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Factors Affecting Utilization of Family Planning Services Among Married Women of Reproductive Age Living in the Rural Area of Kayin State, Myanmar

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Abstract*— *Introduction: *Contraception acts as an important role in reducing the mortality and morbidity of mother and infant. Myanmar is relatively lower in the prevalence of modern contraceptive used comparing with neighbors in Asia. The findings of this study will increase the base line evidence, and guide the effective strategic implementation plan for FP2020 commitment, policy making, and health system strengthening for improving maternal and child health.*
Objectives*: To assess the proportion of contraceptives utilization for family planning, and to determine the factors affecting the utilization of contraception, among married women of reproductive age living in the rural areas of Hpa-an Township, Kayin State, Myanmar.*
Methodology*: This study was a quantitative cross-sectional design conducted among 388 married women of reproductive age. Data was collected through face-to-face interviews using structured interview questionnaire by five research assistants. Descriptive statistics as well as bivariate and multivariate logistic regression methods were used to explore the predictive factors.*
Results: *This study revealed that the proportion of married reproductive aged women who consumed contraception was (87.1%). The most commonly used methods were injectable and oral contraceptive pills. During bivariate analysis, the key factors affecting the usage of contraceptives were; age, levels of education, numbers of living children, and knowledge about contraception, receiving health education about contraception and numbers of health education received. In multivariate analysis; age, level of education, knowledge about contraception, receiving health education about contraception and numbers of health education received were statistically significant at $p<0.05$.*
Conclusion: *The results showed a large number of contraceptives utilization for family planning among targeted women along with its contributing factors. However, there were still some unmet needs women to be addressed by an alternative way of service delivery together with proper awareness raising channels. Strengthening of multi-sectorial collaborations should also be in place to cover the rural hard-to-reach locales.*

Keywords— *Factors, family planning utilization, married reproductive age women, rural area, Kayin State, Myanmar*.

I. INTRODUCTION

Contraception has contributed an important pillar in reducing the deaths of mothers in the developing countries (1). The long-term benefits ranged from increased education of women and improved child health to greater family savings and stronger national economies (2). In developing countries, 214 million women of reproductive age who want to avoid pregnancy were not using a modern contraceptive method. According to Myanmar Demographic Health Survey (2015-2016), overall, 52 percent of married women who are living together with husband use a method of family planning. Among them, 51 percent are using a modern method and only one percent is with a traditional method. Women in urban areas are somewhat more likely to use modern contraceptives than those in rural areas (3). Nevertheless, Myanmar is relatively lower in the prevalence of modern contraceptive than the other countries, compared with neighbors in Asia (4).

Kayin State is one of the townships with least utilization of modern contraceptive methods (25-40%) and also one of the highest unmet needs for contraceptive services, among states and regions of Myanmar. Kayin State, the territory is inhabited primarily by the Karen people, a broad umbrella identity that includes a multiplicity of ethnic groups such as the Sgaw, Pwo and Pao, many with unique cultures and mutually unintelligible languages. The available primary data and secondary sources suggested that Kayin State faced an extensive array of socioeconomic challenges as it embarked on a new era of peace building, including limited infrastructures, a fractured economy, and rudimentary and disconnected social services, owing not only to decades of conflict and displacement, but the division of territory between the government and several NSAs, primarily the KNU and DKBA (5). Therefore this study assessed the baseline information addressing the factors affecting the utilization of contraceptives for family planning services among married women of reproductive age from the rural areas of Hpa-an Township, Kayin State, Myanmar.

II. METHODOLOGY

Study Design: A quantitative cross-sectional study was done in Hpa-an township during February 2019.
Sampling procedure and samples: The Hpa-an township was purposively selected because of its highest prevalence of low contraceptive utilization. A multi stages sampling technique was done. Firstly, three Rural Health centers (RHCs) were

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chosen from each part of the Hpa-an township. Two villages, the nearest one and farthest village under cover of each RHC Rural Health Center have been selected. The villages were Kyauk Ta Lone, Paw Taw Mu, Htone Aing, Phar Lin, Kawt Hta Ma Lain and Htee Htar Pha Lo.

The sample size was calculated by Cochran's formula (6) using the 2017's Contraceptive Prevalence Rate (55%) of Hpa-an Health profile from Department of Public Health. A total of 388 married reproductive aged women have participated. The reproductive age group of (18-49) years who were married, residing in the selected villages were recruited. The pregnant women, widowed, divorced, separated or never married and the women who are hysterectomized or infertile were excluded in this study. Participation was fully voluntary and written and verbal informed consent from each respondent was taken after briefly explained about the study.

Data collection: Data was collected by face-to-face interviews with validated structured questionnaire by five trained research assistants. All the recruited research assistants were female basic health staff who can speak local languages very fluently.

Study tools: The questionnaire was divided into three components as predisposing factors, enabling factors and perceived need factors. It was firstly developed in English language and then translated into Myanmar language. Pretest has been done with ten percent of the total sample size. Cronbach's alpha coefficient was >0.7.

Data analysis: Data was processed and analyzed using SPSS-22 (licensed from Chulalongkorn University) for windows. The results were organized, summarized and presented using appropriate descriptive measures such as text, tables, graphs, frequencies and percentages. Associations between the outcome and independent variables were assessed by using odds ratio with 95% confidence interval. Bi-variable logistic regression was used to screen variables that had significant association with the outcome variable with p-value $\geq$ 0.2. These variables were entered into multivariable logistic regression to assess the predictor of contractive utilization. Variables which were significant at p-value < 0.05 level and 95% CI were considered to be the determinant factors of contraceptive utilization.

Ethical consideration: All the study procedures were approved by Ethical Review Committee for Research Involving Human Research Subjects, Health Sciences Group, Chulalongkorn University, Bangkok, Thailand, and the Ethics Review Committee, Department of Medical Research, lower Myanmar.

III. Results

A total of 388 Myanmar married reproductive aged women have participated in this study. The proportion of married reproductive aged women who consumed the contraceptives was (87.1%). The most commonly used methods were injectable forms (60%) and OC pills (28%) followed by IUD (4.1%), implant (3.0%) and 2.4% each for condoms and female sterilization.

Table 1 showed the Socio-demographic characteristics (Predisposing Factors) of participants. Nearly half of the respondents (41.0%) were in the age group of 36 years or older. Majority of participants were Kayin (84.0%) and Buddhist (90.2%) while 90.2% were literate. Most of them were dependents (71.9%) and 83.0% of them had at least one living children up to three.

TABLE 1. Socio-demographic characteristics (Predisposing Factors) of Myanmar married reproductive aged women (n=388)

Variables	Frequency (%)
Age	
Mean (± Std. Deviation)	33.31(±7.74)
Min-Max	18-49
Medium	34
Ethnicity	
Kayin	326 (84.0)
Non-Kayin	62 (16.0)
Religion	
Buddhist	350 (90.2)
Christian	38 (9.8)
Level of Education	
Illiterate	38 (9.8)
Literate	350 (90.2)
Occupation	
Dependent	279 (71.9)
Working women	109 (28.1)
No. of living children	
0	6 (1.5)
1 – 3	322 (83.0)
≥4	60 (15.5)

Over half of respondents (63.4%) had total monthly incomes less than 130,000 Kyats, and only (9.0%) had high level knowledge while (16.8%) had good attitude. Whereas, 91.5% of married women usually get services from female health care providers when they visited health facilities. Almost all the participants (99.2%) preferred the same gender service providers. Moreover, 55.4% of married women were decided by their husband while (43.3%) replied for self-decision to utilize contraceptives (Table 2).

TABLE 2. Enabling Factors of Myanmar married reproductive aged women (n=388)

Variables	Frequency (%)
Family Income (Kyat)	
≤ 130000	246 (63.4)
≥130001	142 (36.6)
Knowledge level	
Low level of knowledge (<60%)	154 (39.7)
Fair level of knowledge (60-80%)	199 (51.3)
High Level of knowledge (>80%)	35 (9.0)
Attitude level	
Negative attitude (≤30.0)	84 (21.6)
Moderate attitude (30.1-35.5)	239 (61.6)
Good attitude (≥35.6)	65 (16.8)
Usually who provide you the service when you visit health center	
Male	4 (1.0)
Female	355 (91.5)
Both	29 (7.5)
Service Provider (Same Gender Preferences)	
Yes	385 (99.2)
No	3 (0.8)
Decision Maker for utilization of contraception	
Self	168 (43.3)
Husband	215 (55.4)
Mother/Mother in Law	5 (1.3)

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Regarding the availability and accessibility, 58.2% of married women relied on rural health centers as the place to get contraception when 98.5% were affordable for the contraceptive cost. The majority of participants (92.0%) had to travel half an hour to one-hour from their home to the service point while 67.8% used their private vehicles (motorcycles) and 95.0% were satisfied with the health care services they received. For the information about contraception via health education activities, 85% of married women had already received and only a few of them (0.3%) received more than three types of health education (Table 3).

During bivariate logistic regression analysis; women age, level of education, number of live children, knowledge level, and place to get contraception, affordability for contraceptive cost, transportation and receiving status of health education about contraception were found to be associated with contraceptive usage (p-value < 0.05). In addition to the above variables, family income variable was included in multivariate analysis considering the cut-off point as p-value < 0.2.

In the multivariable analysis, women age, level of education, knowledge level and receiving status of health education about contraception were factors significantly associated with contraceptive usage. But, number of live children, family income, and place to get contraception, affordability for contraceptive cost and transportation were not associated.

TABLE 3. Need Factors of Myanmar married reproductive aged women (n=388)

Variables	Frequency (%)
Need for services	
Place to get contraception	
RHC	226 (58.2)
Hospital	113 (29.1)
Drug Stores	46 (11.9)
Private clinics	3 (0.8)
Affordability for the cost	
Yes	382 (98.5)
No	6 (1.5)
Distance from home	
Half an hour to one-hour	357 (92.0)
Two hours	19 (4.9)
One hour	11 (2.8)
More than two hours	1 (0.3)
Transportation condition	
Private vehicle	263 (67.8)
Walking	65 (16.8)
Public vehicle	40 (10.3)
Ask someone to buy	20 (5.2)
Satisfaction status for services	
Yes	370 (95.4)
No	18 (4.6)
Need for information	
Receiving of Health Education about Contraception	
Yes	330 (85.1)
No	58 (14.9)
Number of Health Education types	
Received 1-3 types	387 (99.7)
Received >3 types	1 (0.3)

TABLE 4. The relationship between socio-demographic characteristics (Predisposing Factors) and contraceptive utilization (n=388)

Variables	Current users (n=338)	Non-users (n=50)	Crude OR	AOR
	Frequency (%)	Frequency (%)	(95% CI)	(95% CI)
Age				
Mean (± S.D)	33.67(±7.67)	30.88(±7.90)		
Min-Max	18-49	19-43	0.953(0.916-0.992)	
Medium	34	30.5		
Ethnicity				
Kayin	287 (84.9)	39 (78.0)	1 (Reference)	Not included
Non-Kayin	51 (15.1)	11 (22.0)	0.630 (0.303-1.311)	Not included
Religion				
Buddhist	305 (90.2)	45 (90.0)	1 (Reference)	Not included
Christian	33 (9.8)	5 (10.0)	0.974 (0.367-2.624)	
Level of Education				
Illiterate	19 (5.7)	19 (38.0)	1 (Reference)	
Literate	319 (94.3)	31 (62.0)	10.290 (4.934-21.462)	5.820 (2.341-14.471) ***
Occupation				
Dependent	243 (71.9)	36 (72.0)	1 (Reference)	Not included
Working women	95 (28.1)	14 (28.0)	0.695 (0.372-1.298)	
No. of living children				
0	4 (1.2)	2 (4.0)	1 (Reference)	Not significant
1 - 3	287 (84.9)	35 (70.0)	0.244 (0.043-1.380)	
4+	47 (13.9)	13 (26.0)	0.553 (0.091-3.364)	

Respondent age is important as it has much influence on contraceptive use. The contraception utilization was found statistically significant (p-value < 0.01) with the age group 26-35 even after controlling other variables in multivariate analysis. The older women were less likely to use contraception than the younger age groups with (AOR=0.364, 95%CI = 0.133-0.999). The literate women had 5.82 times higher contraception utilization rate than illiterate (AOR=5.820, 95% CI = 2.341-14.471). Similarly, the association between the knowledge about contraception and contraceptive utilization was still statistically significant in multivariate analysis (p-value <0.001) for fair knowledge level and (p-value <0.05) for high level. The married women with fair contraceptive knowledge level likely to use 0.23 times to low level (AOR=0.236, 95% CI = 0.107-0.517) while 0.109 times higher in high level knowledge (AOR=0.109, 95% CI = 0.013-0.951). In contrast, the participants who had not receive any health education about contraception were 0.28 times like

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to use than who had received (AOR=0.281, 95% CI = 0.13- 0.765).

TABLE 5. The relationship between Enabling Factors and contraception utilization (n=388)

Variables	Current users (n=338) Frequency (%)	Non-users (n=50) Frequency (%)	Crude OR (95% CI)	AOR (95% CI)
Family Income (Kyat)				
≤ 130000	210 (62.1)	36 (72.0)	1 (Reference)	Not included
≥130001	128 (37.9)	14 (28.0)	0.638 (0.331-1.229)	
Knowledge level				
Low level of knowledge (<60%)	116 (34.3)	38 (76.0)	1 (Reference)	
Fair level of knowledge (60-80%)	188 (55.6)	11 (22.0)	0.179 (0.088-0.363)	0.236 (0.107-0.517) ***
High Level of knowledge (>80%)	34 (10.1)	1 (2.0)	0.090 (0.012-0.678)	0.109 (0.013-0.951)*
Attitude level				
Negative attitude (≤30.0)	76 (22.5)	8 (16.0)	1 (Reference)	Not included
Moderate attitude (30.1-35.5)	204 (60.4)	35 (70.0)	1.091 (0.675-1.764)	
Good attitude (≥35.6)	58 (17.1)	7 (14.0)		
Usually who provide you the service when you visit to health center				
Male	3 (0.9)	1 (10.0)	1 (Reference)	Not included
Female	311 (92.0)	44 (88.0)	0.625 (0.053-7.314)	
Both	24 (7.1)	5 (2.0)	0.424 (0.043-4.171)	
Service Provider (Same Gender Preferences)				
Yes	336 (99.4)	49 (98.0)	1 (Reference)	Not included
No	2 (0.6)	1 (2.0)	3.429 (0.305-38.522)	
Decision Maker for utilization of contraception				
Self	143 (42.3)	25 (50.0)	1 (Reference)	Not included
Husband	191 (56.5)	24 (48.0)	0.699 (0.075-6.517)	
Mother/Mother in Law	4 (1.2)	1 (2.0)	0.503 (0.054-4.684)	

TABLE 6. The relationship between Need Factors and contraception utilization (n=388)

Variables	Current users (n=338) Frequency (%)	Non-users (n=50) Frequency (%)	Crude OR (95% CI)	AOR (95% CI)
Need for information				
Receiving of Health Education about Contraception				
Yes	296 (87.6)	34 (68.0)	1 (Reference)	
No	42 (12.4)	16 (32.0)	0.302 (0.153-0.593)	0.281 (0.13-0.765)**
Number of Health Education types				
Never Received	42 (12.4)	16 (32.0)	1 (Reference)	
One type receiver	292 (86.4)	31 (62.0)	0.508(0.102-2.526)	
More than one type	4 (1.2)	3 (6.0)	0.142 (0.030-0.662)	

IV. Discussion

This study revealed that the proportion of married reproductive aged women who consumed contraceptives was 87.1%. It was higher than the contraceptive prevalence rate described in the national demographic health survey (7). This showed that the contraceptive utilization proportion was varied among the states in the country. Hpa-an township was developing during these days and the proper roads which connecting to every major village were set up. Therefore, the accessibility to the contraceptive services was within the reach of rural communities even though they have to travel for some hours.

For the contraceptive methods choice, over half of respondents consumed injection forms (60.1%) followed by pills (28.1%) and then by IUD (4%). These trends were consistent with the results from Myanmar Demographic Health survey data done in 2017 (7-9). The common reasons for not utilizing the contraceptives were; planning to have pregnant, afraid of side effects, being old to get conceived and less sexual activities.

All the participants were reproductive age women within the group of 18-49 years and nearly half of the respondents (40.1%) represented the age group ≥36 years. In bivariate logistic regression analysis, there was a statistically significant difference between respondent age and contraception usage with (p-values < 0.05) which was similar to the study form Mandalay, Myanmar (10). In multivariate analysis, age was found statistically significant (p-value < 0.01) even after controlling other variables in accordance with the study (8). The older women were less likely to use contraception than the younger age groups with (AOR=0.364, 95%CI = 0.133-0.999). It seems to be that the younger generation women more likely to use contractive compared to the older age group, as the older women may have less sexual activity and that they perceived lower chance to get conceived.

The contraceptive usage and respondents' education levels were compared, and the literate women had 5.82 times higher contraception utilization rate than illiterate (AOR=5.820, 95% CI = 2.341-14.471). This result was same as the study done in Ethiopia and Myanmar (11, 12). Generally, education is like a vehicle to learn about the health knowledge in family planning and may lead to small family size. Therefore, educated women were expected to consume more contraception. However, after controlling the other independent variables in multivariate analysis, education has an effect upon contraception usage. This finding was similar to the study done among Myanmar migrant women in Thailand (8).

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The number of living children is also one of the important factors which could affect contraceptive utilization. The contraceptive utilization was highest (83.0%) among women who had at least one living child up to three. In bivariate logistic regression analysis, there was a statistically significant difference between contraceptive utilization and number of living children (p-value < 0.05). In multivariate analysis, the number of living children has no longer a significant difference upon utilization of contraceptives which was controversial with the study done in Phang-Nga Province, Thailand (8).

Regarding the knowledge about contraception, the majority of women heard of 3 months injections, OC pills, female sterilization, male condoms, IUD, implant and traditional methods. The married women with fair contraceptive knowledge level likely to use 0.23 times to those with low level (AOR=0.236, 95% CI = 0.107-0.517) while 0.109 times higher in high level knowledge (AOR=0.109, 95% CI = 0.013-0.951), likewise with the studies in Ethiopia, Thailand and Myanmar (8, 10, 11, 13). Moreover, the association between the knowledge about contraception and contraceptive utilization was still statistically significant in multivariate analysis. In contrast, the participants who had not receive any health education about contraception were 0.28 times likely to use than those who had received (AOR=0.281, 95% CI = 0.13-0.765). The main strength of this study is that, being community based, it could reflect the actual experience of married women during the study period.

V. LIMITATION

This study had been limited by time constraints, the unsecured environment, the quantitative variables which were chosen upon the thoughts to affect the non-users among Myanmar married women. In order to know more about more social norms, qualitative research should be explored. Further comprehensive studies would be recommended to assess supply sides related factors, competency of service providers and considering private facilities, non-users preferably community based study and husbands' perception and acceptance toward contraceptive used. Next, another township of Kayin state should also be studied to be able to determine which area is causing Kayin state as one of the least utilization townships of modern contraceptive methods (25-40%) and also one of the highest unmet needs for contraceptives among states and regions of Myanmar.

VI. CONCLUSION

The proportion of contraceptives used in this study (87.1%) was satisfactory but the remaining 20% should also be encouraged by providing proper information. The utilization rate of short-termed methods (90.6%) is enormously high, compared to long-termed methods. In order to promote the long-termed contraceptives utilization, method-based health education and information sections should be developed together with increasing its availability in the places where most of the respondents seeking contraceptive methods (RHCs and Hospitals). As strengthening of education levels would also be an advantage in enhancing sexual and reproductive health knowledge, reinforcing the collaboration with other non-health sectors, especially the education sector would be needed. Information, education and communication activities concerning reproductive health should also be expanded.

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