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Attitude, keypersons' support and uptake of modern contraceptives among reproductive age Myanmar migrant women in Thai-Myanmar border areas

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ABSTRACT

Background: Easier access to contraception can help prevent negative health outcomes, such as unintended pregnancies and abortions, along with their associated adverse effects and socioeconomic consequences. However, there was limited information on contraceptive use among Myanmar migrant women along the Thai-Myanmar border.

Objectives: To identify the determinants of modern contraceptive uptakes among reproductive age Myanmar migrant women in Thai Myanmar border areas.

Methods: A cross-sectional study was conducted among 440 Myanmar migrant women aged 15-49. Baseline characteristics were analyzed using descriptive statistics, and determinants of contraceptive uptake were identified through multiple logistic regression. Associations were presented as Crude Odds Ratio (COR) and Adjusted Odds Ratio (AOR) with their 95% Confidence Intervals (CIs). The statistical significance level was set at $P < 0.05$.

Results: Modern contraceptive uptake prevalence was 62.73% (95% CI: 58.09-67.14), with 48.19% using Depo-Provera injections. After controlling other covariates, getting high support from keypersons (AOR=13.58, 95% CI: 6.24-29.59) and good attitudes towards contraceptives (AOR=2.65, 95% CI: 1.54 -4.57) were associated with modern contraceptive uptakes. Moreover, the determinants of uptake of modern contraceptives included age 30-39 years (AOR = 4.59, 95% CI: 2.37-8.92), age 15 to 29 years (AOR=8.86, 95% CI: 4.55-17.25), farmers and unskilled workers (AOR=2.12, 95% CI: 1.22-3.69), and the opening hour of the clinic (AOR=2.65, 95% CI: 1.26-5.57)

Conclusion: Contraceptive uptake among Myanmar migrant women was higher than in both Thailand and Myanmar, influenced by factors such as keypersons' support networks, attitudes, age, occupation, and accessible service hours. Therefore, it is essential to strengthen social networks that empower women's decision and develop positive attitudes toward contraception. Additionally, providing culturally sensitive education, adopting context-specific strategies, fostering supportive workplace environments, and ensuring flexible, easily accessible healthcare services are all essential for improving contraceptive uptake among this population.

Keywords: Migrant, Modern contraceptives, Myanmar

1. Introduction

Globally, approximately 257 million women are far behind from modern contraception though contraceptive information and services are fundamental to the health and human rights of all individuals [1]. The effective and correct use of modern contraceptive can help in family planning as well as the unwanted pregnancy reducing the negative impacts on health and socioeconomic ensuring the women to pursue their life goals [2-4]. Although, the contraceptive prevalence in the global had soared from 54.8% to 63.3% between 1990 and 2010 [5], the Southeast Asia region shown only 39% prevalence on it in the year 2019 [6]. According to the evidence in 2019, the prevalence was 31.5% in Myanmar which was significantly lower than the regional prevalence and the neighbouring country Thailand which exhibited 46.6% prevalence [6]. Thailand hosted more than 1.57 million migrant workers from Myanmar by December 2020 [7]. That number has been increasing up to 1.98 million after two years mainly due to political changes in Myanmar and many of them are thought to be unregistered [7, 8]. In the past decades, Myanmar migrant women in Thailand tended to use the herbal medicine and some unsafe abortions instead of using the modern contraceptives effectively [9]. A study in Bangkok showed that only 67% of Myanmar migrant women used modern contraceptives [10].

Uptake of modern contraceptives were varied from places to places depending on factors such as demographic and social economic [11-16], environmental [17, 18], cultural beliefs [19], and access to health care [17, 20-23]. However, the context of uptake of family planning and its determinants were still uncleared among Myanmar migrant workers in Thailand. Therefore, this present study aimed to identify the determinants of modern contraceptive uptakes among reproductive age Myanmar migrant women in Thai Myanmar border areas.

2. Methods

2.1 Study Area

The study was conducted in Tak province Thailand from July to August 2024 which is situated along Thailand-Myanmar border area hosting about 75%, the highest proportion of Myanmar nationals [24].

2.2 Study Design

A community-based analytical cross-sectional study was conducted by using

structured questionnaire, to investigate the patterns of modern contraceptive use by reproductive aged migrant women who are within 15-49 years at the time of study living in Tak province, Thailand.

2.3 Sample Size and Sampling

A study conducted among Kayin reproductive age women was taken as reference to calculate the sample size [25]. The total sample size complied to the acceptable Rho Square (0.65) and the Variance Inflation Factor (VIF) (2.86) is 419.34 where $Z_{1-\alpha}$ is 1.96 for 95% confidence interval and $Z_{1-\beta}$ was 0.84 for 80% power. The multiple logistic regression formula was used to estimate the sample size of this study [26]. In order to sustain the statistical power even under the unforeseen circumstances, 5% of the non-response rate was added that leaded the final sample size of 440.

Multistage sampling technique was used to select 440 study units in this study. The first step, two out of nine districts (Amphoe) of Tak province Thailand was chosen by simple random sampling method. In the second step, five of the sub-districts (Tambon) were selected from these districts by simple random sampling. In the third step, a total of 68 sites (factories and agricultural sites) were selected by using simple random sampling from five sub-districts. The required number of samples were proportionately selected from the total reproductive age women residing in each district followed by the data collection site. In the fourth step, the starting point was obtained by using the random table. In each site, the sample was selected by using systematic random sampling i.e. the sampling interval (k) was calculated by dividing the total number of eligible women in each site by the required sample from that site. The first subject was selected using a random starting point between 1 and k, and subsequent participants were selected at intervals of k.

Some factories and agricultural sites that were not cooperative to participate in the study were excluded.

2.4 Data Collection

Data collection was conducted by using structured questionnaire. The study question was firstly prepared in English language, and double translation was done for compromising the possible errors in translation. Content validity was checked by the three experts after developing the draft questionnaires. Item Objective Congruence (IOC) index for each item ranged from 0.8 to 1. Therefore, the items were well designed

and aligned with the intended objectives of the study. Face to face interviews were conducted by research assistants who were well trained before data collection. Pre-tests were done to the 50 volunteers with similar context but who were not the actual participants of the study. The questionnaire was then revised accordingly. The reliability of the items which used Likert scales were also checked by calculating Cronbach's alpha coefficient. The resulted Cronbach's alpha for the perception was 0.7, keypersons' support was 0.7, acceptability to the health service was 0.8, and the quality of the service was 0.8. Having uptake of modern contraceptive was considered if the woman used one or more of the following contraceptives such as condom, emergency contraceptive pills, combined oral contraceptive pills, injection method, subdermal implant, intrauterine contraceptive devices, sterilization method, standard day method (SDM), and lactational amenorrhea method (LAM). Knowledge and attitudes were categorized using Bloom's criteria [27]. Keypersons' support was measured by four items asking the support from husband, parents, friends and her own community, whether they support the women to learn about, and or use modern contraceptives using three degrees of agreements such as "agree, undecided and disagree". Then, the scores were converted into percentage and categorized as low support (< 60%), moderate support (60 -79%) and high support (≥ 80%).

2.5 Data Analysis

The collected data was coded, entered into Excel, and analyzed using STATA version 18.0 (College Station, Texas 77845 USA). Descriptive statistics were used to summarize demographic characteristics, with categorical data presented as numbers and percentages, and continuous data as means (standard deviation) and median (range). Logistic regression was applied to identify the associations between the dependent variable (uptake of modern contraceptive (Yes/No)) and other independent variables. Simple logistic regression was performed to calculate crude odds ratios (OR), 95% confidence intervals (CI), and P-values. Variables with P-values <0.25 in bivariate analysis were included in a multiple logistic regression model to adjust for potential confounders, yielding adjusted ORs, 95% CIs, and P-values. The multicollinearity was checked and mean VIF value exhibited 1.37. Therefore, multiple logistic regression with backward elimination method was applied with the mentioned factors. The final model

was only considered with the factors resulting $P < 0.05$.

3. Results

Baseline characteristics of the study population

Of the 440 reproductive age women, 7.27% were found to be adolescents with the youngest age of 15 years. Nearly half of the study population (44.77%) were unskilled workers. The education levels of the participants were low with the highest proportion of them attaining primary education (38.18%). More than half of the families living there had income up to 5,000 Baht (59.32%) (Table 1).

Table 1: Baseline characteristics of the reproductive age Myanmar migrant women (n=440)

Characteristics	Number (n)	Percentage (%)
Sociodemographic Characteristics		
Age (years)		
15-19	32	7.27
20-29	165	37.50
30-39	148	33.64
≥ 40	95	21.59
Mean (±SD)	31.54	(± 8.7)
Median (Min: Max)	30.50	(15:49)
Occupation		
Unskilled worker	197	44.77
Housewife	157	35.68
Own business	35	7.96
Private employee	30	6.82
Farmer	14	3.18
No job	7	1.59
Educational level		
No education	52	11.82
Informal education	3	0.68
Primary (KG to 4th grade)	168	38.18
Secondary (5th to 8th grade)	130	29.55
High school (9th to 12th grade)	56	12.73
Bachelor/ Graduate	29	6.59
Higher than Bachelor's	2	0.45
Religion		
Buddhist	299	67.95
Christian	123	27.95
Islam	13	2.95
Hindu	2	0.45
Spiritual	2	0.46
Other	1	0.24
Monthly family income in Baht		
≤ 5,000 Baht	261	59.32
5,001 – 10,000 Baht	149	33.86
> 10,000 Baht	30	6.82
Mean (±SD)	5511.02 (±3916.21)	
Median (Min: Max)	4750 (0: 45000)	
Monthly family expense in Baht		
Expense ≤ 5,000 Baht	205	46.59

Characteristics	Number (n)	Percentage (%)
Expense 5,001 – 10,000 Baht	197	44.77
Expense > 10,000 Baht	38	8.64
Mean (±SD)	6540.45 (±3711.99)	
Median (Min: Max)	6000 (1000: 45000)	
Number of alive children born		
0-1	208	47.27
2-4	200	45.46
5 or more	32	7.27
Mean (±SD)	1.93 (±1.56)	
Median (Min: Max)	2	(0: 9)
Husband's / Partner's Educational level		
No education	50	11.36
Informal education	7	1.59
Primary education	150	34.09
Secondary education	154	35.00
High school	53	12.05
Bachelor	25	5.68
Higher than bachelor's degree	1	0.23
Living together with husband/ partner		
Not together	124	28.18
Together	316	71.82

Keypersons' support, knowledge and attitude of the reproductive age Myanmar migrant women

The supports from keypersons such as husbands, parents and friends were identified using three Likert scales and then categorized into three levels. Majority of the participants (69.55%) had the high support from the keypersons. Additionally, the majority of them (62.05%) had high knowledge and 69.09% of them had a high attitude (Table 2).

Table 2: Keypersons' support, knowledge and attitudes of Myanmar migrant women (n=440)

Characteristics	Number (n)	Percentage (%)
Support from keypersons (husband, parents and friends)		
Low (<60%)	59	13.41
Moderate (60% - 79%)	75	17.05
High (≥ 80%)	306	69.55
Mean scores (±SD)	7.91 (±1.74)	
Median scores (Min: Max)	9 (3:9)	
Knowledge on modern contraceptive use		
Low (<60%)	10	2.27
Average (60% - 79%)	157	35.68
High (≥ 80%)	273	62.05
Mean scores (±SD)	7.87 (±1.18)	
Median scores (Min:Max)	8 (5:10)	
Attitude towards modern contraceptive use		
Poor (<60%)	8	1.82
Moderate (60% - 79%)	128	29.09
Good (≥ 80%)	304	69.09
Mean scores (±SD)	12.81 (±2)	

Median scores (Min:Max)	13 (5:15)

Access to health care in terms of accessibility, acceptability and quality among Myanmar migrant women

The median cost to reach the nearest health facility was 20 Baht. The opening hour of the health facilities were expected to be matched with respondents' availability according to the responds by most participants (85.45%). Moreover, we also found that 77.05% of them highly accepted the contraceptive services and 69.09% of them perceived the quality of the contraceptive services as high quality (Table 3).

Table 3: Access to health care in terms of accessibility, acceptability and quality among Myanmar migrant women (n=440)

Characteristics	Number (n)	Percentage (%)
Source of contraceptive information		
0-1 source of info	202	45.91
> 1 source of info	238	54.09
Transportation cost		
No cost	209	47.50
10-50 Baht	102	23.18
60 Baht and above	129	29.32
Mean (±SD)	76.61 (±130.41)	
Median (mini: max)	20 (0:800)	
Opening hour of the clinic	26.82	(±24.56)
Unmatched with participants' availability	64	14.55
Matched with participants' availability	376	85.45
Cost of family planning	209	47.50
Free to 30 Baht	180	40.91
>30 to <80 Baht	121	27.50
≥ 80 Baht	139	31.59
Mean (±SD)	89.78	(±303.62)
Median (mini: max)	50	(0:5500)
Acceptability to contraceptive services	20	(0:800)
Poorly acceptable (<60)	12	2.72
Moderately acceptable (≥60 - <80)	89	20.23
Highly acceptable ((≥80)	339	77.05
Mean (±SD)	15.73 (±1.93)	
Median (Min: Max)	16 (4: 20)	
Quality scale	24	
Poor quality (<60)	35	7.96
Moderate quality (≥60 - <80)	101	22.95
High quality ((≥80)	304	69.09
Mean (±SD)	15.18 (±2.51)	
Median (Min: Max)	16(5:20)	

Modern contraceptive uptakes among Myanmar migrant women

The prevalence of modern contraceptive uptakes among Myanmar migrant women in

study areas was 62.73% (95% CI: 58.09-67.14). Among contraceptive methods, injection Depo Provera (DMPA) was the most common method (48.19%), and condom was the least choice (0.36) (Table 4).

Table 4: Modern contraceptive uptakes among Myanmar migrant women (n=440)

Characteristics	Number (n)	Percentage (%)	95% CI
Uptake of modern contraceptive (n=440)			
Yes	276	62.73	58.09-67.14
No	164	37.27	32.86-41.90
Type of modern contraceptive method use (n=276)			
DMPA (Injection Depo Provera)	133	48.19	42.31-54.18
Pills	82	29.71	24.58-35.40
Implant	50	18.12	13.98-23.14
IUD (Copper)	6	2.17	0.97-4.78
Permanent Sterilization	4	1.45	0.54-3.82
Condom	1	0.36	0.05-2.56

Determinants of modern contraceptive uptakes among Myanmar migrant women

After controlling other covariates, Myanmar migrant women with high support from keypersons such as husband, parents and family were 13.58 times more likely to use modern contraceptives than those with low support from keypersons (AOR=13.58, 95% CI: 6.24-29.59). Additionally, those with good attitudes towards contraceptives were 2.65 folds more likely to uptake modern contraceptive than those with poor and moderate attitude (AOR=2.65, 95% CI: 1.54-4.57). Moreover, the determinants of uptake of modern contraceptives included age 30-39 years (AOR = 4.59, 95% CI: 2.37-8.92), age 15 to 29 years (AOR=8.86, 95% CI: 4.55-17.25), farmers and unskilled workers (AOR=2.12, 95% CI: 1.22-3.69), and the opening hour of the clinic (AOR=2.65, 95% CI: 1.26-5.57) (Table 5).

Table 5: Factors associated with modern contraceptive uptakes among Myanmar migrant women (n=440)

Factors	Number of samples	Contraceptive uptake n	%	Crude OR (95% CI)	P-value[a]	Adjusted OR (95% CI)	P-value[b]
Sociodemographic factors							
Age					<0.001		<0.001
≥40yr	95	26	27.37	1		1	
≥30 yr to <40 yr	148	94	63.51	4.62 (2.63 - 8.10)		4.59 (2.37 – 8.92)	
≥15 yr to <30 yr	197	156	79.19	10.09 (5.73 - 17.81)		8.86 (4.55 – 17.25)	
Occupation					0.001		0.021
Jobless, housewife and students	172	91	52.91	1		1	

Factors	Number of samples	Contraceptive uptake n	%	Crude OR (95% CI)	P-value[a]	Adjusted OR (95% CI)	P-value[b]
Farmer and unskilled workers	203	145	71.43	2.23 (0.80 - 2.55)		2.12 (1.22 – 3.69)	
Employee and own business	65	40	61.54	1.42 (1.45 - 3.41)		1.07 (0.52 – 2.21)	
Education					0.004		
Informal and no education	55	24	43.64	1			
Primary and secondary	298	200	67.11	2.64 (1.47-4.73)		-	
High school and above	87	52	59.77	1.92 (0.97-3.80)		-	
Number of children					0.020		
≥5 children	32	15	46.88	1			
2-4 children	200	118	59.00	1.63 (0.77-3.45)		-	
0-1 child	208	143	68.75	2.49 (1.17-5.30)		-	
Husband and Environmental Factors							
Husband Education					0.005		
Informal and no education	57	29	50.88	1			
Primary and secondary	204	206	67.76	2.03 (1.15-3.60)		-	
High school and above	79	41	51.90	1.04 (0.53-2.06)		-	
Living together with husband/ partner					0.010		
Not together	124	66	53.23	1			
Together	316	210	66.46	1.74 (1.14-2.66)		-	
Keypersons' support					<0.001		<0.001
Low support	59	11	18.64	1		1	
Moderate support	75	25	33.33	2.18 (0.97 - 4.92)		2.01 (0.82 – 4.93)	
High support	306	240	78.43	15.87 (7.80 – 32.26)		13.58 (6.24 – 29.59)	
Knowledge					<0.001		
Poor & Average	167	86	51.50	1		-	
High	273	190	69.60	2.16 (1.45-3.21)		-	
Attitude					<0.001		<0.001
Poor & moderate	136	62	45.59	1		1	
Good	304	214	70.39	2.84 (2.12-4.75)		2.65 (1.54 – 4.57)	
Access to health care factors							
Source of contraceptive information					<0.001		
0-1 source of info	202	105	51.98	1			
> 1 source of info	238	171	71.85	2.36 (1.59-3.50)		-	
Transportation cost					0.007		
No cost	209	121	57.89	1			
10-50 Baht	102	77	75.49	2.24 (1.32-3.80)		-	

Factors	Number of samples	Contraceptive uptake n	%	Crude OR (95% CI)	P-value[a]	Adjusted OR (95% CI)	P-value[b]
60 Baht and above	129	78	60.47	1.11 (0.71-1.74)		-	
Opening hour of the clinic					0.025		0.010
Unmatched with participants' availability	64	32	50.00	1		1	
Matched with participants' availability	376	244	64.89	1.85 (1.08 – 3.15)		2.65 (1.26 – 5.57)	
Cost of family planning					<0.001		
Free to 30 Baht	180	93	51.67	1			
>30 to <80 Baht	121	88	72.73	2.49 (1.52-4.09)		-	
≥ 80 Baht	139	95	68.35	2.02 (1.27-3.21)		-	
Acceptability to contraceptive services					<0.001		
Poor and Moderate	101	43	42.57	1			
High	339	233	68.73	2.96 (1.88-4.68)		-	
Quality scale					0.002		
Poor and Fair	136	71	52.21	1			
Good	304	205	67.43	1.90 (1.25-2.87)		-	

a = COR P-value, b = AOR P-value

4. Discussion

Our study exhibited the high prevalence of modern contraceptive uptakes (62.73%) among reproductive age Myanmar migrant women in Thai Myanmar border areas which was a little higher than national figure and the hosted country, Thailand [6]. However, slightly lower than another study among 314 Migrant women in Bangkok in 2018 where the rate was 77% [17].

In this study, injection was more popular than oral pill because of compliance as injection is only required once in three months which was similar previous study conducted among Myanmar migrant women in Thailand [28]. The use of contraceptive among Myanmar migrant women were carrying on amidst migration, low income, post-pandemic and civil-war situation in Myanmar. The women particularly being in the culture of Myanmar and who had migrated for the odd jobs in Thailand have many diverse lifestyles than common women from Myanmar and needs the supports from several aspects.

Findings suggested that the participation of husbands had been essential for the success of the family planning program in middle- and low-income countries [29, 30] which was aligned with the finding from our study where keypersons such as husband, family

and friends were critical in uptake of modern contraceptives. The study conducted in DRC revealed that male partner opposition was an important predictor for the contraceptive use [15, 31]. The other research on Thai Myanmar border also mentioned that the women take into account the advice and experiences of their friends and family when deciding whether to use contraceptives [18]. Similarly, another study from Myanmar suggested that for achieving increasing use of contraception, family planning programs should be designed for the involvement of friends/ peers and the family of the woman [32]. The support of husband has still been a mainstay for their wife in general and women's decision could be shaped by their close social network. For that reason, the whole atmosphere of the women including their friends, relatives and the parents should get access to the modern contraceptive information including sexual-health related education. Therefore, the policy makers and the community level program for contraception should consider strategies to support attitude and morale of the spouses of the women as well as her close contacts to support the contraceptive utilization of the women consistently and even progressively.

In this study, respondents who had good attitude were found 2.02 times higher than those who were with low and moderate attitude, regarding utilization of modern contraception. This finding had indirectly suggested a previous paper about the poor attitude related with risk of pregnancy led to low family planning practice [20]. The finding is consistent with that the respondents who had good attitude were 4.43 times more likely to practice contraception than those counterparts [28]. Women having a positive attitude likely used contraception 3.7 time more than women with poor attitude. Poor attitude related with the risk of pregnancy led to low family planning practice [20]. Favourable attitude towards birth spacing led to actual practice on birth spacing [33]. These insights suggest that interventions should focus on attitude change strategies including comprehensive educational programs, community workshops, and peer-led discussions that highlight the benefits and safety of modern contraceptive. These strategies should aim to address and dispel myths and misconceptions about contraception. By improving the women's attitudes, they can make more informed decisions regarding family planning, ultimately enhancing contraceptive uptake and promoting reproductive health.

Respondents who were younger were more preferred to use contraceptives than those were completed 40 years or older which was commonly found among Myanmar women [17, 34] as young women being more sexually active and having risks of pregnancies. Additionally, higher likelihood of delaying childbirth among young women expresses a need to avoid pregnancy because they may be too young to care for a baby, they may have to end or postpone their education [13]. However, this study finding was opposed to the study findings of Ethiopia where utilization of contraceptives was less common in women aged under 20 years than those aged over 35 years by 66% [11]. Simultaneously, the finding is also in line with the study from Afghanistan, that contraceptive use was significantly associated with woman's age rising, with each successive age group and the proportion of women in 40-44 age group using modern contraceptive methods was 4.5 times higher than 20-24 age group [12]. The possibility would be that most of the married women would have decided to take children in younger age by the support of their community where the society encouraged them to take child in the first year of marriage [12]. The discrepancy in findings across different regions suggests that contraceptive use is heavily influenced by cultural and societal norms. In areas where early childbirth is encouraged or expected, young women may face societal pressure to start families soon after marriage, often with community support. This cultural context can lead to lower contraceptive use among younger women. On the other hand, in societies where delaying childbirth is culturally accepted or where there is greater access to educational and career opportunities, younger women may prefer to use contraceptives to postpone pregnancy. These insights underscore the importance of adopting context-specific approaches when designing family planning interventions. It is crucial to understand local cultural dynamics and societal norms to effectively address the unique needs and preferences of women in different regions. Tailoring family planning programs to these contexts can enhance their effectiveness and promote informed contraceptive choices.

The women who had at least a kind of job were found to be more likely to use modern contraceptive than those who did not have a job to name. The finding was consistent with a study from Afghanistan where women who owned business had 2 times higher odds of using contraceptives compared to the other

participants [12]. Given by that if women were at a job, the environment could allow them to make interactions with other people who could have acquired knowledge and positive attitude towards modern contraceptive use [15]. Fairly differently, in a study in Tanzania [15], it was 2.5 times more in uptake of contraceptives by the women in their businesses, compared to those in the agriculture. The variation of contraceptive usage across different occupations underscores the importance of economic empowerment and workplace environments in shaping reproductive health decisions. Encouraging women's workforce participation may therefore contribute to increased contraceptive uptake and improved family planning outcomes. In this study, opening hour of the family planning clinic or service facility had been found out as a predictor for the use of contraceptive services where respondents who answered that opening hour of the service facility was matched with their available time, used contraceptives more significantly. It complied with the finding in a study in southern Ethiopia where satisfaction of family planning clients was strongly associated with the clinic opening hour [35]. This study finding with opening hour was also suggested as important predictor for quality of care in family planning services in Africa [36]. The perceived feelings and experiences of respondents upon availability, accessibility, acceptability and quality of family planning services were the important predictors to promote the continuum of contraceptive utilization and to reduce the service discontinuation, that could further reduce unwanted pregnancies, maternal morbidity and mortality. Our finding emphasizes the need for family planning programs to consider service hours that accommodate the schedules of potential users, ensuring greater accessibility and convenience. Adjusting clinic hours to better fit women's daily routines could enhance contraceptive uptake and overall reproductive health outcomes.

Though the best efforts we made to cover the possible determinants on uptake of modern contraceptives, there were still some limitations that we needed to acknowledge. As the population was limited to Myanmar migrant women, the study findings could not be able to generalize for different migrants from various countries in Thailand. Due to our study design, even though we found the association, we could not establish the causal relationship between observed variables and the outcome. The temporal changes on the

contraceptive attitudes and practices particularly in response to ongoing civil conflict in Myanmar could be happened after this study. However, our study highlighted an often-overlooked demographic with unique reproductive health challenges among Myanmar migrant women of reproductive age living along Thai Myanmar border areas.

5. Conclusion

Contraceptive uptake among Myanmar migrant women was higher than in both Thailand and Myanmar, influenced by factors such as keypersons' support networks such as husband, family members and friends, attitudes, age, occupation, and accessible service hours. Therefore, it is essential to strengthen social networks that empower women to access information and develop positive attitudes toward contraception.

Additionally, providing culturally sensitive education and ensuring flexible, easily accessible healthcare services are crucial for improving contraceptive uptake among this population. In future, experimental studies assessing the effectiveness of the health promotion activities in this population would be helpful for the policy makers and fellow researchers to identify the appropriate intervention strategies.

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Author contributions

NWS: Conceptualization, data curation, formal analysis, methodology, writing original draft, writing review and editing. RKM: Conceptualization, methodology, supervision, writing original draft, writing review and editing. WMT: Conceptualization, methodology, writing original draft, writing review and editing.

Declaration

Ethics approval and consent to participate

The ethical approval of this study was taken from the Center for Ethics in human research, Khon Kaen University (Ref. Number HE 672078). All the respondents included in this study were strictly voluntary. Confidentiality had been ensured for all the data being collected.

Competing interests

We declared that we have no competing interests.

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