Prevalence of Depressive Symptoms and Associated Factors among Cross Border Migrants in Thailand, 2023: a Mixed-methods Study

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Abstract

Depression is a significant global health issue, and migrants often face barriers to mental health care, resulting in undiagnosed depressive symptoms. Thailand accommodates many cross-border migrants from Cambodia, Lao PDR, and Myanmar (CLM), yet little is known about depressive symptoms in these populations. This study aims to address this gap. A mixed-methods study was therefore conducted to assess the prevalence of depressive symptoms and determine associated factors. Quantitative data were collected via a paper-based questionnaire, including the Patient Health Questionnaire-9 (PHQ-9), and analyzed using multiple logistic regression. Qualitative data from in-depth interviews were analyzed using content analysis. Of the 431 participants, who were mostly female (73.3%) and from Myanmar (97.9%), the prevalence of depressive symptoms was 23.9%. Having public insurance (adjusted odds ratio (AOR) 0.24, 95% confidence interval (CI) 0.13–0.43) and being employed (AOR 0.33, 95% CI 0.19–0.57) were significant protective factors. Alcohol consumption showed no association with depression. Qualitative findings reinforced the protective role of public insurance and highlighted employment as a critical factor in mental well-being. These results underscore a notable prevalence of depressive symptoms among CLM migrants, emphasizing the need for health policies that increase access to mental health care and support for this population. Further research should explore broader mental health factors among migrants to guide comprehensive policy development.

Keywords: depressive symptoms, mental health, migrants, Thailand

Introduction

In 2019, depression was the second most common mental disorder, affecting approximately 970 million individuals globally[1] and remained a leading contributor to years of healthy life lost due to disability, representing 5.6% of the total[2].

Despite the existence of various tools to detect early depression, marginalized groups face barriers to diagnosis and treatment due to stigma, limited awareness, and poor access to health care.[3,4] Migrants and refugees are particularly vulnerable, often experiencing health disparities in their host countries.[5-8]

Over three percent of the global population currently resides outside their home country, and migration is linked to heightened stress and depression. Among migrants in Thailand, approximately 2.6 million are registered workers. These populations face health disparities, including precarious legal status, language barriers, and unsafe living conditions.[9,10] During the COVID-19 pandemic, depression was a prominent concern, with the crisis exacerbating existing vulnerabilities among migrants.[11] The prevalence of depression among Myanmar migrants varies, with reported rates ranging from 13.0% to 14.4% in different contexts.[12, 13]

Addressing depression in migrant communities is critical, as untreated symptoms can develop into major depression, affecting the entire well-being of these populations. However, research on depressive symptoms among migrants in Thailand is sparse. This study therefore aims to investigate the prevalence of depressive symptoms among Cambodian, Lao PDR, or Myanmar (CLM) migrants in Thailand and identify factors associated with these symptoms.

Methods

We used an explanatory mixed-methods design with an emphasis on quantitative methods, using qualitative methods to explain the quantitative findings.

Quantitative Study

A cross-sectional survey was conducted between April and June 2023 in four provinces of Thailand, namely Chiang Rai, Ranong, Samut Sakhon, and Tak. These provinces were selected due to their high concentrations of migrant workers, particularly in labor-intensive sectors such as construction, agriculture, fisheries, and domestic services. These sectors often involve long working hours and physical labor, both of which can affect the mental health of migrants.

The study employed a convenience sampling method in collaboration with local non-governmental organizations (NGOs) that have direct engagement with migrant communities. Eligible participants were migrants aged 15 years or more, regardless of their citizenship or health insurance status. The target sample size was calculated using Cochran's formula (1977), which estimated a 39% prevalence of depressive symptoms, with a sample size of 461 to account for a 20% non-response rate. A total of 480 individuals were recruited, of which 49 were excluded for not being CLM nationals, resulting in 431 eligible participants.

Data was collected through paper-based, self-reported questionnaires, which were translated into four languages: Burmese, Khmer, Laotian, and Thai. To ensure proper comprehension and data accuracy, interpreters were available during the administration of the surveys. The questionnaire was divided into two sections: the first section collected demographic data, namely age, gender, education level, occupation, income, health insurance status, and alcohol consumption. The second section assessed depressive symptoms using the Patient Health Questionnaire-9 (PHQ-9). The PHQ-9 is a validated tool for identifying major depressive disorder where scores range from 0 to 27. The categorization for depressive symptoms was based on established scoring guidelines, where 0–4 indicates no or minimal symptoms, 5–9 indicates mild symptoms, 10–14 indicates moderate symptoms, 15–19

indicates moderately severe symptoms, and 20 or above indicates severe symptoms. The prevalence was determined based on participants with scores of 5 or higher, indicating at least mild symptoms. Before the survey, the questionnaire was reviewed by two independent experts and assessed for face validity by pre-testing it on 10 non-study participants.

Descriptive statistics were employed to summarize the demographic characteristics and prevalence of depressive symptoms. Frequencies and percentages were calculated for categorical variables while continuous variables were described using means and standard deviations, or medians and interquartile ranges, depending on their distribution. Chi-square tests were used for univariable analysis. Crude odds ratio (COR) and 95% confidence intervals (CI) were calculated. Variables with p-values less than 0.1 were included in the initial multivariable logistic regression model to identify factors independently associated with depressive symptoms. Results were presented as adjusted odds ratio (AOR) with 95% CI. R version 4.2.2 was used for all analyses. For the logistic regression model, depressive symptoms were dichotomized as no symptoms (PHQ-9 scores 0–4) versus at least one symptom (PHQ-9 scores ≥ 5)

Qualitative Study

The qualitative study aimed to provide deeper insights into the experiences of CLM migrants regarding their depressive symptoms and access to mental health care services. In-depth interviews were conducted with two groups: (i) NGO representatives with extensive experience working with migrant populations, and (ii) CLM migrants who had previously sought, or were currently receiving, mental health services.

The initial sample included six local NGO representatives, purposively selected for their expertise in migrant health. Subsequently, snowball sampling was used to recruit seven additional CLM migrants at risk of developing depressive symptoms, as identified by the NGOs. In total, 13 individuals were interviewed, aged 15 or more, including those with status and rights issues, both with and without health insurance. All participants were willing to participate and had accessible communication channels.

Interviews were semi-structured, lasting between 30 and 60 minutes, and were conducted in diverse settings, including NGO offices and public hospitals. All interviews were audio-recorded with participant consent and were transcribed verbatim. The qualitative data were analyzed using content analysis, which involved organizing transcripts and field memos, followed by free coding and theme identification. The analysis focused on understanding the barriers to

mental health care, the social and psychological factors influencing depressive symptoms, and the perspectives of both service providers and recipients. The qualitative data were collected before the quantitative finding was finalized. The findings from the qualitative study were then integrated with the quantitative results to provide a comprehensive understanding of the factors affecting depressive symptoms among CLM migrants in Thailand.

Ethics

The study received ethical approval from the "Institute for the Development of Human Research Protections" (IHRP No. 110-2565). Written informed consent was obtained from almost all of the participants. Verbal consent was given by those who were uncomfortable providing written consent or those who were illiterate. Fingerprints were used instead of signatures for illiterate participants. Field translators provided study details to non-Thai-speaking participants. All participants were assured that they could withdraw from the study at any time.

Results

Quantitative Study

A total of 480 migrants were screened, and 431 participants were deemed eligible after excluding 49 individuals who were not CLM nationals. The final sample predominantly consisted of females (73.3%). Slightly more than half (51.5%) were aged between 30–44 years, 23.2% were aged 15–29 years, and only 1.9% were aged over 60 years. Most participants were Myanmar nationals (97.9%), followed by Laos (1.9%) and Cambodia (0.2%) (Table 1).

Most participants (88.6%) had been living in Thailand for over 4 years, while 3.0% had been in the country for less than a year. Regarding education, 58.5% had completed high school, 30.9% had completed primary school, and 3.3% had obtained a diploma or bachelor's degree. Most (79.4%) participants were employed (Table 1).

In terms of health insurance, 55.9% were covered by the Health Insurance Card Scheme (HICS), 39.9% were not insured, and 4.2% had private insurance. The average monthly income was 7,476 Thai baht (THB) (US$ 212.39), with a median income of 8,000 THB (US$ 227.27). Most (87.9%) never consumed alcohol, while 5.8% consumed alcohol once a month or less, and 6.3% drank more frequently (Table 1).

The prevalence of depressive symptoms was 23.9%, with the majority (76.1%) having minimal or no symptoms. The severity of mild and severe depression was 19.0% and 0.5%, respectively (Figure 1).

Table 1. Demographic characteristics of migrants included in the study (n=431)

Characteristic	No.	Percent
Gender		
Male	115	26.7
Female	316	73.3
Age group (years)		
15–29	100	23.2
30–44	222	51.5
45–59	101	23.4
≥60	8	1.9
Nationality		
Cambodian	1	0.2
Laotian	8	1.9
Myanmar	422	97.9
Health insurance		
None	172	39.9
HICS	241	55.9
Private	18	4.2
Length of stay in Thailand (years)		
<1	13	3.0
1–2	19	4.4
3–4	17	3.9
>4	382	88.6
Highest education level achieved		
None	31	7.2
Kindergarten	1	0.2
Primary School	133	30.9
High School	252	58.5
Diploma	8	1.9
Bachelor	6	1.4
Employment status		
Unemployed	89	20.6
Employed	342	79.4
Income per month (US$)		
Mean (SD)	212.39 (136.22)	
Median (IQR)	227.27 (142.05–284.09)	
Frequency of alcohol consumption		
Never	379	87.9
Once a month or less	25	5.8
At least fortnightly	10	2.3
Twice weekly or more	17	4.0

US$ 1 equals 35.2 Thai baht (as of 6 Dec 2023). HICS: Health Insurance Card Scheme. IQR: interquartile range. SD: standard deviation.

Univariate analysis showed that males and individuals older than 37 years had a slightly higher odds of depression, though neither were statistically significant. A monthly income above 8,000 THB (US$ 227.27) was weakly associated with an increased odds of depression (COR 1.47, 95% CI 0.94–2.3). Participants insured with HICS (COR 0.17, 95% CI 0.1–0.29) and the employed (COR 0.24, 95% CI 0.15–0.4) had a significantly lower odds of depression (Table 2).

Being in Thailand for more than years and having completed high school were also protective, but these factors were not statistically significant. Alcohol consumption showed a borderline association (COR 1.83, 95% CI 0.98–3.4). In multivariable analysis, HICS insurance (AOR 0.24, 95% CI 0.13–0.43) and employment (AOR 0.33, 95% CI 0.19–0.57) remained significant protective factors, reducing the odds of depression by approximately 70%. Length of stay and education showed a protective trend but were not statistically significant, while alcohol consumption was not significant (AOR 1.28, 95% CI 0.64–2.57) (Table 2).
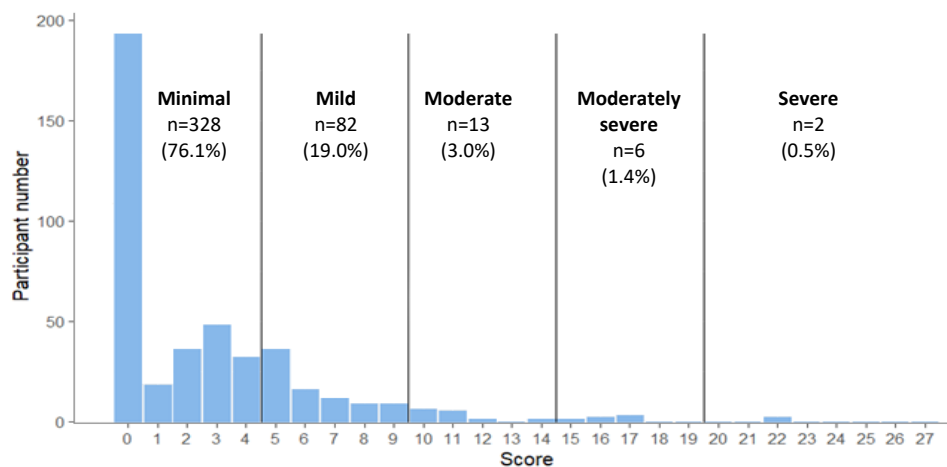

Figure 1. Distribution of depressive symptoms among the survey participants (n=431)

Table 2. Univariable and multivariable logistic regression analyses to identify factors associated with symptoms of depression among migrants (n=431)

Participant characteristics	No symptoms (n=328)		Symptoms (n=103)		COR (95% CI)	AOR (95% CI)
	No.	Percent	No.	Percent		
Gender						
Female	242	76.6	74	23.4	Ref.	-
Male	86	74.8	29	25.2	1.10 (0.67–1.81)	-
Age group (years)						
≤37 (below and equal to the median)	177	78.0	50	22.0	Ref.	-
>37 (above the median)	151	74.0	53	26.0	1.24 (0.80–1.94)	-
Health insurance						
No health insurance	103	59.9	69	40.1	Ref.	Ref.
Health Insurance Card Scheme (HICS)	216	89.6	25	10.4	0.17* (0.10–0.29)	0.24* (0.13–0.43)
Private insurance funds	9	50.0	9	50.0	1.49 (0.56–3.95)	1.83 (0.65–5.18)
Length of stay in Thailand (years)						
<4	27	55.1	22	44.9	Ref.	Ref.
≥4	301	78.8	81	21.2	0.33* (0.18–0.61)	0.63 (0.32–1.23)
Education						
Below high school	117	70.9	48	29.1	Ref.	Ref.
High school and above	211	79.3	55	20.7	0.64[†] (0.41–0.99)	0.66 (0.40–1.08)
Employment						
Unemployed	47	52.8	42	47.2	Ref.	Ref.
Employed	281	82.2	61	17.8	0.24* (0.15–0.40)	0.33* (0.19–0.57)
Income per month (per month)						
≤8,000 THB (≤US$ 227.27) (below and equal to the median)	175	79.5	45	20.5	Ref.	Ref.
>8,000 THB (>US$ 227.27) (above the median)	153	72.5	58	27.5	1.47 (0.94–2.30)	0.98 (0.58–1.67)
Alcohol use						
Non-alcoholic drinking	294	77.6	85	22.4	Ref.	Ref.
Drinker (at least once a month or less)	34	65.4	18	34.6	1.83 (0.98–3.40)	1.28 (0.64–2.57)

*P-value <0.001. [†]P-value <0.05. US$ 1 equals 35.2 Thai baht (as of 6 Dec 2023). COR: crude odds ratio. AOR: adjusted odds ratio. CI: confidence interval. Ref: reference.

Qualitative Study

We identified three main themes from the interviews: (i) the role of public health insurance in protecting against depressive symptoms, (ii) the impact of employment on mental health, and (iii) alcohol and substance use as coping mechanisms for depression.

For the first theme, participants highlighted the benefits of public health insurance, particularly the HICS, which offers coverage similar to the Universal Coverage Scheme for Thai citizens. The annual cost is 2,100 THB (US$ 59.66), which includes a health check, with a minimal co-payment of 30 THB (US$ 0.85) per visit. This scheme helps alleviate the financial burden of medical treatment, supporting better access to mental health care.

"At first, I was not concerned whether I had health insurance or not. But I needed to seek medical treatment. At that time, I had not yet acquired any health insurance…Therefore, I had to pay all the medical expenses by myself (200–300 THB per month), which was a long-term treatment (every two months). …Following news from Facebook, I learned that there was government health insurance available. Consequently, (after being insured by the HICS) I did not have to pay for the treatment by myself."—Male migrant worker, 27 years old

"I had to pay 480 THB a month for my own treatment. My family paid for me for the first two or three months. Then my mom said she could not afford it anymore; she wanted me to stop the treatment but I did not want to. I was depressed…So, I paid for my own health insurance coverage–2,100 THB a year… I feel so much better since I have been treated."—Female migrant worker, 25 years old

For the second theme, employment constituted a pivotal factor in protecting migrants against depression. The absence of employment resulted in financial stress, as highlighted in the interviews.

"During the period when I did not have a job, I felt lots of stress. This was because finding a job was difficult…I did not have any income. I needed income to support daily expenses."—Female migrant psychiatric patient, 25 years old.

Regarding the third theme, some interviewees mentioned that substance abuse and alcohol use became a method of coping with stress, especially during the COVID-19 period.

"Stress is mostly related to alcohol addiction. During the COVID-19 pandemic, many migrants became alcohol addicted."—Thai NGO representative, 34 years old

"Migrant workers in the fishing sector usually use substances when facing stressful situations or mental health problems. This is because it is cheap and easy to obtain, and the workers do not have better ways to cope with stress. Moreover, they use many types of substances…"—Thai NGO representative, 35 years old.

Discussion

This study is one of the first to examine depressive symptoms among cross-border migrants in Thailand, revealing that 23.9% of migrants reported such symptoms, which is significantly higher than the 2.2% prevalence in the general Thai population.[14] This discrepancy may arise from the fact that the national figure pertains to diagnosed depression, while our study focused on depressive symptoms, highlighting a potential difference in measurement and timing between the two studies.

Our findings also show higher rates of depression than those in other studies among Myanmar migrants. For instance, Kaesornsri et al. (2019) reported a prevalence of depression of 11.9% in Myanmar workers in Samut Sakhon,[15] and Chomchoei et al. (2020) reported a 12.0% prevalence among Thai hill-tribe adults.[16] These findings suggest that migrant populations may be more vulnerable to depression, likely influenced by factors such as socioeconomic status, access to health care, and country of origin. However, the prevalence of depression among urban refugees and asylum seekers in Thailand is even higher (39.5%),[17] due to their more precarious legal status and lack of access to health care compared to CLM migrants.

Several factors were identified as protective against depressive symptoms in our study. Migrants with access to public health insurance, particularly the HICS, reported lower rates of depression. Access to affordable health care reduces financial stress, which is often a significant contributor to mental health issues. These findings are consistent with another study,[18] which showed that access to health insurance can reduce depression among migrants.[18] Interestingly, private insurance did not have the same effect, possibly due to the informal employment sector. While access to private insurance is limited among migrants, its potential association with depression requires further exploration.

Length of stay in Thailand was a protective factor, with migrants who had resided in the country for more than four years reporting lower rates of depressive symptoms. This finding was supported by a study in Canada in 2012, suggesting that recent immigrants were at higher risk of postpartum depression than

Canadian-born women of European descent.[19] However, another study reported that long-stay immigrants faced a higher risk of depressive symptoms than short stayers.[20] This suggests that longer stays may facilitate better integration into Thai society, providing access to health care, social networks, and support systems. However, some studies suggest that prolonged exposure to stressors may increase the likelihood of depression, underscoring the need for further research on the long-term mental health impacts of migration.[20]

Education also played a key role, with migrants who had completed at least high school being less likely to report depressive symptoms in our study. This is consistent with the literature suggesting that higher education provides better social support, cognitive resilience, and access to resources, which can help buffer the symptoms of depression.[21–23] Moreover, a key finding is the link between alcohol consumption and depressive symptoms. Cobb et al. (2020) noted that depressive symptoms often led to increased alcohol use among Hispanic immigrants in the US.[24] while Chavan et al. (2022) found that the prevalence of mental health issues and substance abuse, including alcohol, was significantly higher in migrants than in the general population.[25] Evidence suggests that individuals with alcohol dependence are about four times more likely to have major depression. Some studies propose that depressive disorders lead to early alcohol dependence, while others suggest the reverse.[26,27] Thus, the relationship between alcohol use and depression is complex and likely bidirectional.

Our findings suggest several policy implications. First, expedited nationality verification for undocumented migrants is needed to ensure that they receive timely access to health care. Policies that expand educational opportunities for migrants could be developed to improve their mental resilience and social support networks. Alcohol control measures should target both migrants and the broader population. Healthcare providers should screen for alcohol use and depression in migrants. Addressing these issues can enhance mental health outcomes for migrants in Thailand and promote a more inclusive health care system.

Limitations

Some limitations of our study remain and should be acknowledged. First, the cross-sectional study design limits the ability to establish causal relationships and understand the directionality between various factors and depressive symptoms. Second, the study was conducted in four Thai provinces, which may not fully represent the experiences of all migrant groups in Thailand. Third, undocumented migrants and those with severe depressive symptoms were difficult to reach, potentially underestimating the prevalence of depression, especially among those reluctant to participate due to legal concerns. Fourth, self-reported data, particularly on sensitive topics such as alcohol use and health insurance status, may introduce bias, as participants might underreport these behaviors due to privacy concerns. Fifth, the use of the PHQ-9 tool, though validated in some countries, may not be as accurate as a clinical diagnosis, and its applicability in Laos and Myanmar needs further validation. Sixth, the small qualitative sample as well as the use of purposive sampling may limit the depth and generalizability of the findings, not capturing the full range of migrant experiences. Seventh, the convenience sampling method restricts the ability to quantitatively generalize the findings to all migrant groups, particularly those working/living in remote areas. Additionally, Myanmar migrants appeared to be over-represented in the sample, which may limit the transferability of the findings to other nationals. Lastly, the study did not examine barriers to access health care for migrants with depressive symptoms, an important area for future research.

Future studies should incorporate clinically diagnosed depression, explore access to health care, and utilize longitudinal designs. Expanding geographical coverage, ensuring a more balanced representation of different nationalities, and including other mental health issues beyond depressive symptoms would provide a more comprehensive understanding of migrant health needs. Strengthening collaborations between public health providers and NGOs could improve access to mental health care, especially for undocumented migrants.

Recommendations

This study highlights the need for targeted interventions to reduce depressive symptoms among migrants in Thailand. Expanding access to the HICS and simplifying enrollment for undocumented migrants could improve access to mental health services. Regular mental health screenings in high-stress sectors such as construction and fisheries would enable early detection of depression. Integrating mental health services within trusted NGO networks and offering culturally sensitive resources could also reduce stigma and improve the well-being of migrants.

Conclusion

This study found that 23.9% of migrants in four Thai provinces exhibited depressive symptoms. Significant factors associated with a higher prevalence of

depressive symptoms were a lack of public health insurance and being unemployed. Alcohol consumption, short length of stay in Thailand, and not completing secondary education, presented with increased odds of depression though without statistical significance. Addressing these risks and improving the support for the mental well-being of migrant communities are crucial. Further research is needed to explore mental health across a wider range of migrants and other aspects of mental illnesses.

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Conflicts of Interests

The authors declare that they have no competing interests.

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