the COVID-19 pandemic. It sheds light on the contextual factors influencing these variables. Specifically, it highlights the contextual elements linked to heightened psychological stress and fear of COVID-19, as well as reduced coping abilities.

However, the study's utilization of an online survey method implies its main reach was individuals possessing internet-enabled devices. Also, as discussed earlier, healthcare workers are overrepresented, accounting for 61.6% of this study sample. Consequently, there is a potential for underrepresentation among Thai populations in general, especially those in remote areas or lacking internet access, particularly those undergoing quarantine in government facilities due to COVID-19 infection. This limitation could hinder the applicability of the findings to the broader population. Furthermore, carrying out a cross-sectional study during a pandemic introduces challenges related to contextual factors, demanding careful interpretation of any identified correlations.

Implication for Practice

Resilience, the buffer against psychological distress, is worth developing for all healthcare providers to serve as an important personal resource to cope with work stress, especially during a pandemic. Mental health practitioners across the country need to promote this coping for all Thai people, especially for those who have physical comorbidity and those who have had financial and work changes impacted by the COVID-19 pandemic.

Conclusions

This study found that employment, financial status, and comorbidity were associated with higher psychological distress. On the other hand, the perceived status of one's own mental health as excellent and resilience coping can serve as a buffer against psychological distress and fear of COVID-19. Therefore, in addition to financial aid projects, interventions/projects/efforts to improve Thai people's mental health resilience should be initiated and promoted.

Authors' Contributions

MAR conceived the study. PB performed the statistical analyses and drafted the manuscript. PB, SI, SN, RT, CS, and MAR contributed to the planning, data collection, preparation, and critical review of the manuscript. All authors read and approved the final manuscript.

Consent to Participate

Each participant read the consent form provided with a plain language summary and ticked their consent on the online form before they entered to answer the questionnaire with anonymity.

Consent for Publication

All the responses were anonymous.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Ethical Considerations

The Research Ethics Committees at the Faculty of Nursing, Chiang Mai University, approved our research project (approval: 125/2020) from December 7, 2020 to December 6, 2021.

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