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# Knowledge, Attitudes, and HIV/AIDS Risk Behaviors of Myanmar Migrant Workers in Thailand

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## ABSTRACT

**Background:** HIV/AIDS is still a problem in the health care system of developing countries. Migrant workers are considered a vulnerable population for HIV infection. The current information on HIV/AIDS and migrant workers is useful to provide suitable effective health interventions for the prevention of HIV/AIDS. This study aims to describe knowledge, attitudes and HIV/AIDS risk behaviors among Myanmar male migrant workers in Thailand.

**Methods:** A cross-sectional study was conducted in Myanmar male migrant workers aged 18-60 years collected from February to May 2018. A total of 400 migrant workers who live in Patumthani provinces were selected by a convenience sampling method. Descriptive statistics were used to explore knowledge, attitudes and HIV/AIDS risk behaviors of participants.

**Results:** The mean age of the participants was 33 years, ages ranged from 18 to 60 years old, achieved primary school (40.40%), and married (54.30%). An average living in Thailand was 3.25 years and monthly income was 9,166 baht (~286 USD), respectively. A majority of participants had a poor level of HIV/AIDS knowledge (55.25%) and a fair level of an attitude about HIV/AIDS disease and prevention (61.25%). Risk behaviors related to HIV/AIDS of participants who had sex with non-partners were 40.58%.

**Conclusion:** Most participants had poor knowledge and a fair attitude of HIV/AIDS. Risk behaviors related to HIV/AIDS of the participants were relatively high. Moreover, most of participants had less access to health care services. This results confirmed that an urgent need to provide health intervention to increase knowledge on HIV/AIDS of Myanmar migrant workers in Thailand.

**Keywords:** Myanmar migrant workers, HIV/AIDS, risk behavior, Thailand

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## 1. Introduction

HIV/AIDS is still a major public health problem around the world. Although the number of new cases HIV infections globally continued to decline from 3.40 million in 1996 to 1.80 million in 2017, progress is far slower than what is required to reach the 2020 milestone of less than 500,000 new infections. In 2017, epidemiology of AIDS around the world is 36.90 million and a majority was found in adults and Africa region. Approximately 5.20 million people in Asia-Pacific region (mostly China, India, Indonesia, Malaysia, Myanmar, Pakistan, Papua New Guinea, Vietnam, and Thailand) were infected with HIV (UNAIDS, 2018b). In 2017, the prevalence of HIV in Thailand aged 15 to 49 years was 1.10 per

100,000 persons (UNAIDS, 2018a). Although an overview of HIV prevalence decreased more than 10 years, HIV prevalence has been increased or stable in some groups, in particular, a vulnerable group like migrant workers (Thepthien et al., 2015).

Migrant workers are considered a vulnerable population for HIV infection. Most migrant workers separated from their families and familiar social. They may face language barriers, substandard living conditions, and working conditions and a lack of social protection, such as health insurance and other social security benefits. The resulting isolation and stress may lead migrant workers to engage in risky behaviors, such as unsafe sex (UNAIDS, 2019). In 2015, according to the report of The International Organization for Migration (IOM) found that there are approximately 257.7 million people worldwide (IOM, 2017). Mobility of migrant workers directly affects to health care system of origin and destination country. Previous studies were also found that HIV infection was high among migrant workers who moved back to their former homeland (Alvarez-del Arco et al., 2017; Fakoya et al., 2015). Thailand has had continued economic growth for more than twenty years and has combined with international policy of ASEAN Community that aims to cooperate in 3 main issues (political-security, economic, and socio-cultural). This has a result of the increased movement of migrant workers in Asia, especially Thailand where migrant workers come from neighboring countries like Myanmar, Laos, and Cambodia. In 2018, Thailand has about 39 million migrant workers, most of which are from Myanmar (2.06 million) following Cambodia (720,000) and Lao PDR (220,000) (IOM, 2019).

A majority of migrant workers are young and separated from spouses and their family that making them feel isolated or stress and may lead to a high risk of HIV/AIDS (Weine and Kashuba, 2012). Mostly they lack HIV. In addition, knowledge (Amirkhanian et al., 2011; Sena et al., 2010; Mullany et al., 2003) in accordance with the report from Bureau of Epidemiology Department of Thailand in 2013 shows that the morbidity rate of HIV/AIDS of Myanmar migrant workers has not decreased and the prevalence of HIV/AIDS was 1% (BoE, 2013). Besides, most migrant workers faced with the language or finance barriers (particular in migrant workers with irregular legal status) that make them less access to health care services. Little information is known about HIV/AIDS risk behaviors in Myanmar migrant workers in Thailand because of the language barrier and access to migrant workers. Understanding knowledge, attitudes, and HIV/AIDS risk behaviors in migrant workers is very important in planning HIV/AIDS at the national and international levels of the health care system. Therefore, the objective of this study is to describe knowledge, attitudes, and HIV/AIDS risk behaviors among Myanmar male migrant workers in Thailand.

## 2. Method

### 2.1 Study design and sample

This cross-sectional study was conducted among Myanmar male migrant workers living in Patumthani province, Thailand. The data were collected from February to May 2018. A total of 400 male migrant workers aged 18-60 years who have lived in Thailand over 6 months were selected based on convenience sampling at one private market of Patumthani province. Myanmar male migrant workers who were diagnosed with HIV/AIDS and not literate in the Myanmar language were excluded. Permission to collect the data was obtained from the head of the private market, and all participants provided informed consent. The study protocol was approved by the ethics committees of Thammasat University (082/2560).

### 2.2 Instruments

The questionnaire was developed in the Thai version and was proved for content validity by three experts with extensive experience working in the HIV/AIDS field. The next step was translated to Myanmar version by the certified language institute of Mahidol University. The questionnaire consists of four parts. Part 1 was data about sociodemographic characteristics. Part 2 was knowledge of HIV/AIDS containing statements about transmission and prevention. It was 12 items that had an an-

swer as "yes", "no", and "don't know". The correct answer was given 1 scores and incorrect answer was given 0 scores. The scores of HIV/AIDS knowledge were categorized into three levels (poor, fair, and good). A total of scores less than 60% (less than 8) was considered as a poor level of knowledge, score 60-79% (8 and 9) was considered as a fair level of knowledge, and score 80% and over (10-12) were considered as a good level of knowledge. Part 3 was an attitude about HIV/AIDS disease and prevention. It was comprised of 15 items of pro and con attitude about disease and prevention. Each item was Likert scale rating from strongly agree, agree, neutral, disagree and strongly disagree, with 5, 4, 3, 2, and 1 score, respectively. In terms of negative items, the score was reversed. Scores of attitudes were categorized into three levels include poor, fair, and good. A total of a score less than 60% (15-44) was considered as a poor level of attitude, score 60-79% (45-59) was considered as the fair level of attitude, and score 80% and over (60-75) were considered as a good level of attitude. Part 4 was risk behaviors related to HIV/AIDS and accessibility to health care services. The questionnaire was pre-tested on thirty male Myanmar migrant workers in another province (Phra Nakhon Si Ayutthaya) close to Patumthani province. The results from pre-tested were used to improve the questionnaire. Data was collected using a self-administered questionnaire.

### 2.3 Statistical analysis

Epidata version 3.1 was used to enter the data, and the logic check mode was used to check for data errors. Descriptive statistics were summarized using means and standard deviations, for continuous variables, and frequencies and percentages for categorical data.

## 3. Results

### 3.1 Demographic characteristics of participants

A total of 400 Myanmar male migrant workers completed the questionnaire (Response rate : 100%), and their ages ranged from 18 to 60 years old (Mean=33.42). Most participants achieved primary school education (40.40%), married (54.30%), an average living in Thailand 3.25 years, an average monthly income 9,166 baht ( 286 USD). Half of participants did not understand The Thai language. The demographic characteristics of the participants are presented in Table 1.

**Table 1.** Demographic characteristics of participants (n=400)

Characteristics	Frequency	%
Age group (years)		
18-24	63	15.8
25-40	259	64.7
41-60	78	19.5
mean=33.42, SD=8.07		
Education level		
Unschooling	89	22.3
Primary school	162	40.4
High school	144	36.0
Bachelor degree	5	1.3
Marital status		
Single	164	41.0
Married	217	54.3
Widowed/Divorced/Separated	19	4.7
Have children		

Yes	224	56.0
No	176	44.0
Occupation		
Labor	186	46.5
Seller	108	27.0
Others	106	26.5
Living in Thailand		
Alone	44	11.0
Wife	144	36.0
Relative	146	36.5
Friend	36	9.0
Employer	20	5.0
Others	10	2.5
Average living 3.25 years, SD 1.86, Max 15 years, Min 6 months		
Understand Thai language		
Do not understand	200	50.0
Mild understanding and can not speak	115	28.7
Moderate understanding and can speak some issue	69	17.3
Good understanding and can speak on every issue	16	4.0
Average income 9,166 baht per month, Max 22,400 baht, Min 1,240 baht		
Family income		
Enough	240	60.0
Not enough	160	40.0
Other history diseases		
Yes	57	14.2
No	343	85.8
Smoking		
Never	241	60.3
Quit	37	9.3
Smoking someday	39	9.7
Smoking everyday	83	20.7
Drinking alcohol		
Never	226	56.6
Quit	47	11.7
Drinking someday	67	16.7
Drinking everyday	60	15.0

Table 2 reveals The HIV/AIDS knowledge of participants. The result found that a majority of participants have a poor level of HIV/AIDS knowledge (55.25). Only 13.75% have a good level of HIV/AIDS. An average score is 6.97 (SD=2.71) and a range of 0-12. In some essential questions, the result found that participants answered correctly less than half. For example, "HIV people who do not have symptoms cannot spread HIV to other people" and "AIDS can be cured".

**Table 2.** SDIA/VIH Knowledge

	Yes(%)	No(%)	Do not know(%)
1. HIV /AIDS transmits through blood	337 (84.3)	24 (6.0)	39 (9.7)
2. HIV /AIDS transmits through sex	326 (81.4)	33 (8.3)	41 (10.3)
3. HIV /AIDS transmits through eating	189 (47.3)	136 (34.0)	75 (18.7)
4. HIV /AIDS transmits through contact e.g. hug, hold hand	214 (53.4)	101 (25.3)	85 (21.3)
5. HIV /AIDS transmits through mosquito bite	109 (27.3)	207 (51.7)	39 (9.7)
6. HIV people who do not have symptoms cannot spread HIV to other people	152 (38.0)	133 (33.3)	115 (28.7)
7. AIDS can be cured	170 (42.5)	134 (33.5)	96 (24.0)
8. Having sex with temporary partner without condom use that will be high risk to HIV /AIDS	249 (62.3)	57 (14.2)	94 (23.5)
9. HIV /AIDS transmits through using of sharp objects with people, such as razor blades	259 (64.7)	61 (15.3)	80 (20.0)
10. Drinking alcohol before having sex that maybe led to unsafe sex	226 (56.5)	58 (14.5)	116 (29.0)
11. Using condom with non-partner can reduce HIV / AIDS risk	248 (62.0)	68 (17.0)	84 (21.0)
12. Having multiple partners that may be led to a high risk of HIV /AIDS	310 (77.4)	25 (6.3)	65 (6.3)
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13. Level of the HIV knowledge of samples from overall scales			
Poor (<8)	221 (55.25)		
Fair (8-9)	124 (31.00)		
Good (10-12)	55 (13.75)		
An average score was 6.97 (SD=2.71) and the range was 0-12			

Table 3 presents the results of an attitude about HIV/AIDS disease and prevention. It was found that a majority of participants have a fair level of HIV/AIDS attitude (61.25). Only 33% have a good level of HIV/AIDS attitude. The average score is 54.53 (SD = 8.64) and the range of 23-75. More than third-one of the participants still had the wrong attitude in some questions. For example, "I think that have to use a condom with a temporary partner", "I think that if I take medicine to prevent sexually transmitted diseases (STDs) before having sex with a sex worker that will prevent HIV/AIDS", and "I think that using a condom is cumbersome".

**Table 3.** Attitude about HIV/AIDS disease and prevention

I think that...	Frequency (%)				
	Strongly agree	Agree	Not sure	Disagree	Strongly disagree
1. Having multiple partners increase risk of HIV/AIDS	230 (57.5)	107 (26.7)	25 (6.3)	18 (4.5)	20 (5.0)
2. Drinking alcohol increase risk of unsafe sex	184 (46.0)	122 (30.4)	31 (7.8)	31 (7.8)	32 (8.0)
3. Using razor blades with people increase risk of HIV/AIDS	172 (43.0)	116 (29.0)	63 (15.8)	29 (7.2)	20 (5.0)
4. If your hand is wounded and touches the blood or secretions of HIV/AIDS patient that increases risk of HIV /AIDS	147 (36.7)	129 (32.3)	75 (18.7)	24 (6.0)	25 (6.3)
5. I have a risk of HIV /AIDS	83 (20.7)	89 (22.3)	86 (21.4)	73 (18.3)	69 (17.3)
6. AIDS is a disgusting disease and cannot be cured	171 (42.8)	91 (22.7)	62 (15.5)	52 (13.0)	24 (6.0)

7. HIV/AIDS patient will suffer both physically and mentally	159 (39.7)	111 (27.7)	77 (19.3)	40 (10.0)	13 (3.3)
8. HIV/AIDS disease has high cost	190 (47.5)	71 (17.7)	64 (16.0)	54 (13.5)	21 (5.3)
9. HIV/AIDS patient will have reduced ability to work	186 (46.5)	98 (24.5)	69 (17.3)	27 (6.7)	20 (5.0)
10. Have to use condom with temporary partner	154 (38.5)	101 (25.3)	70 (17.5)	46 (11.5)	29 (7.2)
11. Have to use condom with sex worker	171 (42.7)	123 (30.7)	51 (12.8)	28 (7.0)	27 (6.8)
12. If I take medicine to prevent HIV/AIDS before having sex with sex worker that will prevent HIV/AIDS	97 (24.3)	99 (24.8)	70 (17.5)	71 (17.7)	63 (15.7)
13. I can buy condom conveniently	143 (35.8)	81 (20.2)	110 (27.5)	28 (7.0)	38 (9.5)
14. Using condom is cumbersome	85 (21.1)	59 (14.8)	129 (32.3)	66 (16.5)	61 (15.3)
15. Wearing a condom reduces sexual feelings	100 (25.0)	55 (13.7)	114 (28.5)	62 (15.5)	69 (17.3)
<hr/>					
16. Level of an attitude of HIV/AIDS disease and prevention from overall scales					
Poor (23-44)	23 (5.75)				
Fair (45-59)	245 (61.25)				
Good (60-75)	132 (33.00)				
An average score was 54.53 (SD=8.64) and the range was 23-75					

Table 4 exhibits results on risk behaviors related to HIV/AIDS and access to health services. The results found that participants who did not use a condom with non-partners were 40.58%. Accessing health care service after getting sexually transmitted diseases, mostly they bought medicine at the pharmacy and visited private clinics. The annual average to see doctor is 3.67 times. Mostly, they got information about STDs from friends (38.93%).

**Table 4.** Risk behaviors related to HIV/AIDS and access health services

	Frequency (n)	%
1. Age at first having sex (average 21.77, SD = 3.01, Min 15, Max 40)		
2. Have more than one partner in last year (n =398)		
Yes	77	19.3
No	321	80.7
3. Have sex with sex worker in last year		
Yes	75	18.7
No	325	81.3
4. Partner-have sex with non		
No	331	82.75
Yes	69	17.25
4.1. Use condoms		
Yes	41	59.42
No	28	40.58
5. Used to check blood tests for HIV/AIDS (n=397)		
Yes	169	42.56
No	228	57.44

6. Use drugs or alcohol drinking before having sex (n=397)			
Yes		101	25.44
No		296	74.56
7. Previously had other STDs (n=399)			
No		368	92.23
Yes		31	7.77
7.1 How to treat? (n=23)      Not cured			
Went to government hospital		4	17.39
Went to private hospital		1	4.35
Went to private clinic		5	21.74
Went to pharmacies		7	30.44
Others		3	13.04
8. Average to see doctor per year 3.67, SD = 2.03 min 1 , max 5			
*9. Source of information about STDs			
Friends		197	38.93
Health personal		148	29.25
Family or relative		70	13.84
Media		59	11.66
Others		32	6.32

\*can answer more than one option

Table 5 provided results about an association between potential risk factors and risk behaviors related to HIV/AIDS and did not use a condom, which in this study refers to having sex with non-partner. In this research, we could not demonstrate statistically significant associations between risk behaviors related to HIV/AIDS and potential risk factors. However, perusal of Table 5 shows relationships between these variable in our sample. For example, younger men had a considerably higher rate of not using condoms in our sample demonstrated worse behavior compared to older men (30.8%). Also, married men (44.6%) with 51.2% men not wearing condoms compared to 30% and 16.7% for single and widowed/sperated/divorced men, respectively. Interestingly, other history of disease was also a major factor obseved in our sample for lack of condom use (57.1% vs 38.2%).

**Table 5.** Cross-tabulation analysis of condom use and potential risk factors (n=69)

Independent variables	Having sex with non-partner		$\chi^2$	p-value
	Used condoms	Not using condoms		
Age group (years)			0.833	0.535 <sup>+</sup>
18-40	38 (55.4)	25 (44.6)		
41-60	9 (69.2)	4 (30.8)		
Education level			0.925	0.646
Unschoolled	12 (66.7)	6 (33.3)		
Primary school	13 (52.0)	12 (48.0)		
High school	15 (57.7)	11 (42.3)		
Marital status			3.982	0.164 <sup>+</sup>
Single	14 (70.0)	6 (30.0)		
Married	21 (48.8)	22 (51.2)		

Widowed/Divorced/Separated	5 (83.3)	1 (16.7)		
Have children			0.941	0.237
Yes	23 (53.5)	20 (46.5)		
No	17 (65.4)	9 (34.6)		
Occupation			0.796	0.699
Labor	20 (58.8)	14 (41.2)		
Seller	11 (64.7)	6 (35.3)		
Others	9 (50)	9 (50)		
Living in Thailand			0.495	0.831 <sup>+</sup>
Wife	22 (61.1)	14 (38.9)		
Relative	14 (56.0)	11 (44.0)		
Others	4 (50.0)	4 (50.0)		
Understand Thai language			2.365	0.320
Do not understand	15 (70.0)	6 (30.0)		
Mild understanding and can not speak	17 (48.8)	22 (51.2)		
Moderate understanding and can speak some issue	8 (80.0)	2 (20.0)		
Family income			1.169	0.202
Enough	21 (52.5)	19 (47.5)		
Not enough	19 (65.5)	10 (34.5)		
Other history diseases			1.647	0.235
Yes	6 (42.9)	8 (57.1)		
No	34 (61.8)	21 (38.2)		
Smoking			0.513	0.940
Never	16 (59.3)	11 (40.7)		
Quit	11 (52.4)	10 (47.6)		
Smoking someday	5 (62.5)	3 (37.5)		
Smoking everyday	8 (61.5)	5 (38.5)		
Drinking alcohol			0.802	0.877
Never	14 (51.9)	13 (48.1)		
Quit	8 (61.5)	5 (38.5)		
Drinking someday	4 (66.7)	2 (33.3)		
Drinking everyday	14 (60.9)	9 (39.1)		
Level of HIV knowledge			3.774	0.175
Poor (<8)	28 (62.2)	17 (37.8)		
Fair (8-9)	5 (35.7)	9 (64.3)		
Good (>9)	7 (70.0)	3 (30.0)		
Level of attitude of HIV/AIDS			4.259	0.156
Poor (15-44)	3 (50.0)	3 (50.0)		
Fair (45-59)	30 (66.7)	15 (33.3)		
Good (60-75)	7 (38.9)	11 (61.1)		

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p-value from Fischer's exact test



## 4. Discussion

Although an overview of HIV/AIDS new cases globally decreased and the number of AIDS patients related deaths also decreased due to the development of antiretroviral therapy (UNAIDS, 2018b), HIV/AIDS problem in the vulnerable group like migrants is still a serious problem in many countries. Besides, HIV/AIDS problem has changed from individual problem to social problem as a result of population mobility. Epidemiology of HIV/AIDS in migrant workers is a national and an international problem of developing countries. In South-East Asia like Thailand, HIV prevalence among migrant workers from neighboring countries was four times higher than that among the general population (UNAIDS, 2018b; Thepthien et al., 2015). Limited access to health information and health care services of migrant workers were the main barrier in managing HIV/AIDS problems. The update information on HIV/AIDS and migrant workers are very necessary to set a good health intervention, to decrease HIV/AIDS prevalence in this population. A vast majority of epidemics of HIV/AIDS are among predominantly males, leading this study to focus on male migrant workers working in Pathumthani.

The demographic characteristics of the participants in this study were similar to other studies (Fuller and Chamrathirong, 2009; Zafar et al., 2014). Mostly migrant workers are adult, single, and low education. Regarding personal factors of migrant workers that make them have a high risk of HIV/AIDS (Weine and Kashuba, 2012). Moreover, this study found that most Myanmar male migrant workers have a low level of HIV/AIDS knowledge. Similar to other studies (UNAIDS, 2018b; IOM, 2017; Akinsulure-Smith, 2014; Amirhanian et al., 2011; Weine et al., 2008), correct knowledge leads to correct behavior. Therefore, health intervention aims to raise HIV/AIDS knowledge as an urgent need in this group.

A fair level of an attitude about HIV/AIDS of participants was found in this work. However, wrong attitudes still found in some essential questions. Attitude or belief of a person affects their health behaviors. These results confirmed that an urgent need to provide HIV/AIDS intervention in migrant workers in Thailand. Another aspect in terms of attitude about HIV/AIDS that maybe will consider less importance or concentrated when migrant workers want to seek new sex experience in the destination country. 40.58% of participants who had sex with non-partners has risk behaviors related to HIV/AIDS. Using a condom with safe sex was accepted the best way to protect HIV/AIDS. Similar to several studies that found that there is limited condom use among labor migrants (Weine and Kashuba, 2012; Weine et al., 2008). The prevalence of risk behaviors related to HIV/AIDS in this study is relatively high. This may explain by the Acculturation theory about adapted to a new culture of migrants. Individuals from one culture integrate into a different culture either from birth or through immigration, forcing the individuals to modify their self-identity and relationship to each culture (Berry, 1997). Sexual values from the origin country of migrants will gradually reduce concentration and will combine new values from destination countries because of available and more convenient resources (UNAIDS, 2018b,a; Lee and Hahm, 2010).

For access to health care service, most of the participants in this study bought medicine from the pharmacy, went to a private clinic, and received information about STDs from friends and family. These suggested that HIV/AIDS intervention should cover not only migrant workers but also their friends and family. HIV/AIDS intervention should be integrated with Thai in their workplace or community. Moreover, HIV/AIDS knowledge should be available on social networks or social media for migrant workers. Although there are some health strategy and intervention of Thai government, specialized NGO, and United Nations which aimed to prevention HIV/AIDS by increasing knowledge among migrant workers such as standard management of HIV/AIDS workplace activities. Prevention of HIV/AIDS Among Migrant Workers in Thailand Project (PHAMIT), and Comprehensive HIV-Prevention Among Most at-risk population by Promoting Integrated Outreach and Networking (CHAMPION) (UNAIDS, 2019; IPSR, 2012), knowledge and attitude regarding HIV/AIDS of Myanmar migrant workers still need to more improve. Besides, our failure to demonstrate an association

between risk behaviors related to HIV/AIDS and potential risk factors may be due to the lack of relationship, equally, it may be due to the rarity of the outcome (underestimate). This suggests that future research should focus on these issues.

There are some limitations in this study. Firstly, the sample could not be selected with random sampling. Secondly, the findings of this study are based on self-reported data, participants may have avoided participation due to the sensitive nature of these particular health risk behaviors. A third, and perhaps the most important, limitation is that admitting to sexual engagement with a non-partner was not particularly prevalent in our sample with only 69% (17.25) of the 400 participants originally approached admitting to this behavior. The implication of this is that our study was restricted to purely descriptive statistics, as any formal analysis would have been severely underpowered. This is perhaps best demonstrated where we observed quite large differences in the condom use behavior among certain groups (e.g. age, marital status, and history of disease), that could not be demonstrated as statistically significant. However, this cross-sectional survey may provide further insights into current information about HIV/AIDS among Myanmar migrant workers in Thailand. Future research should focus on culture related to sexual behavior of Myanmar migrant workers living in Thailand.

## 5. Conclusion

This study found that a majority of participants had a poor level of HIV/AIDS knowledge and a fair attitude level of HIV/AIDS disease and prevention Risk behavior related to HIV/AIDS of participants is relatively high and also less access to health care services This current information is confirmed that an urgent need to provide health intervention to increase knowledge on HIV/AIDS among Myanmar migrant workers in Thailand.

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## Conflict of Interest

There is no conflict of interest.

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