ORIGINAL ARTICLE

Association of socioeconomic conditions and quality of life with depression among Laos migrant workers in Northeast Thailand: multilevel-level logistics regression analysis

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ABSTRACT

Currently, an increasing number of workers are migrating to Thailand; a trend that is increasing along with the economic growth of the country. However, the cultural conditions, traditions and adjustments of migrant workers in Thailand have a significant impact on their mental state, leading to mental health problems. This study used a cross-sectional analytical study design and secondary data. This study investigated the relationship of socioeconomic conditions and quality of life with depression among migrant workers from Laos employed in Northeast Thailand. The study was conducted from January 2019 to December 2020. Study participants included 1,205 Laos migrant workers working in Northeast Thailand. Data was analysed using Multi-level Logistic Regression Analysis to determine the relationship of socioeconomic conditions and quality of life with depression. The effects of covariates were controlled and adjusted odds ratio (AOR) values and 95% confidence intervals (CI) are presented. The results of the study revealed that the prevalence of depression was 9.29% (95%CI: 7.78–11.07) and factors affecting depression among Laos migrant workers included low-moderate psychological quality of life (AOR =6.69, CI: 2.96–15.10), low-moderate social quality of life (AOR =4.00, 95%CI: 2.32–6.99) and sufficient income but no savings (AOR=2.56, 95%CI: 1.57–4.19). Therefore, agencies related to migrant workers should focus on developing policies that promote their quality of life, as it directly affects their mental health. This should include the development of social and psychological quality of life as well as income and well-being security, which serves as the foundation for workers who contribute to the country's sustainable economic and industrial development.

Key words:
socioeconomic; quality of life; depression; Laos migrant workers; multi-level logistics regression analysis

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INTRODUCTION

Thailand is a member of the Association of Southeast Asian Nations (ASEAN) Community and shares borders with three neighbouring countries: Myanmar, Laos and Cambodia. These neighbouring countries have long been involved in trade and transportation, which are important economic engines necessary for Thailand's economic development. This is especially true in the labour-intensive sector of the economy, where migrant workers and their descendants have the opportunity to live in Thailand as both producers and consumers of the Thai economy. Therefore, Thailand must try to make migrant workers Thai-minded to become quality Thai citizens as much as possible.[1] The country's economic condition has grown rapidly in terms of technology, trading and marketing. Consequently, many workers from neighbouring countries have begun to reside and work in Thailand. The employment of international workers covered the shortage of labour in Thailand by amending their status to legal immigrants who are allowed to work.[2] The outlook for the Thai economy in 2019 was expected to expand, supported by the development of domestic demand, both in terms of consumption and investment in the public and private sectors. There was improved adjustment in exports, agriculture and tourism.[3] Therefore, foreigners were granted permission to work in Thailand according to the Royal Decree.[4] It is necessary to rely on foreign workers from neighbouring countries[5] because it impacts Thailand's economy and society. This is because wages in Thailand are higher than those in neighbouring countries. Thai entrepreneurs require cheap labour and choose to hire migrant workers who do not have many skills. Consequently, lower-level Thai workers are employed less, resulting in lower wages for Thai workers.[6] Concurrently, Thai society affects migrant workers, including unfair treatment by employers[7] as well as social and cultural aspects that are divided or culturally discriminated against, both explicitly expressed and not expressed. These problems affect the daily lives of migrant workers, who do not receive adequate respect.[8]

Approximately 3.8% of the populace encounters depression, affecting 5% adults (4% males and 6% females) and 5.7% of adults aged above 60 years. Globally, approximately 280 million people suffer from depression. The prevalence of depression is approximately 50% higher among women compared to men. Additionally, over 10% of pregnant women and those who have recently given birth grapple with depression. More than 700,000 lives are lost to suicide annually, making it the fourth leading cause of death among individuals aged 15–29 years.[9] This disease is a health problem and can be cured; however, if left untreated, it can cause severe symptoms and lead to suicide. The main goal of foreign workers is to achieve a better quality of life.[10] The quality of life was measured using the Thai version of the World Health Organization's shortened quality of life measurement tool.[11] It is a quality-of-life measurement tool that has evolved from the conceptual framework of the word quality. The World Health Organization's Quality of Life (WHOQOL) questionnaire assesses one's subjective perceptions of quality of life. Its condensed counterpart, known as the WHOQOL-BREF-THAI, has been derived from the original questionnaire, is applicable in diverse research and clinical environments and has been adapted for use in Thai language and cultural contexts. The WHOQOL–BREF–THAI comprises two types of questions: perceived objective and self-report subjective, which consists of 4 components of quality of life: 1) physical, 2) mental, 3) social relationships and 4) environment.[12] Additionally, quality of life and socioeconomic conditions affect the

stress level of workers, thereby affecting their overall quality of life. This may cause depression among migrant workers. These problems inevitably affect work efficiency. This emotional symptom may also be called a feeling of burnout at work, such as boredom, not wanting to come to work, or finding a reason to stop working. They may avoid taking jobs intentionally, which can lead to the Burnout Syndrome, causing increased distraction and decreased concentration on work, inability to remember the job description, inability to remember the boss's orders, working in areas that involve avoiding mistakes and missing important job details. Skipping work steps or not completing them, if not taken seriously will inevitably affect work and become a problem that affects the national economy, causing the overall 'productivity' or work productivity to decrease. It will eventually affect the economic growth rate and decrease the real income of the country.

The Northeastern region of Thailand comprises 20 provinces. From approximately 3,137,130 people across the Kingdom, 78,006 are migrant workers, including 38,960 men and 39,046 women. The highest number (34,699 people) of migrant workers in the Northeast is in Nakhon Ratchasima Province.[2] However, there are problems of exploitation by employers in terms of labour wages, which can be lower than specified. Overtime and unhygienic living environment places migrant workers at risk of illness and mental health problems, as well as affect their safety and property.[8] These problems affect their physical and mental health. Many of these problems are caused by personal, economic and social factors that affect their quality of life. Therefore, the author considers the importance of Laos migrant workers who have migrated to Thailand for work. Based on the literature review, no study has been conducted on depression among Laos migrant workers in Northeast Thailand to provide data for the development of guidelines for this labour group, which is crucial for developing a healthcare system for these workers in the future.

Objective research

This study investigated the relationship between the socio-economic conditions, quality of life and depression among migrant workers from Laos who are employed in Northeast Thailand.

METHODS

Study design

This cross-sectional study used secondary data obtained from a study by Somchaichot Piyawachawela on health quotient and social capital to investigate the association between socioeconomic conditions, quality of life and depression among Laos migrant workers in the Northeastern region of Thailand.[13] The study was conducted between 1 June 2019 and 31 July 2019.

Population and sample

About 1,205 individuals met the inclusion and exclusion criteria. In this study, the inclusion criteria were as follows: 1) an individual with Laos nationality aged 18 years and above, 2) legally working in the northeastern part of Thailand, and 3) willing and volunteering to cooperate in the research by signing the cooperation consent form. The criteria for selection are as follows: 1) data cannot be linked; 2) able to communicate with research assistants in Lao and Thai; 3) able to read and write in Lao, and then determine the test power of the sample group.

The power of the test was determined using data on the main variables examined in the present study, namely the

sample with poor quality compared to the sample with medium quality level – D. The power of the test was demonstrated by controlling other independent variables using a formula for adjusting the sample size to analyse the relationships among multiple variables (Multivariable analysis).[14] Therefore, a sample size of 1,205 individuals was sufficient for analysing the relationships of socioeconomic status and quality of life with depression among migrant workers from rural Laos working in Northeast Thailand, while controlling other variables.[14]

Dependent and independent variables

The dependent variable in this study, depression, was measured using the Depression Questionnaire (CES-D). A score of less than 7 was considered as 0 (without depression) and a score of 7 or more as 1 (with depression). The independent variables were quality of life and socioeconomic conditions, including sex, age, weight, marital status, education level, occupation, income sufficiency, sleep adequacy, current health status, alcohol consumption habits, receiving health promotion services from Government Agencies in Thailand and health insurance. The Thai version of the Quality of Life Scale (WHOQOL-BREF-THAI) comprises four domains, namely physical health, psychological health, social relationships and environment.[12] Quality of life was measured using the adapted version of the Quality of Life Scale (WHOQOL-BREF-THAI) with 26 items rated on a 5-point Likert scale. The scale comprises 8 items on physical health (with a high score ranging between 27–35 points, a moderate score between 17–26 points and poor score between 7–16 points), 6 items on psychological health (with a high score between 23–30 points, moderate score between 15–22 points and poor score between 6–14 points), 3 items on the quality of social relationship (with a high score ranging between 12–15 points, moderate score ranging between 18–11 points and poor score ranging between 3–7 points) and 9 items on environment (with a high score ranging between 30–40 points, a moderate score between 19–29 points and poor score between 8–18 points). Figure 1 displays the conceptual framework.

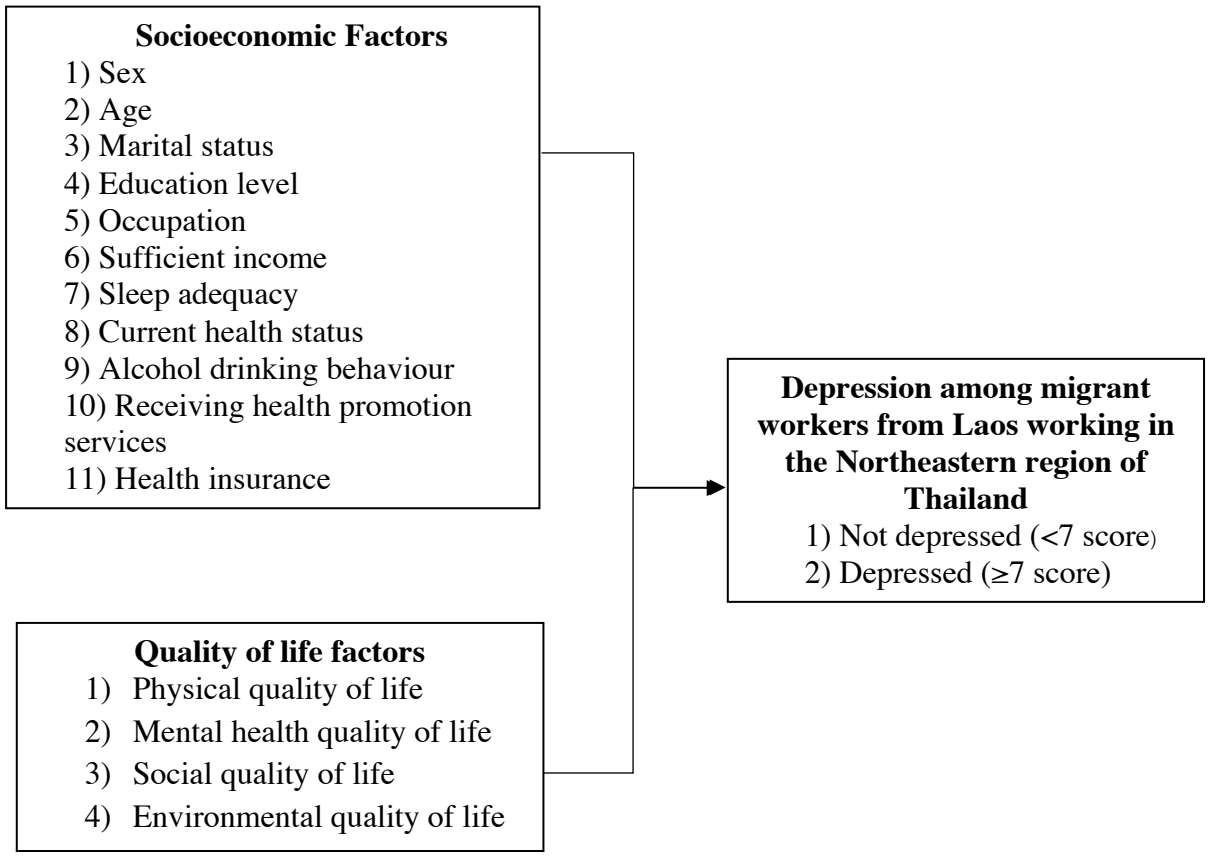

Figure 1. The conceptual framework

Ethical approval

The ethical approval was obtained from the Ethics Committee of Human Research of Khon Kaen University, Khon Kaen, Thailand (HE632181).

Statistical analysis

All analyses were performed using Stata version 10.0 (Stata Corp, College Station, TX, USA). Descriptive statistics, such as frequency and percentage, were used for categorical data. However, mean, standard deviation, median, and maximum-minimum were used for continuous data. Simple logistic regression was performed to identify individual associations between each independent variable and weight-loss product use. Independent factors with a p-value < 0.25 were processed for multivariable analysis using multi-level analysis to identify the association between factors and depression among Laos migrant workers in the Northeast region of Thailand, while controlling for the effects of other covariates.[14] In the northeastern region, the country is divided into Provinces and Health regions (Provinces in the northeastern region of Thailand are divided into four health zones. Health Zone 7: Kalasin, Khon Kaen, Maha Sarakham and Roi Et; Health Zone 8: Udon Thani, Sakon Nakhon, Nakhon Phanom, Loei, Nong Khai, Nong Bua Lamphu and Bueng Kan; Health Zone 9: Chaiyaphum, Nakhon Ratchasima, Buriram and Surin; Health Zone 10: Ubon Ratchathani, Sisaket, Mukdahan and Amnat Charoen), which were selected as random effects.[15,16] The magnitude of association was presented as adjusted odds ratios (AORs) and 95% confidence intervals (CI) for determining the association of socioeconomic

conditions and quality of life with depression among Laos migrant workers in northeast Thailand.

RESULT

Socioeconomic conditions

Most of the participants were women (52.61%) aged between 18–30 years (55.93%) (Median = 29 years, Max = 60 years, Min = 18 years), married (54.27%), had secondary education level or higher (42.66%) and worked more than 8 hours (86.80%) (Median = 8 hours, Max = 16 hours, Min = 2 hours). About 82.57% participants had sufficient income for savings, 80.66% had health conditions, 63.98% slept for more than 8 hours (Median = 8 hours, Max = 13 hours, Min = 3 hours), 91.54% did not consume alcohol, 80.08% had not received health promotion services in the past year and 54.36% had no health insurance, as shown in Table 1.

Table 1. Socioeconomic conditions (n= 1,205)

Socioeconomic conditions	Number	Percent
1. Sex		
Female	634	52.61
Male	571	47.39
2. Age Group		
Teenagers 18–30 years	674	55.93
Early working age 31–45 years	382	31.70
Elderly preparation age 46–60 years	149	12.37
Mean (standard deviation)	32.10 (± 10.42)	
Median value (minimum: maximum)	29 (18: 60)	
3. Marital status of parents		
Single	458	38.01
Married (living together)	654	54.27
Separated	44	3.65
Widowed	49	4.07
4. Education Status		
No education	228	18.92
Primary education	463	38.42
Secondary school or higher	514	42.66
5. Working hours		
less than 8 hours	159	13.20
more than 8 hours	1,046	86.80
Mean (standard deviation)	8.25 (±1.56)	
Median value (minimum: maximum)	8 (2: 16)	
6. Sufficiency of Monthly Income		
Enough and leftover	995	82.57
Not left over and not enough	210	17.43
7. Current health condition		
Very strong	233	19.34
Slight illness	210	80.66
8. Average Sleep Duration (hours per day)		
Less than 8 hours	434	36.02
More than 8 hours	771	63.98
Mean (standard deviation)	7.55 (±1.28)	

Socioeconomic conditions	Number	Percent
Median value (minimum: maximum)	8 (3: 13)	
9. Alcohol drinking behaviour		
Never drank	1,103	91.54
Drink	102	8.46
10. In the past 1 year, have you ever received health promotion services from a medical service unit, such as stress management training, mental health examinations, etc.		
Never	965	80.08
Ever	240	19.92
11. Having health insurance such as health insurance rights for foreign workers, private health insurance, etc.		
No health insurance	655	54.36
Have health insurance	550	45.64

Quality of life

Most participants had an overall quality of life at a moderate level (64.48%), followed by high (34.52%, Mean = 88.88, S.D. = 13.67) and poor levels (1 percent). The analysis of the quality of life in different domains revealed that 49.05% and 50.95% participants had high and moderate quality of life concerning physical health, respectively. No participant had a poor quality of life concerning physical health (Mean = 1.51, S.D.= 0.50). About 37.51%, 59.25% and 3.24% participants had high, moderate and poor psychological quality of life (Mean = 1.66, S.D.= 0.54), respectively. About 26.72%, 65.31% and 7.97% participants had high, moderate and poor social quality of life (mean = 2.34, S.D.= 3.11), respectively. Concerning environmental quality of life, 29.88%, 65.73% and 4.40% participants had high, moderate and poor quality (mean = 1.74, S.D.= 0.53), respectively.

Depression

Data analysis on depression among migrant workers from Lao PDR working in the Northeastern region of Thailand revealed that 9.29% of Laos migrant workers were suffering from depression (95% CI: 7.78–11.07)

The relationship between health-determining factors and depression was examined using a simple logistic regression analysis. To incorporate the main variables of interest into the study, only covariates with a significant relationship at a p-value < 0.25 were selected for the initial model. Fourteen variables were imported into the initial model, including the main variables of interest: physical quality of life, mental health quality of life, social quality of life and environmental quality of life. Control variables included sex, age, weight, marital status, education level, occupation, income, average sleep duration, current health status, alcohol consumption, receiving health promotion services and health insurance rights.

The association of socioeconomic status and quality of life with depression among migrant workers from Laos working in the Northeast region of Thailand

This study found that controlling for between-group effects using provinces and health zones in the Northeast Thailand, where the participants reside, is a variable in the equation for random effects to control for effects between groups. A multi-level logistic regression analysis was used to remove uncorrelated variables from the

model. The level of significance was set at $p < 0.05$. Participants with psychological quality of life ranging between low-moderate were 6.69 times more likely to have depression (95%CI: 2.96–15.10, p-value < 0.001) as compared to those having a high psychological quality of life. Participants with low to moderate social quality of life were 4.00 times more likely to have depression (95%CI: 2.32–6.99, p-value < 0.001) as compared to those having a high social quality of life. Individuals with sufficient income but no savings were 2.56 times more likely to have depression (95%CI: 1.57–4.19, p-value < 0.001) as compared to those having sufficient income and savings. The details are listed in Table 2.

Table 2. The results of multi-level logistics regression to investigate the association of socioeconomic status and quality of life with depression among Laos migrant workers in the northeastern region of Thailand (n= 1,205)

Factors	Number	Percent of Depression	Crude OR.	Adj. OR.	95%CI	p-value
1. Mental health quality of life						< 0.001
High level	452	37.51	1	1	1	
Medium – Low	753	62.49	10.30	6.69	2.96–15.10	
2. Social quality of life						< 0.001
High level	322	26.72	1	1	1	
Medium – Low	883	73.28	5.69	4.00	2.32–6.99	
3. Sufficiency of monthly income						< 0.001
Enough and left over	995	82.57	1	1	1	
Enough but not left over	210	17.43	1.74	2.56	1.57–4.19	

DISCUSSION

Globally, approximately 322 million people were suffering from depression in 2016-2017.[5] Particularly, an upward trend can be observed in the suicide rate per hundred thousand population from 2017 to 2021 (6.03% in 2017; 6.32% in 2018; 6.64% in 2019; 7.37% in 2020), which indicates the problems faced by Thailand in managing mental health of the population.[17] The World Health Organization ranked 10 countries around the world with the highest prevalence of depression. The results show that India, China and the United States were the top three countries with the highest prevalence of mental illness due to accumulated stress, a state of mind caused by adverse childhood events, dysfunctional relationships and genetic vulnerability.[18] This is especially true for migrant workers who come to work in Thailand and seek opportunities and security to develop the country's economy and industry. However, these migrant workers must adapt to the lifestyle, traditions and culture of the country in which they work, which is a critical factor in the development of depression. The results of this study revealed that 9.29% of Laos migrant workers had depression compared to 69.69% of Cambodian migrant workers working in Thailand.[19] Approximately 53.03% of Burmese migrant workers working in southern Thailand had depression,[20] which is higher than that observed among Laos migrant workers. Consequently, it is possible that since the lifestyle, tradition and culture of Northeast Thailand is similar to those in Laos, it is

easier for Laos migrant workers to adapt as compared to labour groups from other countries. Similar to Thailand, Buddhism is also practiced in Laos. Therefore, culture, traditions, language and lifestyles are similar.[21] There is a high density of temples in the northeastern region. Therefore, adjustments may be easier for Laos migrant workers than for other migrant workers.[22] However, there were differences in socioeconomic conditions, access to medical services and fundamental rights that affect their adjustment in a country that is different from their home country.

Additionally, quality of life includes factors that are needed by every human, which are important for living in both good and ill health. Quality of life is, therefore, a psycho-based valuation that is ingrained in the cultural, social and environmental context. It focuses on the perception of a person's quality of life in terms of their satisfaction with their lifestyle and happiness in life. In the present study, it was found that mental health quality, i.e. the perception of one's mental state such as the positive feelings about oneself, self-image, self-esteem, self-confidence, thoughts, memory, concentration, decision making and the ability to learn from their own stories, perceived ability to cope with sadness or worry, recognition of one's beliefs that affect one's life such as awareness of spiritual beliefs, religion, meaning of life and other beliefs that have a positive effect on living a life that aid in overcoming obstacles that directly affect the mind, stress and self-esteem may explain that migration to work abroad forces migrant workers to live far from their families and be surrounded by people who differ linguistically and culturally. Consequently, migrant workers are more likely to experience psychological health problems due to socio-economic conditions that affect their income and livelihood. Furthermore, it can refer to the income needed to support their families in their home country and their satisfaction with the living conditions, such as environmental conditions that are conducive for mental health, which can cause depression. Previous studies have found that quality of life regarding mental health or psychological health is associated with the occurrence of depression.[18,19,23,25,26]

Furthermore, environmental quality of life can be seen as interrelated, i.e. a good society is mostly driven by quality of life based on interdependence. The perception of the environment that affects one's lifestyle includes the perception of living independently, without confinement and having safety and stability in life. The awareness of being in a good physical environment free from pollution and convenient transportation are sources of financial benefits, public health and social work facilities. It also includes the perception that one has the opportunity to receive information or practical skills, engage in leisure activities, etc. However, the bargaining rights of migrant workers to health services are limited because social spaces do not provide opportunities for demands, reflecting an environment that does not contribute to migrant workers' livelihoods. This directly affects their mental health conditions and stability in living as a migrant worker in the foreign country. Therefore, proper environmental conditions will help migrant workers have a high quality of life and prevent depression. Thus, environmental quality of life is associated with psychological conditions that contribute to the occurrence of depression. [18,19,23,25,26]

Income is a very important factor, especially for migrant workers, and is the main objective of migration to work in Thailand. Concerning income, it is used to support their families or send back to their hometowns. As for the adequacy of income,

it is crucial for the daily living expenses of migrant workers. If the compensation is not sufficient for covering the basic living costs, it will cause stress, anxiety and problems in living in the country as a migrant worker and affect their mental states. This can also lead to depression. The changing economic conditions within a country often result in competition among migrant workers. It affects their daily life, especially for those who depend on money or daily earnings to survive. Therefore, economic changes have a significant impact on migrant labour groups. In terms of high inflation, the income from entrepreneurs remains the same, as well as the fairness of employers in paying fair remuneration. It is often found that there is a disparity in welfare concerning compensation and the rights and benefits are unequal among migrant workers. Previous studies have found that income adequacy is associated with the depressive state of migrant workers.[18,26,27]

Therefore, relevant agencies and governments must promote the prevention of depression among migrant workers and play an important role in driving the economy, society and industry of the country, especially in improving migrant workers' quality of life, reducing inequalities to increase their quality of life and psychological well-being, and promoting their livelihood in Thailand, which will indirectly enhance their environmental quality of life. Additionally, the migrant labour policy should provide basic benefits and sufficient income to migrant workers. Relevant agencies should control and inspect established rules and norms for the payment of appropriate, equitable remuneration and fairness between employers and migrant workers to avoid inequality and prevent corruption and exploitation of migrant workers, who form a sustainable focus of Thailand's main workforce. This involves advocating for policies aimed at enhancing and cultivating mental well-being, a crucial aspect concerning the accessibility of healthcare services for migrant workers. This encompasses providing training in stress management, ensuring access to fundamental mental health screening services equivalent to those available to Thai citizens and establishing the right to access comprehensive medical services for life in Thailand. These efforts aim to mitigate the risk of mental health issues, which can lead to conditions such as depression and suicide and pose a threat to society when individuals are unable to exercise self-control. Given that this group of workers plays a pivotal role in propelling the country's economic growth, it is imperative to prioritise their care. This approach ensures that they remain the primary workforce in the country, thereby contributing to its stability and long-term sustainability.

RECOMMENDATIONS

The Laos migrant worker group is essential in driving the economy, society and industry in Thailand. However, given the economic climate, the society that is hosting the workers who come to live in Thailand is exposed to mental effects. Factors that contribute to depression include psychological quality of life, environmental quality of life, and adequacy of income for living, which can occur due to social inequality among migrant workers, as well as cultural differences, traditions and lifestyles, leading to stress and anxiety about living. Therefore, relevant agencies (such as the Department of Health, Department of Mental Health, Department of Health Support, Health Insurance Office and Strategy and Planning Division Office of the Permanent Secretary Ministry of Public Health) should value migrant workers who play an important role in driving the country's economy for the Thai citizens by promoting the development of activities and policies that are conducive to improving the quality of

life of migrant workers. This may include reducing inequality and distributing income in a fair and equal manner to sustainably promote and prevent depression.

CONFLICT OF INTEREST STATEMENT

The authors declare that they have no conflict of interest.

LIMITATIONS

This study examined migrant workers who may have limitations in language proficiency and understanding of the healthcare system in Thailand, including culture, traditions, and lifestyle, which may have caused discrepancies in understanding questions on the issues faced by them during data collection.

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