

# Mental Health Problems among Migrant Workers: Challenges for Nurses in Thailand

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## **Abstract:**

The purpose of this integrative literature review is to report the current knowledge regarding mental health problems among migrant workers in Asian countries. Library databases were searched for Thai and English published works (for the period 2004-2014) related to mental health problems among migrant workers in Asian Countries. Nineteen articles were identified as meeting the search criteria. One-third of the population is reported to have mental health problems. Acculturative stress, especially financial problems and interpersonal conflicts, was found to have a significant impact on mental health problems. Social support was shown to be a buffer against mental health problems; other migrant workers were the main sources of support for migrants. Gender differences in social support were reported, with tangible support and emotional support being the most important for men and women, respectively.

The findings from this review confirm the high prevalence of mental health problems in migrants. Psychiatric nurses in particular need to establish routine assessment and intervention protocols within the diversity of migrant worker cultures.

**Keywords:** acculturative stress, Asian, integrative literature review, mental health, migrant workers

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# ภาวะสุขภาพจิตกลุ่มแรงงานข้ามชาติ: ความท้าทายสำหรับพยาบาล ในประเทศไทย

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## บทคัดย่อ

บทความนี้เป็นรายงานการทบทวนวรรณกรรม มีวัตถุประสงค์เพื่อรายงานผลการวิจัยที่เกี่ยวกับภาวะสุขภาพจิตและปัจจัยเกี่ยวข้องในแรงงานข้ามชาติในทวีปเอเชีย การทบทวนวรรณกรรมภาษาไทยและอังกฤษย้อนหลัง 10 ปี (พ.ศ. 2547-2557) ในฐานข้อมูลทางวิชาการ พบบางวิจัย 19 เรื่องที่เกี่ยวข้องกับภาวะสุขภาพจิตในแรงงานข้ามชาติ จากผลการวิจัยทั้ง 19 เรื่อง พบว่าหนึ่งในสามของกลุ่มตัวอย่างมีปัญหาสุขภาพจิต และปัจจัยสำคัญที่ส่งผลต่อการเกิดปัญหาสุขภาพจิตในกลุ่มแรงงานข้ามชาติคือ ความเครียดจากการย้ายถิ่นโดยเฉพาะปัญหาด้านเศรษฐกิจและสัมพันธภาพกับบุคคลรอบข้าง แต่อย่างไรก็ตามแรงสนับสนุนที่ดีจากสังคมเป็นปัจจัยป้องกันที่สำคัญต่อการเกิดปัญหาสุขภาพจิต ซึ่งแหล่งสนับสนุนทางสังคมที่สำคัญคือกลุ่มเพื่อนแรงงานข้ามชาติ และพบว่าความต้องการการสนับสนุนทางสังคมมีความแตกต่างกันในเพศหญิงและเพศชาย โดยเพศชายต้องการการสนับสนุนเชิงรูปธรรม ในขณะที่เพศหญิงต้องการการสนับสนุนด้านอารมณ์

รายงานการทบทวนวรรณกรรมนี้ได้ยืนยันถึงความชุกของปัญหาสุขภาพจิต และปัจจัยที่เกี่ยวข้องต่อการเกิดปัญหาสุขภาพจิต เพื่อให้พยาบาลโดยเฉพาะพยาบาลจิตเวชได้ตระหนักถึงปัญหาสุขภาพจิตในกลุ่มแรงงานข้ามชาติและให้การพยาบาลโดยคำนึงถึงความแตกต่างทางด้านวัฒนธรรมร่วมด้วย

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## Background and Significance

Thailand is among the top five immigrant receiving countries in the Southeast Asian region. According to the Department of Employment Thailand, the influx of migrants into Thailand rapidly expanded from 528,693 in the 1990s to a peak of 2 million in 2014. The largest group of immigrants in Thailand is labor migrants from three of Thailand's neighboring countries: Myanmar, Cambodia, and Laos, accounting for 70 percent of all migrants in Thailand.<sup>1</sup>

In addition to two decades of increasing immigration, the ASEAN Economic Community (AEC) is set to be established in 2015. This multinational agreement means that there will be greater economic integration, greater intra-ASEAN economic cooperation, and the increased migration of workers to work in other ASEAN member countries. "Migration" is defined as the movement of an individual and/or a family across the boundary of a political or administrative unit for a certain minimum period.<sup>2</sup> Migrants have to navigate the process of migration, a process involving significant social change, whereby an individual moves from one cultural setting to another for the purposes of settling down, either permanently or for a prolonged period. Migrants are exposed to various experiences that influence their health during all stages of the migration process. Moreover, conditions surrounding the migration process, particularly when under unfavorable circumstances, can increase vulnerability for poor health.

A systematic review confirmed that labor migrants face several mental health problems, especially depression and anxiety.<sup>3</sup> Attempts have been made to examine factors influencing mental health problems among migrant workers in Asian countries. The studies primarily focused on relationships between

acculturative stress and depression, or anxiety. John W. Berry, who has made significant contributions to the field of acculturation research, defines acculturation as the process of cultural and psychological change that takes place as a result of contact between two or more cultural groups and their individual members.<sup>4</sup> He describes cultural transitions in a multitude of immigrant populations, which consist of three central components: 1) two distinct cultural groups must exist, 2) each group must be in contact with one another over a period of time, and 3) changes in cultural practices are interactional. He proposed a framework for understanding the concept at both the group and individual level. At the individual level there are a number of psychological changes that occur during the process of acculturation. These changes can be behavioral changes, such as eating new foods, speaking a new language, or ways of dress and at the extreme end, can include more severe psychological changes, known as acculturative stress.<sup>5-6</sup> Berry attempted to systematize the complex process of acculturation and to illustrate the main factors that affect an individual's adaptation, as presented in Figure 1. Subsequent researchers have employed Berry's model to explain the relationship between acculturation, acculturative stress, and mental health problems among labor migrants.<sup>6-7</sup> These studies confirmed that along with the acculturation process, most migrants experience some degree of acculturative stress. Migrant workers who struggle with acculturative stress are at increased risk for mental health problems, particularly anxiety and depression. This integrative review aims to examine mental health problems and identify factors contributing to mental health problems among migrant workers, specifically in Asian countries.

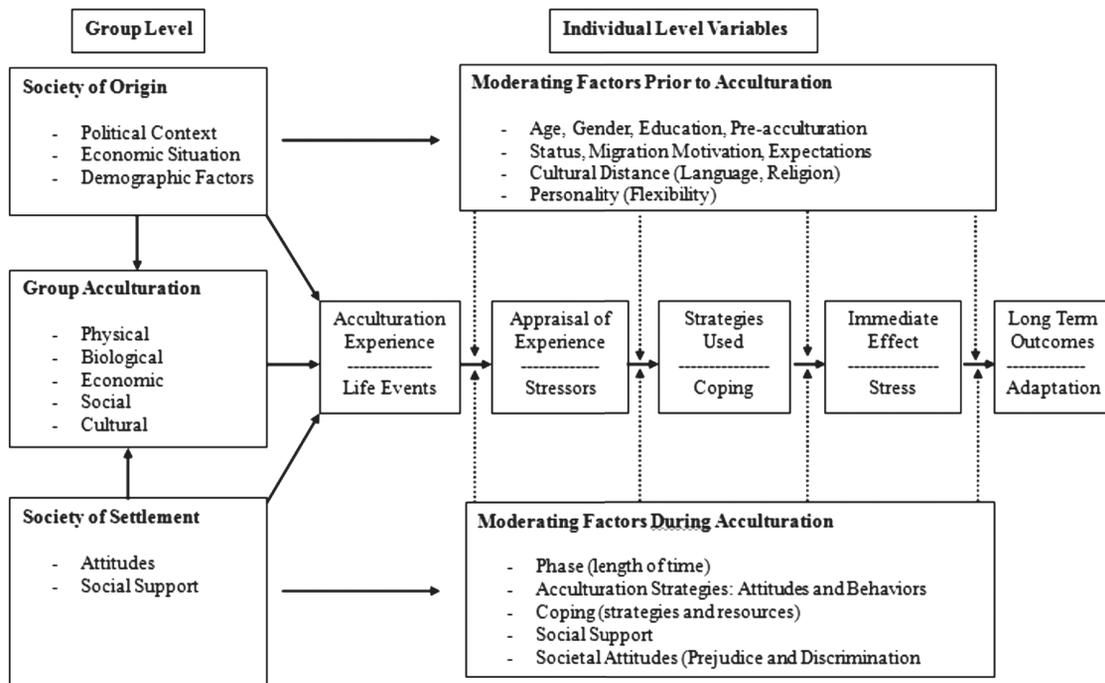


Figure 1: Berry's model of acculturation<sup>4</sup>

## Methods

### Design

An integrative literature allows for the inclusion of multiple research methods, experimental and non-experimental designs, and theoretical, as well as empirical data, to increase understanding of a specific topic.<sup>8</sup> The results of this type of review can inform clinical practice and health policy, in addition to supporting theory development.<sup>9</sup> Our goal was not to determine health outcomes related to a specific intervention, as is common to systematic reviews, but to characterize the state of our knowledge related to mental health problems among migrant workers in Asian countries.

### Search strategy

Relevant literature relating to mental health among migrant workers in Asian countries was identified through the Science Direct, PubMed, SAGE, and Cumulative Index to Nursing and Allied Health Literature (CINAHL) database via ELSEVIER, EBSCO, and MEDLINE database. The Database of International Organization for Migration and Mahidol Migration Center, Institute for Population and Social Research, Thailand was also included to identify evidence. The authors conducted an online search using keywords and MeSH terms including "migrant workers", "Asian", and "Asia", "acculturative stress", "stress", "psychological" and "mental health". The authors scanned articles eligible for further review by

performing an initial screen of titles or abstracts, followed by full-text reviews.

### Inclusion and exclusion Criteria

The literature review aimed to identify recent evidence about the study of mental health among migrant workers in Asian countries; therefore, appropriate databases were searched for Thai and English language articles dated from 2004-2014 and studied in migrants who are working with ages ranging between 18-60 years old. Articles were excluded if they did not specifically focus on mental health issues in labor migrants.

## Results

### Search results

Figure 2 includes the screening process used to identify the final studies. The initial literature search yielded 44 citations. Following the screening process, two duplicate studies were excluded and the remaining 42 studies were screened. Ten studies that were conducted in refugees, undergraduate students, elderly migrants, and migrant mothers who delivered a baby were excluded, and 13 articles that studied mental health problems among migrants in the United States and Spain were excluded. The final remaining studies identified 19 publications meeting all selection criteria, which consisted of a reviewed article, 15 quantitative studies, and 3 qualitative studies, as presented in Table 1.

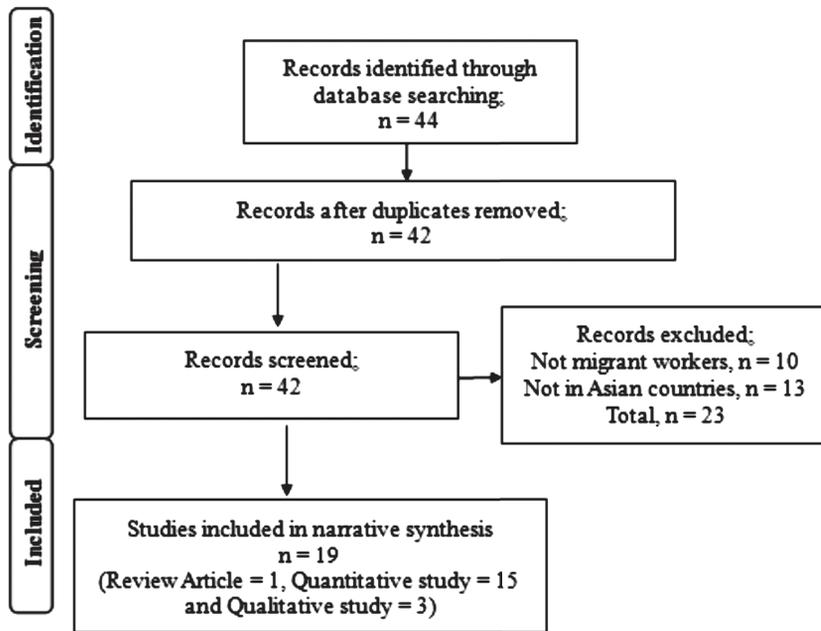


Figure 2: PRISMA flow diagram of study inclusion

Table 1. The collective findings table

Authors, year of publication	Population	Findings
He & Wong; 2013	959 female internal migrants in 4 provinces of China	1) 202 female migrants (24%) reported being mentally unhealthy. 2) Socioeconomic status including age, educational level, monthly salary, and daily working hours had relationships with mental health problems. 3) The acculturative stress, especially financial and employment difficulties, cultural differences, and gender-specific stress, significantly predicted mental health problems.
Howteerakul, Suwannapong, and Than; 2005	177 Burmese workers in Thailand	1) Financial problems were a significant stressor among Burmese workers (64.4%). 2) All Burmese workers had job stress from the top three stressors: supervisor/boss, work load, and feeling at work.
Lee, Aha, Park, Kim, and Moon; 2011	156 female workers from Thailand, Vietnam, and Philippines in South Korea	All female migrants reported a high level of acculturative stress in the domain of homesickness, and perceived discrimination and hate, respectively.
Lee, Aha, Miller, Park, and Kim; 2012	170 Chinese migrant workers in South Korea	1) 29.4% of migrant workers reported depressive symptoms in the past month (CES-D score $\geq 16$ ). 2) Female migrants who had service jobs were more vulnerable to depressive symptoms. 3) Both acculturative stress and work-related stress significantly predicted depressive symptoms.

Table 1. (continued)

Authors, year of publication	Population	Findings
Li and Wu; 2010	36 rural-urban migrants in China	<ol style="list-style-type: none"> <li>1) Migrants experienced mental health problems: including, unhappiness, sleep disturbance, nervousness, chronic anxiety, and depression.</li> <li>2) They reported the most common risks for psychological health were financial difficulties, work-related stress, and lacking contact with the outside</li> </ol>
Lin et al.; 2011	1,006 internal migrants in Beijing	Experience of discrimination in daily life and perceived social inequity had an influence on mental health problems.
Lu; 2010	7,749 rural-urban migrants and 7,742 non-migrants in Indonesia	<ol style="list-style-type: none"> <li>1) 12% of migrant workers reported depressive symptoms in the past month (CES-D score <math>\geq 16</math>)</li> <li>2) In male migrants, the intensity of smoking had a strong correlation with depressive symptoms.</li> </ol>
Lu; 2010	7,749 rural-urban migrants and 7,742 non-migrants in Indonesia	<ol style="list-style-type: none"> <li>1) Rural-urban labor migrants, especially migrants who moved alone, were more likely to report depressive symptoms than non-migrants.</li> <li>2) Risk characteristics in labor migrants for depressive symptoms were moving alone, low income, working long hours, a low living standard, and lacking in health and insurance information.</li> </ol>
Mo, Mak & Kwan; 2006	131 female migrants in Hong Kong	<ol style="list-style-type: none"> <li>1) The sample reported a higher level of psychological distress than a community sample of Chinese Americans.</li> <li>2) Socioeconomic status, including age, educational level, income, and length of stay, had relationships with psychological distress.</li> <li>3) Both acculturative stress and general stress had a significant positive correlation.</li> <li>4) Social support had a significant negative correlation with psychological distress.</li> </ol>
Nilvarangkul, Rungreangkulkij, and Wongprom; 2010	70 Laotian migrants in Thailand	<ol style="list-style-type: none"> <li>1) The participants perceived stress as “Dukkha” (suffering), which led them to the feelings of sadness, unhappiness, worries, loneliness, frustration, and sleeplessness.</li> <li>2) The most common stressors were non-standard wages and having limited choices, work-related stress, loneliness, and financial problems.</li> </ol>
Nilvarangkul, McCann, Rungreangkulkij, and Wongprom; 2010	70 Laotian migrants in Thailand	<ol style="list-style-type: none"> <li>1) Migrants reported difficulties in all 5 domains of health-related QOL.</li> <li>2) They experienced sadness or unhappiness from low income, unfair wages, illegal status, abuse from employers and local people, and an unhygienic living environment.</li> </ol>
Qiu et al.; 2011 Tonsing; 2013	1,180 internal migrants in Chengdu	<ol style="list-style-type: none"> <li>1) 23.7% of migrant workers had clinical depression symptoms (CES-D score <math>\geq 16</math>), and 12.8% were consistent with a clinical diagnosis of depression (CES-D score <math>\geq 21</math>).</li> <li>2) Self-rated economic status had a direct effect on depression, while objective socioeconomic status, including income, expenses, and educational level had effects on depression, mediated by self-rated economic status.</li> <li>3) Self-rated physical health and city adaptation had negative effects on depression.</li> </ol>

Table 1. (continued)

Authors, year of publication	Population	Findings
Tonsing; 2013	447 Pakistanis and Nepalese immigrants in Hong Kong	Perceived discrimination and acculturative stress were related to psychological distress, while perceived social support was associated with psychological distress only in Nepalese.
Wang, Li, Stanton & Fang; 2010	1,006 internal migrants in Beijing	1) Physical and psychological domains in QOL had a significant correlation with depression and anxiety. 2) Social stigma and discriminatory experience had significant direct links to psychological distress and QOL. A low level of QOL had a strong correlation with depressive symptoms.
Wong, Chou & Chow; 2012	449 new migrants in Hong Kong	1) 25% of male migrants were classified as mentally unhealthy more than females (6%). 2) Financial difficulties, employment difficulties, interpersonal relationships, and social companionship support had relationships with mental health. 3) Gender differences in social support were found, with tangible support being most important for males, and emotional support being the most important for females.
Wong & Leung; 2008	475 internal migrants in Shanghai	1) 25% of men and 6% of women were classified as mentally unhealthy. 2) Financial and employment difficulties were found as the main migration stress. 3) Marital status predicted mental health problems in male migrants, while a good meaning of migration, more financial and material gains predicted mental health problems of female migrants.
Wong & Song; 2008	475 internal migrants in Shanghai	1) 25% of men and 6% of women were classified as mentally unhealthy. 2) Financial and employment difficulties were found as the main migration stress. 3) Marital status predicted mental health problems in male migrants, while a good meaning of migration, more financial and material gains predicted mental health problems of female migrants.
Yang et al.; 2012	1,595 male internal migrants in Hangzhou and Guangzhou	1) The prevalence of probable mental disorders in the sample was 24.4%. 2) 19.5% of male migrants had a high level of life-stress from unhappy marriage, lack of entertainment after work, and familial financial problems. 3) 21.6% of male migrants had a high level of work-stress from low salary, delayed pay, long working hours, and excessive workload.
Zhong et al.; 2013	An exploratory meta-analysis with 48 cross-sectional surveys	1) The pooled psychological symptom scores were statistically higher than the norms of Chinese general population on all scales of SCL-90-R. 2) Four covariates accounted for 33.9 % of SCL-90-R, including: mean age of study sample, geographic area, per capita GDP, and statutory minimum monthly wage.

Legend: CES-D = Center for Epidemiologic Studies Depression Scale; QOL = Quality of Life;  
SCL-90-R = Symptom Checklist-90-Revised; GDP = Gross Domestic Product

## Mental Health and Associated Factors

Epidemiological studies report prevalence rates of depression ranging from 29.4% to 36.5%, rates that are higher than other groups, such as female adult psychiatric outpatients and community samples.<sup>10</sup> Eleven descriptive studies and the one participatory action research study looked specifically at mental health outcomes. Two studies in China, a country experiencing the largest migration in history, also found high rates of mental health problems among migrant workers. Wong and colleagues<sup>11</sup> used the Center for Epidemiologic Studies Depression Scale (CES-D) to measure depressive symptoms among 449 migrants in Hong Kong; the mean score of depressive symptoms was 11.5 (SD = 9.7), reflecting moderate symptom severity. Qie and colleagues<sup>12</sup> also used the CES-D with a cohort of 1,180 migrant workers in China; 36.5 % of them scored over 16 (typically used to define clinically relevant depression). A similar study found that 29.4% of Chinese workers in Korea had clinically relevant depression symptoms.<sup>13</sup> Other depression symptom scales have been used with similar results.<sup>14-19</sup> Despite a large body of evidence showing that women are more vulnerable to depression than men, Wong et al. classified 25% of men and only 6% of women who were migrant workers in Shanghai and Hong Kong as having poor mental health.<sup>20-21</sup> Nilvarangkul and colleagues<sup>22</sup> completed a participatory action research study with Laotian labor immigrants with the goal to formulate a practical model for workers to enhance their health-related quality of life (HRQOL). In-depth interviews (N=70) revealed that all five domains of HRQOL were decreased. The workers who had experienced physical or psychological abuse and high levels of stress were associated with depression. Both qualitative and quantitative methods provide cumulative evidence that migrant mental health can be compromised through multiple pathways. The qualitative studies all highlight these various stressors that may link to their mental health problems, such as stress, anxiety, and depression.

### Factors contributing to poor mental health

The review identified four factors that influence mental health outcomes.

#### 1) Acculturative Stress

It was found that the significant stressors include financial problems, interpersonal tensions and conflicts, legal/job insecurity, a mobile lifestyle, language barriers, loneliness, and poor relationships with local people. Wong et al., in their descriptive study with 475 migrant workers

in China, found that 25 % (n = 59) of male migrant workers and 6% (n = 14) of female migrant workers had scores on the Migration Stress Scale reflecting high stress levels.<sup>20-21</sup> Specific stressors identified included financial and employment-related difficulties and interpersonal tensions and conflicts. Mo and colleagues<sup>14</sup> developed a 9-item scale to measure acculturative stress and used the 16-item Daily Hassles Scale to measure general stress. The results found that psychological distress significantly correlated with both acculturative stress ( $r = .49, p < .001$ ) and general stress ( $r = .56, p < .001$ ). Related acculturative stress measuring tools have been used to show significant correlations with psychological health ( $r = -.307, p < .001$ )<sup>11</sup> and depression.<sup>13, 23</sup> Similarly, in Thailand, the findings of qualitative studies revealed that Laotian migrant workers perceived stress as a state of being unable to fulfill their preferences or expectations. Major themes from the interviews revolved around difficulties related to living with poverty, legal security, employment, poor relationship with Thai locals, and work-related illness.<sup>22, 24</sup>

#### 2) Work-related stress

In the reviewed literature, work-related stress or job stress was considered the biggest occupational health problem. Thus, we focused on this factor and its relationship to migrant worker mental health. Only four of the reviewed articles specifically examined the correlation between work stress and mental health problems. Howteerakul and colleagues<sup>25</sup> found that most workers from Myanmar working and living in Thailand (81.9%) had a low level of job stress, but the level increased in workers who held supervisory or senior management positions within a company. Moreover, Lee and colleagues<sup>13, 26</sup> found that work-related stress in the domain of job demands, insufficient job control, and interpersonal conflict at work were significantly and positively correlated with the level of depression in 170 Chinese workers living in Korea. Similar to the study in Korea, Lu<sup>27</sup> conducted a longitudinal study among rural-urban migrants in Indonesia, and found that long working hours had an effect on their mental health.

#### 3) Socio-Demographic Factors

Several researchers have examined various socio-demographic factors related to mental health problems in migrant workers. Age is one factor that was hypothesized to be significantly associated with mental health problems among labor migrants. However, not all study data support this relationship. Age was shown to make only a modest correlation with psychological distress

( $r = .28, p < .001$ ),<sup>14</sup> while two studies found no relationship.<sup>11,13</sup> Assessment of the impact of gender as a social determinant of health yielded equivocal results. Some studies indicated that females were more likely than males to experience depression,<sup>13</sup> but gender differences were negligible in other studies,<sup>15</sup> and other studies showed that male workers had lower levels of mental health compared with females.<sup>25</sup> Low income and lower levels of education have both been shown to be negatively associated with the mental health problems of labor migrants.<sup>11,13</sup> In summary, only income and education level have been shown to be consistently correlated with mental health problems. Inconsistent data findings related to age could be influenced by the type of work and the duration of immigrant work experience. Differences in the degree to which migrant groups adhere to traditional male-female gender roles may also have contributed to the equivocal results related to gender.<sup>20</sup>

#### 4) Social Support

It is important to note that moving from one place to another to live and work often means a decline or loss of an individual's previous social support network. Thus, social support has been the focus of many research studies, which generally have confirmed that there is a relationship between social support and mental health problems. Wong and colleagues completed two different studies regarding perceived social support, and found that perceived social support significantly correlated with psychological health ( $r = .41, p < .001$ ) and overall mental health.<sup>11, 20</sup> Perceived affective support was also modestly related to psychological distress ( $r = -.18, p < .05$ ).<sup>14</sup> Interestingly, a consistent finding among the reviewed articles was that informal resources such as friends and other migrant workers were the main support resources for migrant workers.<sup>12, 14, 28</sup> One interpretation of these data is that migrant workers do not look to health care providers for support. This represents huge opportunities for health policy makers and health care providers for the future.

## Discussion

During the last decade, there were 19 research articles examining mental health problems among migrant workers in Asian countries. Evidence suggests that approximately one-third of the migrants had a mental health problem, and the level of psychological distress was also higher than that of other community groups.<sup>10,14</sup> Moreover, migrant workers have to confront

many stressors along with the acculturation process, leading to a high level of acculturative stress and depressive disorders. These findings are similar to data from non-Asian countries.<sup>3</sup>

The data support the thesis that those migrant workers who have low levels of education and income are at increased risk for psychological distress and mental health problems. The lower education level might have multiple direct and indirect impacts on mental health, such as causing the misunderstanding of work policies, safety procedures and expectations, as well as lower levels of health promotion and self-care. It is likely that those who have lower economic status are often disadvantaged within a community. Thus, those who have a low income and education level should receive more attention.

High job demands, insufficient job control, and high interpersonal conflict at work were correlated with depression. This finding is similar to a previous study in a non-Asian country.<sup>29</sup> Unsatisfactorily work environments, high risk jobs, long work hours, personal conflicts with coworkers or employers, in addition to long standing cultural and language barriers within the workplace all contributed to depression. Two studies focused on the direct effect of work-related stress upon mental health problems among migrants in Asian countries; however, they did not examine indirect effects related to socio-economic status or social support. Future studies need to consider a broader range of moderators and mediators of the relationship between work-related stress and migrant mental health.

Social support was found to have a strong relationship with mental health. Tangible support was more strongly associated with mental health in male migrant workers, whereas female migrant workers' mental health was more closely linked to the perceived availability of emotional support. Informal sources of support, including peers, family members and community leaders, were most often reported. Thus, nurses could play a leadership role in structuring health promotion strategies that help migrant workers develop community-based support resources.

## Recommendation for future research

The findings from the publications highlight several areas for future directions. Based on the Berry model of acculturation, future research should focus on both society of origin and settlement. Thus, important variables like the attitude of native people toward migrants

should be considered as a variable of interest. Multiple other factors also need consideration in designing future research, including migrant workers' attitudes toward and length of stay in host country, ethnicity, gender, marital status, and past histories of mental health problems can all contribute to the acculturation experience of migrant workers and how each migrant perceives and reacts to acculturative stress. The conduct of qualitative studies to allow for an in-depth exploration of the migrant worker experience can serve as a basis for theory development and testing. One challenge for future research is the need to design longitudinal studies in order to examine causal pathways of risk and resilience factors, and identify modifiable risk factors and ways to enhance resilience. The accumulation of knowledge in this area would also serve as a basis for the development of community-based nursing interventions.

### Limitations

This integrative literature review provides some basic knowledge regarding mental health problems of migrant workers in Asian countries. This review is limited by the broad range of methodologies and the quality of studies. Most studies seem to be descriptive studies with small sample sizes.

### Conclusion

In summary, the purpose of this integrative review was to report the current knowledge about the mental health issues for migrant workers in Asian countries. Key conclusions are that the body of knowledge in the area of mental health outcomes, acculturative stress, and risk factors related to mental health problems is relatively sparse. However, there is strong evidence that the prevalence of mental health problems, including depression and psychological distress, among migrant workers is higher than the general public. These mental health problems are linked to several risk factors, such as economic problems, difficult personal relationships, and the lack of social connections or social support. However, there are likely more factors that need to be considered in the design of future studies and more examination of the complex interactions among factors. In the meantime, Thailand is moving rapidly towards ASEAN, and nurses need to be cognizant of the projected increase and diversity in migrant worker populations, and prospectively plan how they can best meet the health needs of these key contributors to their nation's economy.

### References

1. Department of Employment. The number of migrants in Thailand by district area, the legal status of migrants, and nationality [Internet]. Bangkok: Office of Foreign Workers Administration, Department of Employment, Thailand; 2014 [cited 2014 Oct 21]. Available from: <http://wp.doe.go.th/wp/images/statistic/sm/57/sm0657.pdf>. (in Thai).
2. Boyle P, Halfacree K, Robinson V. Exploring contemporary migration. *Int J Popul Geogr*. 1999;5(2):152-3.
3. Lindert J, Ehrenstein OSv, Priebe S, Mielck A, Brähler E. Depression and anxiety in labor migrants and refugees - A systematic review and meta-analysis. *Soc Sci Med*. 2009;69(2):246-57.
4. Berry JW. Immigration, acculturation, and adaptation. *J Appl Psychol*. 1997;46(1):5-34.
5. Berry JW. Acculturative stress. In: Wong PTP, Wong LCJ, Lonner WJ, editors. *Handbook of multicultural perspectives on stress and coping*. New York: Springer; 2006. p. 287-98.
6. Berry JW, Sabatier C. Acculturation, discrimination, and adaptation among second generation immigrant youth in Montreal and Paris. *Int J Intercult Relat*. 2010;34(3):191-207.
7. Jang Y, Kim G, Chiriboga D, King-Kallimanis B. A bidimensional model of acculturation for Korean American older adults. *J Aging Stud*. 2007;21(3):267-75.
8. Torraco RJ. Writing integrative literature reviews: Guidelines and examples. *Hum Resource Dev Rev*. 2005;4(3):356-67.
9. Whitemore R, Knafk K. The integrative review: Updated methodology. *J Adv Nurs*. 2005;52(5):546-53.
10. Yang T, Xu X, Li M, Rockett I, Zhu W, Ellison-Barnes A. Mental health status and related characteristics of Chinese male rural-urban migrant workers. *Community Ment Health J*. 2012;48(3):342-51.
11. Wong WK, Chou KL, Chow NW. Correlates of quality of life in new migrants to Hong Kong from Mainland China. *Soc Indic Res*. 2012; 107(2):373-91.
12. Qiu P, Caine E, Yang Y, Chen Q, Li J, Ma X. Depression and associated factors in internal migrant workers in China. *J Affect Disord*. 2011;134(1-3):198-207.

13. Lee H, Ahn H, Miller A, Park CG, Kim SJ. Acculturative stress, work-related psychosocial factors and depression in Korean-Chinese migrant workers in Korea. *J Occup Health*. 2012;54(3):206-14.
14. Mo PKH, Mak WWS, Kwan CSY. Cultural change and Chinese immigrants' distress and help-seeking in Hong Kong. *J Ethn Cult Divers Soc Work*. 2006;15(3-4):129-51.
15. Wang B, Li X, Stanton B, Fang X. The influence of social stigma and discriminatory experience on psychological distress and quality of life among rural-to-urban migrants in China. *Soc Sci Med*. 2010;71(1):84-92.
16. He X, Wong DF. A comparison of female migrant workers' mental health in four cities in China. *Int J Soc Psychiatry*. 2013;59(2):114-22.
17. Lin D, Li X, Wang B, Hong Y, Fang X, Qin X, et al. Discrimination, perceived social inequity, and mental health among rural-to-urban migrants in China. *Community Ment Health J*. 2011;47(2):171-80.
18. Lu Y. Mental health and risk behaviours of rural-urban migrants: Longitudinal evidence from Indonesia. *Popul Stud (Camb)*. 2010;64(2):147-63.
19. Zhong B-L, Liu T-B, Chiu HFK, Chan SSM, Hu C-Y, Hu X-F, et al. Prevalence of psychological symptoms in contemporary Chinese rural-to-urban migrant workers: an exploratory meta-analysis of observational studies using the SCL-90-R. *Soc Psychiatry Psychiatr Epidemiol*. 2013;48(10):1569-81.
20. Wong DFK, Leung C. The functions of social support in the mental health of male and female migrant workers in China. *Health Soc Work*. 2008;33(4):275-85.
21. Fu Keung Wong D, He Xue Song. The resilience of migrant workers in Shanghai China: The roles of migration stress and meaning of migration. *Int J Soc Psychiatry*. 2008;54(2):131-43.
22. Nilvarangkul K, McCann TV, Rungreangkulkij S, Wongprom J. Health-related quality of life of Laotian migrant workers in Thailand. *Asian Pac Migr J*. 2008;17(2):133-56.
23. Tonsing KN. Predictors of psychological adaptation of South Asian immigrants in Hong Kong. *Int J Intercult Relat*. 2013;37(2): 238-48.
24. Nilvarangkul K, Rungreangkulkij S, Wongprom J. Perception of stress in Laotian migrant workers in Thailand. *J Immigr Minor Health*. 2010;12(5):678-82.
25. Howteerakul N, Suwannapong N, Than M. Cigarette, alcohol use and physical activity among Myanmar youth workers, Samut Sakhon Province, Thailand. *Southeast Asian J Trop Med Public Health*. 2005;36(3):790-6.
26. Lee H, Ahn H, Park CG, Kim SJ, Moon SH. Psychosocial factors and work-related Musculoskeletal Disorders among Southeastern Asian female workers living in Korea. *Saf Health Work*. 2011;2(2):183-93.
27. Lu Y. Rural-urban migration and health: Evidence from longitudinal data in Indonesia. *Soc Sci Med*. 2010;70(3):412-9.
28. Li Y, Wu S. Social networks and health among rural-urban migrants in China: A channel or a constraint? *Health Promot Int*. 2010;25(3): 371-80.
29. Hiott AE, Grzywacz JG, Davis SW, Quandt SA, Arcury TA. Migrant farmworker stress: Mental health implications. *J Rural Health*. 2008;24(1):32-9.