Socioeconomic and Demographic Determinants of Contraceptive Use among currently Married Women in Myanmar

ลักษณะทางเศรษฐกิจและสังคมและทางประชากรศาสตร์ที่มีอิทธิพลต่อการใช้ยาคุมกำเนิดของสตรีที่แต่งงานแล้วในพม่า

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ABSTRACT

The purpose of this study was to explore the socioeconomic and demographic characteristics that influence contraceptive use of currently married women age 15-49 in Myanmar. Myanmar Demographic and Health Survey (MDHS) 2015-16, a cross-sectional dataset at nationwide, was analyzed in the study. To achieve the objectives of the study, a binary logistic regression model was applied. The results indicated that a higher level of women education, receiving information from television, the number of visits by family planning workers and women employment were positively significant to the contraception, whereas women age and their desire for more children were negatively significant. The result of the study strongly suggested that women education and women employment are influential factors on women's contraceptive use. The policy recommendations of this study suggested that family planning programs and awareness-raising programs should be promoted, especially through television and visits by family planning workers. The number of family planning workers should increase to promote contraceptive use. Furthermore, the government should implement policies and strategies to enhance job opportunities for women and to promote women's education.

บทคัดย่อ

การศึกษาครั้งนี้มีวัตถุประสงค์เพื่อศึกษาลักษณะทางเศรษฐกิจและสังคมและทางประชากรศาสตร์ที่มีอิทธิพลต่อการใช้ยาคุมกำเนิดของสตรีที่แต่งงานแล้วในพม่าในช่วงอายุระหว่าง 15-49 ปี โดยการศึกษานี้เป็นการวิเคราะห์จากการสำรวจประชากรและสุขภาพพม่า (MDHS) ระหว่างปี ค.ศ. 2015-16 ซึ่งเป็นชุดข้อมูลภาคตัดขวางทั่วประเทศ โมเดลการถดถอยโลจิสติกถูกนำมาใช้เพื่อให้บรรลุวัตถุประสงค์ของการศึกษาครั้งนี้ ผลการศึกษาพบว่า ระดับการศึกษาของสตรีที่สูงขึ้น การรับข้อมูลจากสื่อโทรทัศน์ จำนวนการเยี่ยมเยือนของเจ้าหน้าที่ด้านการวางแผนครอบครัว การทำงานของสตรี และจำนวนบุตรที่ยังมีชีวิตอยู่ มีความสำคัญทางบวกต่อการคุมกำเนิด ในขณะที่อายุและความต้องการในการมีบุตรเพิ่ม มีความสำคัญทางลบต่อการคุมกำเนิด ผลการศึกษาครั้งนี้ชี้ให้เห็นว่า ระดับการศึกษาของสตรีและการทำงานของสตรีเป็นปัจจัยที่มีอิทธิพลต่อการใช้ยาคุมกำเนิด ข้อเสนอแนะเชิงนโยบายของการศึกษานี้ยังชี้ให้เห็นว่า ควรมีการส่งเสริมโปรแกรมการวางแผนครอบครัวและโปรแกรมการสร้างความตระหนัก โดยเฉพาะอย่างยิ่ง ผ่านสื่อทางโทรทัศน์และการเยี่ยมเยียนโดยเจ้าหน้าที่วางแผนครอบครัว จำนวนผู้วางแผนครอบครัวควรเพิ่มจำนวนขึ้น เพื่อส่งเสริมการใช้ยาคุมกำเนิด นอกจากนี้ รัฐบาลควรใช้นโยบายและกลยุทธ์เพื่อเพิ่มโอกาสในการทำงานให้กับผู้หญิงและเพื่อส่งเสริมการศึกษาของผู้หญิง

คำสำคัญ: การใช้ยาคุมกำเนิด ผู้หญิงที่แต่งงานแล้วในปัจจุบัน ลักษณะทางเศรษฐกิจและสังคมและทางประชากรศาสตร์

Keywords: Contraceptive use, Currently married women, Socioeconomic and demographic characteristics

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Introduction

According to a WHO report (2015), about 303,000 women are dying every year around the world during their pregnancy, childbirth and puerperium. The vast majority of these deaths are happening in low and middle-income countries such as Sub-Saharan Africa and South Asia.

Women could be safe from unwanted pregnancies and abortion could be reduced by using contraceptive methods (Moronkola, Ojediran and Amosu, 2006). Elective abortion rate is also high because of the low prevalence of contraceptive use (Abiodun and Balogun 2009). Moreover, using the contraception-like preventing pregnancy-related health in women is one of the benefits of contraception, together with reducing infant mortality, preventing HIV/AIDS by using condoms, enhancing education, reducing adolescent pregnancies, reducing maternal mortality and reducing population growth. Using contraceptive methods is the rights for women and crucial to prevent their health. In developing countries, women have been prevented 215,000 pregnancy-related deaths and 2.7 million infant deaths by modern contraceptives each year in 2003 (Darroch, Singh and Nadeau, 2009).

While the world average of contraceptive use is 62.7 per cent in 2011 (Buhling et al., 2014), contractive usage is still low in Myanmar. According to Myanmar Demographic and Health Survey (MDHS) 2015-16, 52 per cent of currently married women in Myanmar are using contraceptive methods. Among them, 51 per cent use modern methods and only 1 per cent use traditional methods. Maternal mortality rate (MMR) is also high compared to other ASEAN countries, MMR is 178 in Myanmar according to UNICEF report (2017). It is showing that Myanmar follows up behind Laos such as the second highest level of MMR in ASEAN countries. So, it is important to study the contraceptive usages of currently married women in Myanmar.

Though some previous studies regarding factors affecting contraceptive usages were conducted in Myanmar, those studies did not cover nationwide. For example, Wai (1995) studied the determinants of contraceptive use in rural (only 8 townships) in Myanmar with a sample of 4,640 currently married women in Myanmar. Zar and Perngparn (2011) determined that contraceptive usages and its association with socio-demographic factors with a sample of 358 married reproductive women in Mandalay, Myanmar. Mon and Liabsuetrakul (2012) centred the predictors of contraceptive use among currently married youths (15-24 years) and their husband but covered only one rural area of Hinthada township in Myanmar. Soe et al. (2012) explored the determinants of contraceptive use, but only with Myanmar migrant women in Phang-Nga province, Thailand. Besides, Jirapongsuwan et al. (2016) studied the family planning practice in a rural area where Aunglan Township, Magway region, central Myanmar with a sample of 300 reproductive age married women. Thereby, this study focuses on investigating socioeconomic and demographic determinants of contraceptive use among currently married women in Myanmar using the recent nationwide data, MDHS 2015-16.

Objectives of the study

The objectives of this study are:

1) To explore the factors related to contraceptive use by currently married women with reproductive age in Myanmar

2) To provide possible recommendations on the policy to promote the contraceptive use

Materials and methods

This study utilized secondary data from the MDHS 2015-16, the first nationwide Demographic and Health Survey in Myanmar. The survey was conducted by the Ministry of Health and Sports with the financial assistance from the United States Agency for International Development (USAID) and the Three Millennium Development Goal Fund (3MDG). The MDHS was conducted form 7th December 2015 to 7th July 2016*.

The study consisted of 12,885 women aged 15–49, who were either permanent residents of the selected households or visitors staying in the household the night before the survey, 4,146 never in union women and 8,739 married women. The study included those who were currently married women in the reproductive age (15-49) after data cleaning, the number of respondents in this study was 6,598.

This study utilized social characteristics, including: (i) women education; (ii) husband's education; (iii) urban/rural; (iv) mass media exposure and (v) visits by family planning workers. Demographic characteristics in this study included as follows: (i) women age; (ii) number of living children and (iii) desire for more children and some variables were related economic characteristic such as (i) wealth index and (ii) women employment. As mention above, variables were categorical variables (independent variables) and the use of contraceptives methods (dependent variable) is dichotomous variable. Thus, "Logistic Regression Analysis" (LRA) was applied in order to achieve the respective objective. The LRA will be achieved when the outcome variables (predicting the probability of whether the contraceptive use or no use) were dichotomous and all the independent variables in this analysis were categorical variables. Basically, the regression model takes the following forms:

$$\square\square\square\left(\frac{\square(\square=1)}{1-(\square=1)}\right)=\square_0+\square_1\square_1+\square_2\square_2\ldots\square_\square\square_\square+\square_\square$$

Where Y was a dependent variable representing contraceptive use, $\beta 0$ was a coefficient of the constant. βi Xi was the coefficient independent variables such as individual, demographic, social and economic characteristics. ϵi was the error term for the unobserved variables.

*The DHS survey is a nationwide survey and the sampling frame was based on 2014 Myanmar Population and Housing Census and selected 30 sampling strata that were stratified by not only states and division but also the urban and rural area. The sample was created by two-state sample design that the first-state have 442 clusters (123 urban and 319 rural) and the second-state have 13,260 households (30 households from each cluster) using equal probability systematic sampling. All the men and women aged between 15 and 49 years who were permanent residents or visitor (stayed in the household before the survey night) of the selective households can participate in the survey.

Binary logistic regression analysis was applied to observe the effect of a set of independent variables to dichotomous dependent variables. For these purposes, three models will be drawn. With a constant expressed as ($\beta 0$), the dependent variable denoted as Y, the coefficient of the explanatory variable as (βi) and the contraceptive use, the model can be written as follows:

$Y = \beta 0 + \beta 1$ women education $+ \beta 2$ husband's education $+ \beta 3$ urban/rural $+ \beta 4$ mass media exposure $+ \beta 5$ visits by family planning workers $+ \beta 6$ wealth index $+ \beta 7$ women employment $+ \beta 8$ women age $+ \beta 9$ no. of living children $+ \beta 10$ desire for more children $+ €i$

Results

In order to explore the determinants of contraceptive use among currently married women of reproductive age group, the binary logistic regression was conducted. In this study, women who were using contraception were accounted at 3,360 (51%), whereas 3,238 (49%) women were not using contraception. The current use of contraception was reported in Table 1.

Table 1. Percentage distribution of currently married women of contraceptive use (N = 6,598)

Dependent variable	Frequency	%
Current use of contraception		
No use	3,238	49
Use	3,360	51
Total	6,598	100

Source: MDHS 2015-16, Authors' calculation

The socioeconomic and demographic characteristics which were women education, husband's education, urban/rural, mass media exposure, visits by family planning workers, wealth index, women employment, women age, number of living children and desire for more children were shown in Table 2, 3 and 4.

Regarding on education status, about 43% of women had no education, while only 15 % of the husband had no education. About one-fourth of respondents who lived in urban area and the rest live in rural. Over half of married women were visited by family planning workers at home. The results of media exposure could be also seen in Table 2. Although 21 % of the respondents got media exposure from TV, near 15 % of respondents got media exposure from newspaper and radio.

Table 2. Percentage distribution of currently married women of social characteristics (N = 6,598)

Independent variables	Frequency	%
Women education		
No education	2,853	43
Primary education	3,093	47
Secondary education	165	3
Higher education	487	7
Total	6,598	100
Husband's education		
No education	996	15
Primary education	2,632	40
Secondary education	2,579	39
Higher education	391	6
Total	6,598	100
Urban/Rural		
Urban	1,640	25
Rural	4,958	75
Total	6,598	100
Media from radio		
No	5,672	86
Yes	926	14
Total	6,598	100
Media from TV		
No	5,194	79
Yes	1,404	21
Total	6,598	100
Media from newspaper		
No	5,639	85
Yes	959	15
Total	6,598	100
Visits by FP workers		
No	3,064	46
Yes	3,534	54
Total	6,598	100

Source: MDHS 2015-16, Authors' calculation

Table 3 presented that the economic characteristics of respondents. Nearly two third of respondents employed. Regarding on wealth index, only 17 % of respondents fell in the richest category, whereas the remainders fall in the rest four categories (about 20% of respondents for each category).

Table 3. Percentage distribution of currently married women of economic characteristics (N = 6,598)

Independent variables	Frequency	%
Wealth index		
Poorest	1,444	22
Poorer	1,399	21
Middle	1,370	21
Richer	1,295	20
Richest	1,090	17
Total	6,598	100
Women employment		
Unemployed	2,488	38
Employed	4,110	62
Total	6,598	100

Source: MDHS 2015-16, Authors' calculation

Regarding on Table 4, it included the demographic characteristics of respondents. According to the age group, the lowest contraceptive user was 15-19 year age group (3%) while the highest contraceptive user was 30-34 year age group (20%). Among contraceptive users, over half of respondents had one or two children. The percentage of the women who do not want more children was around two-third of all women in this study.

Table 4. Percentage distribution of currently married women of demographic characteristics (N = 6,598)

Independent variables	Frequency	%
Women age		
15-19	193	3
20-24	717	11
25-29	1,110	17
30-34	1,305	20
35-39	1,262	19
40-44	1,077	16
45-49	934	14
Total	6,598	100
Number of living children		
No child	641	10
1	1,677	25
2	1,700	26
3	1,151	17
4	666	10
5	348	5
6+	415	6
Total	6,598	100
Desire for more children		
Wants no more	3,873	59
Wants more children	2,725	41
Total	6,598	100

Source: MDHS 2015-16, Authors' calculation

Table 5 showed that the binary logistic regression analysis of dependent variable (Contraceptive use) and independent variables (Socioeconomic and demographic variables). Regarding on women education, women with higher education were more likely to use contraception than the women with no education (p = 0.001). The husband's education demonstrates similar results with the women education, yet statistically insignificant. The women who expose to TV media were more to use contraception than who were not exposure to TV (p = 0.001). However, other mass media exposure variables such as radio and newspaper were not significantly associated with contraceptive use. Women those who were visited by family planning workers at home, were statistically more likely to use contraceptive than the women who were not visited (p = 0.001). In addition, women who were working were statistically significant to be

more likely to use contraceptive than unemployed women (p = 0.001). The women who aged older were significantly less likely to use contraceptive use than the younger age (p = 0.001). Clearly, the respondents who want more children were less likely to use contraceptive than the women who do not want and the statistically was significant (p = 0.001).

The summary of the results indicated that influenced women age, women education, receiving information from TV, the number of visitor of family planning workers, women employment and number of living children were positively significant to the contraception. On the other hand, women age and desire for more children were negatively significant.

Table 5. Binary logistic regression model for socioeconomic and demographic characteristics and current contraceptive use (N = 6,598)

Contraceptive Use	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
Women education						
Primary education	0.0474	0.0135	3.5100	0.0000	0.0209	0.0739
Secondary education	0.0886	0.0384	2.3100	0.0210	0.0133	0.1638
Higher education	0.0957	0.0288	3.3200	0.0010	0.0392	0.1522
Husband's education						
Primary education	0.0734	0.0175	4.2000	0.0000	0.0391	0.1076
Secondary education	0.0591	0.0191	3.0900	0.0020	0.0217	0.0966
Higher education	0.0026	0.0332	0.0800	0.9370	-0.0625	0.0678
Urban/Rural						
Rural	-0.0268	0.0158	-1.6900	0.0900	-0.0579	0.0042
Media from radio						
Yes	-0.0061	0.0179	-0.3400	0.7360	-0.0412	0.0291
Media from TV						
Yes	0.0768	0.0166	4.6200	0.0000	0.0442	0.1094
Media from newspaper						
Yes	-0.0165	0.0192	-0.8600	0.3880	-0.0541	0.0210
Visits by FP workers						
Yes	0.0476	0.0114	4.1800	0.0000	0.0253	0.0700
Wealth index						
Poorer	0.0129	0.0173	0.7400	0.4570	-0.0211	0.0468
Middle	0.0221	0.0180	1.2300	0.2190	-0.0131	0.0573
Richer	0.0394	0.0193	2.0400	0.0420	0.0015	0.0773
Richest	0.0305	0.0238	1.2800	0.2000	-0.0161	0.0771

Table 5. Binary logistic regression model for socioeconomic and demographic characteristics and current contraceptive use (N = 6,598)

Contraceptive Use	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
Women employment						
Employed	0.0443	0.0118	3.7700	0.0000	0.0213	0.0673
Women age						
20-24	-0.0411	0.0376	-1.0900	0.2740	-0.1148	0.0325
25-29	-0.1171	0.0372	-3.1500	0.0020	-0.1900	-0.0442
30-34	-0.2007	0.0373	-5.3800	0.0000	-0.2739	-0.1276
35-39	-0.2085	0.0379	-5.5000	0.0000	-0.2828	-0.1341
40-44	-0.4166	0.0389	-10.7100	0.0000	-0.4929	-0.3404
45-49	-0.6573	0.0397	-16.5400	0.0000	-0.7352	-0.5794
Number of living children						
1	0.2206	0.0219	10.0500	0.0000	0.1776	0.2636
2	0.2531	0.0238	10.6200	0.0000	0.2064	0.2998
3	0.2193	0.0262	8.3500	0.0000	0.1678	0.2707
4	0.2032	0.0293	6.9300	0.0000	0.1458	0.2607
5	0.1694	0.0344	4.9200	0.0000	0.1020	0.2368
6+	0.1286	0.0336	3.8200	0.0000	0.0627	0.1946
Desire for more children						
Wants more children	-0.2114	0.0142	-14.8700	0.0000	-0.2393	-0.1836
_cons	0.5141	0.0432	11.9000	0.0000	0.4295	0.5988

F(29, 6568) = 48.68, Prob > F = 0.0000, R-squared = 0.1769, Adj R-squared = 0.1733, Root MSE = 0.45458

Source: MDHS 2015-16, Authors' calculation

Discussion

The results showed in the regression analysis that women with higher education were more likely to use contraception than the women with less education. Therefore, women will be more likely to use contraception when they get good support for education. Similarly to other literature, an increase in the educational level increases the incident of contraceptive use (Bhandari, Shrestha and Thakuri, 2014; Okezie, Ogbe and R Okezie, 2010; Blackstone, Nwaozuru and Iwelunmor, 2017; Pandey and Singh, 2015).

When media exposure in this study compares with the other studies, the result is too low. In regression analysis, exposure with TV is associated with contraceptive use. Thus, we can say that if media exposure (especially TV) is increased, the contraceptive use will be increased. The women those who can access to TV for family planning

information are more likely to use contraceptive method than those who cannot access to TV (Kamal, 2015). In addition, the women who are getting family planning information from radio are using contraception higher than their counterparts (Okezie, Ogbe and R Okezie, 2010). Moreover, mass media exposure is one of the most important variables which can effect on the contraceptive use (Adhikari, 2010).

The younger age women (under 20) were less likely to use contraception than middle age women (between 20-35). However, the middle age women were more likely to use contraception than both younger age women and older age women (over 35). Similarly, Ss et al. (2017) showed that middle age women were more like to use contraception than others. Additionally, middle age women were more likely to use than under 20 and over 35 (Kamal and Islam, 2010).

It can be found that in this study the women who are currently working are more likely to use contraceptive method than women who are not working. Though the result of this study shows statistically insignificant for women living in the rural area in using contraception, the study conducted by Lakew et al. (2013) demonstrated a strong correlation between contraceptive use and living in the rural area.

Regarding on number of living children, women with higher number of living children were less likely to use contraceptive method than women with lower number of living children and it was statistically significant. However, a study significantly showed that women with 1 or 2 children were more likely to use contraceptive method than women with 3 children and over (Kamal and Islam, 2010). Besides, a study explored that women with 2 children and less than 2 were more likely to use contraceptive method than women with more than 2 children with significantly (Ss et al., 2017).

In the present study, visits by family planning worker shows positively significant with using contraception. Additionally, the women who received the family planning information form the visits of family planning worker were more likely to use contraception compare with their counterparts (Kamal and Islam, 2012; Lakew et al., 2013; Islam, 2018). The result of this study shows statically significant for women who want no more children in using contraception. The women who want no more children were more likely to use contraception than women who want more children (Belda et al., 2017; Rahayu, Utomo and McDonald, 2009; Islam, 2018).

Conclusion

In conclusion, the results point to that the women education, receiving information from TV, the number of visits by family planning workers and women employment were positively significant to the contraception while the women age and desire for more children were negatively significant**.** The result of the study strongly suggests that women education is one of the key factors on contraceptive use and women employment as well**.** In this study, the place of living is insignificantly influenced on the contraceptive use, while the promotion of family planning through TV and the number of visits of family planning workers are essential**.** Based on the research, the contraceptive use can be promoted through educational policies, public health services policies, job promotion for women and information and accessibility of contraceptive use. Moreover, knowledge on family planning program and awareness program should be

promoted by TV, and the number of visits of family planning workers is also essential. Therefore, the government should be implemented good policies and strategies to ensure job opportunities for women and increase women's education are more likely to increase contraceptive use.

Study limitation

The nature of secondary data has limitation for some variables. For example, religion is also one of the significant variables that can affect utilization of contraceptive use. But in this study, the majority of the people are Buddhism although there are so many religions in Myanmar. Thus, religion is not included in data analysis because there is no data in MDHS 2015-16 questionnaires.

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