Birth cohorts, marriage patterns, and contraceptive methods used among women in contemporary Myanmar

Nyein Chan, Yothin Sawangdee, Umaporn Pattaravanich, Charamporn Holumyong and Aphichat Chamratrithirong Mahidol University Institute for Population and Social Research, Nakorn Pathom, Thailand

Abstract

Purpose – The total fertility rate in Myanmar stands low in comparison to neighboring countries. This decrease in the birth rate will lead to a decline in the number of young Burmese in the future, an issue that is of concern to the Myanmar government. The purpose of this study was to review the contributing factors to marriage and birth rates and to also review the use of contraception among married women.

Design/methodology/approach – This quantitative research study was based on cross-sectional secondary data available from the Myanmar Demographic and Health Survey 2015–2016. The study sample included 6,138 women of reproductive age.

Findings – The proportion of unmarried women and the mean age at the first marriage date in the early cohort was higher than that of the women who were born in the later cohort. The study shows that birth cohort, female labor force participation, migration, wealth index, and media exposure are significant in explaining marriage types and patterns (p < 0.05). The injection and the pill were the most popular contraceptive methods for both cohorts. Other methods such as intrauterine devices, implants, and condoms were not as popular.

Originality/value – This paper presents the birth cohort, female labor force participation, migration, wealth index, and media exposure as key factors for determining the timing of marriage.

Keywords Birth cohort, Marriage pattern, Contraceptive method, Contraceptive, Myanmar Paper type Research paper

Introduction

The birth cohort in any specific year is determined by the situation in the country [1]. In Myanmar, the political conflicts in 1988 led to a stagnant economic status. During the socialist period, from 1962 to 1988, the government regime pursued self-reliance, grew increasingly alienated from the outside world, and foreign direct investment was almost nonexistent [2]. The mean age at first marriage increased from 21.3 years to 22.4 years. During the socialist period, there were changing marriage patterns that influenced the level and trend of fertility [3]. Besides, the government used a pro-natalist policy for many decades, and there were no family planning services until the introduction of the family planning program in 1990 [4].

The marriage pattern is marked by a significant proportion of women who remain unmarried, and the establishment of a household after the couple has married can be measured by the timing and prevalence of marriage [5]. In 1980, the single mean age at Marriage patterns and contraceptive methods

209

Received 14 June 2019 Revised 9 August 2019 Accepted 20 August 2019



Journal of Health Research Vol. 34 No. 3, 2009-219 pp. 209-219 Emerald Publishing Limited e-ISSN: 2586-940X p-ISSN: 0857-4421 DOI 10.1108/JHR-06-2019-0127

[©] Nyein Chan, Yothin Sawangdee, Umaporn Pattaravanich, Charamporn Holumyong and Aphichat Chamratrithirong. Published in *Journal of Health Research*. Published by Emerald Publishing Limited. This article is published under the Creative Commons Attribution (CC BY 4.0) licence. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this licence may be seen at: http://creativecommons.org/licences/by/4.0/legalcode

marriage (SMAM) was lower in Myanmar compared with other Southeast Asian countries. However, in 2015, the SMAM was higher and the total fertility rate was lower than in other ASEAN countries, except for Singapore and Thailand [6].

Family planning is one of the main procedures in helping to improve maternal and child health by encouraging birth spacing and helping to prevent unwanted pregnancies [7]. According to UNFPA, in 2016 in Myanmar, 84.3 percent of women were offered at least three modern contraceptive methods from the primary health service, while 62.5% were offered at least five modern contraceptive options from secondary and tertiary health services [8]. The most readily available method was the oral contraceptive pill (90%), and the second was a contraceptive injection (84%) [9]. The implant and the emergency contraceptive pills were the highest stockout contraceptives [8].

Looking at similarities to Myanmar, three other countries, namely, Cambodia, Zimbabwe, and Tanzania, had the same modern society indicators such as GDP, female labor force participation, and urban–rural ratio in 2014–2015. According to a Demographic and Health Survey (2014–2015), the percentage of unmarried women in Myanmar was 10% higher, and the median age of first marriage was two years more than the other three countries mentioned [9]. Therefore, focusing on the effect of modernization on marriage patterns in Myanmar is important. Although contraceptive services were supported by the government health sectors, the users' choice of contraceptive methods is important [8]. The objective of this study was to prove that the modernization and socioeconomic characteristics are contributing factors to the timing of marriage among men and women. This study also aimed to learn more about choices for contraceptive methods used amongst married women.

This study pointed out the situation of demand and supply of contraceptive method use, which can help the government in considering its population policy. If the situation is not addressed, the nation may suffer from a reduction in the labor force and witness an increase in older people and a reduction in the younger generation. Hence, it is important to look at the individual, household, and community characteristics affecting marriage patterns and assess the contraceptive methods used in this nation.

Methodology

The raw data were drawn from a cross-sectional study of the Myanmar Demographic and Health Survey (MDHS) conducted by the Ministry of Health and Sports of the Republic of the Union of Myanmar. Data were collected between December 7, 2015, and July 7, 2016 [9]. The sample included all female respondents aged 15–49 years, both married (1992 cases) and unmarried population (4,146 cases). The married women group included women who had married in the space of the previous five years (2010–2015).

Study variables

Birth cohort referred to the year of the respondent's birth. Based on Myanmar's political changes, it was divided into two parts: the 1966–1987 birth cohort (Burma Socialist Programme Party) = 0, and the 1988–2001 birth cohort (The State Peace and Development Council) = 1 [10]. The age at first marriage was defined as the age at which the respondent began living with her first spouse [9]. It was divided into (0 = single, 1 = early marriage, 2 = normal-age marriage, 3 = late marriage) as dependent variables. Late marriage or delay in marriage was defined as "marrying between age 30 and death." Early marriage was defined as "marrying between age 23 and age 29." The contraceptive method used was the contraception method married women used within the previous five years. It was divided into (0 = did not use, 1 = pill, 2 = injection, 3 = intrauterine device (IUD), 4 = implant, 5 = condom,

JHR 34,3

210

6 = others). The other contraceptive methods were female sterilization, periodic abstinence, withdrawal, traditional methods, and lactational amenorrhea. The current study tried to explain the accessibility, acceptability, and affordability of contraceptive use. The accessibility was measured by the rural/urban residence, the affordability was measured by wealth index, and the acceptability was measured by age group and occupation [12].

The model was a multilevel analysis with a multinomial logistic regression employed when concentrating on the timing of the first marriage. The independent variables included individual levels such as birth cohort, migration, and mass media scores. The household-level included wealth index and the possession of a motorcar. The community-level included the percentage of local female employment. Migration refers to the respondents changing their usual place of residence within five years. The scores of mass media were measured on the basis of exposure to radio, newspaper, and television. We computed those three variables as one variable. The wealth index refers to one way of determining socioeconomic status [13]. The female labor participation rate refers to the percentage of the females who participated in labor/employment. Independent variables were selected based on Goode's modernization theory [14] and Easterlin's economic and social modernization theory [13].

Data processing and statistical analysis

Data were analyzed on three levels: individual, household, and community as multilevel analyses. Stata version 14.0 was used, and multinomial logistic regression analysis was employed for the timing of the first marriage. Robust cluster standard error was chosen because of the amount of variation in the outcome variable and was correlated with the explanatory variables [15].

Ethical considerations

This study used data from MDHS, which is already permitted by the Demographic and Health Survey website (www.dhsprogram.com). This study was approved by the Institute for Population and Social Research-Institutional Review Board (IPSR-IRB) with a Certificate of Exemption COE. No. 2019/01-039 on 28 February 2019.

Results

Some selective characteristics, birth cohort, and marriage patterns among women

From the descriptive results, the average age for the women was 25 years. Of the total respondents, over two-thirds were from rural areas and the remaining were from urban areas. About 30.1% were born between 1966 and 1987 (under the Burma Socialist Programme Party), while 69.9% were born between 1988 and 2001 (under the State Peace and Development Council). Looking at the occupational status, over half of them did agricultural work, 12% were in other working environments such as offices, industries, and own businesses, while one-third did not work. About 6% had migrated. Half of the respondents attended secondary school. The women were more exposed to television than to press media and the radio. Nearly one-third of the women were members of poor households, while two-thirds were members of a middle-class or wealthy household. Interestingly, two-thirds were single, followed by early marriage (19.4%), normal-age marriage (9.3%), and then late marriage (3.7%). The proportion of unmarried women and the mean age at first marriage of the 1966–1987 cohort were higher than those who were born in the 1988–2001 cohort (Table I).

Those with a higher education tended to belong to unmarried statistics and higher ages, or were older when marrying than other education groups. The percentage of unmarried women in non-agricultural work was more than those with no occupation and an agricultural Marriage patterns and contraceptive methods

JHR 34,3	Characteristics	Total	Percentage of Birth cohort 1966–1987	never married Birth cohort 1988–2001	Mean age at firs Birth cohort 1966–1987	st marriage (year) Birth cohort 1988–2001
	N Total (%)	6138 100	1275 69.1	2871 66.7	570 29.1	1422 19.6
212	<i>Residence</i> Rural Urban	66.5 33.5	68.8 69.6	64.9 71.2	29.1 29.2	19.4 20.2
	<i>Migration</i> Not move Move	94.0 6.0	70.5 45.6	67.7 54	29.0 29	19.6 19.5
	<i>Education</i> No education and primary education	34.9	73.4	55.3	29.8	19.0
	Higher education	50.0 15.1	65 67	71.4 75.8	28.4 29.3	19.7 22.1
	<i>Occupation</i> No occupation Agricultural work Non-agriculture work	29.6 58.3 12.1	50.4 72.2 78.2	64.7 60.8 69.7	29.1 28.9 29.2	19.5 19.2 19.9
Table I.	<i>Exposure to media</i> Newspaper/magazine Radio TV	44.6 43.8 75.8	69.4 73.8 70.6	72.7 71.9 69.3	29.1 29.3 28.9	20.1 19.8 19.7
Birth cohort, the proportion of never married, mean age at first marriage, and some selective characteristics among women	<i>Wealth index</i> Poorest Poorer Middle Richer Richest	14.1 16.2 20.9 23.4 25.4	50.7 67.0 67.6 75.4 70.6	56.7 65.0 66.8 67.6 75.6	28.6 28.9 29.0 28.8 29.8	18.7 19.3 19.9 19.9 20.6

occupation, and their age at their first marriage was higher. The percentage of both the unmarried women and age at first marriage increased when the women were exposed to mass media. Lastly, the higher the household wealth index, the more the unmarried female population and more the age at first marriage. Although all results showed similar patterns between the two birth cohorts, there were different percentages of unmarried proportions and of mean age at first marriage.

Determinants of the timing of marriage

The multivariate analysis aimed to assess sociodemographic determinants of the timing of marriage. Multinomial logistic regression analysis was performed. The predicting probabilities of the individual for making the decision to marry were estimated. As a result, sociodemographic factors that determined the decision time to marry were birth cohort, migration, wealth index, and the percentage of female participation. These were statistically significant after controlling for age, residence, household possession of a motorcar, percentage of household electricity use, and percentage of persons who had a higher education (Table II).

Characteristics	Single ear marries β	e vs ly iage p	Single norr marri β	e vs nal age p	Single late marria β	e vs e age p	Early norr marries β	v vs nal jage p	Early late marria β	vs e age p	Norma late marrie β	ll vs e age p	Marriage patterns and contraceptive methods
Age*^	0.12	0.01	-0.02	0.09	0.02	0.01	-0.15	0.01	-0.10	0.01	0.04	0.01	
Residence Urban	0.10	0.43	0.26	0.09	0.13	0.60	0.16	0.41	0.03	0.92	-0.13	0.59	912
Birth Cohort*^^ 1988–2011	5.63	0.01	-1.54	0.01	-19.3	0.01	-7.17	0.01	-24.9	0.01	-17.8	0.01	213
Migration*	0.93	0.01	0.61	0.01	1.23	0.01	-0.32	0.13	0.30	0.31	0.63	0.01	
Household possession of	0.49	0.01	0.26	0.22	0.14	0.62	-0.23	0.37	-0.34	0.27	-0.11	0.74	
Wealth index Poorest*	1.09	0.01	0.49	0.01	0.15	0.62	-0.60	0.02	-0.94	0.01	-0.34	0.33	
Poorer*	0.74	0.01	0.30	0.12	-0.13	0.64	-0.44	0.07	-0.87	0.01	-0.43	0.18	
Moderate*	0.62	0.01	0.37	0.03	-0.06	0.81	-0.25	0.22	-0.66	0.02	-0.43	0.13	
Richer*	0.61	0.01	0.083	0.59	-0.68	0.01	-0.53	0.01	-1.29	0.01	-0.76	0.01	
Mass media scores*	-0.30	0.01	-0.15	0.01	-0.21	0.01	0.15	0.02	0.09	0.28	-0.06	0.48	
% Of household	0.01	0.62	0.01	0.01	0.01	0.15	0.01	0.09	0.01	0.29	0.01	0.91	
% Of persons	-0.01	0.01	-0.01	0.07	-0.02	0.02	0.01	0.32	-0.01	0.72	-0.01	0.23	
education % Of female labor force	0.01	0.65	-0.01	0.27	-0.01	0.01	-0.01	0.21	-0.01	0.01	-0.01	0.04	Table II. Multinomial logistic regression on single, early marriage, normal-
Note(s): Pseude significant* = p	o R sq value <	uare 0.05, a	= 0.1716 ge^ is me	, log asured	pseudo by ratio	likeliho scale,	ood = birth col	—4712 nort^^	2.56, Wal is 1966–1	d chi ² 987 as	² = 376 reference	48.38, 2.	age marriage, and late marriage among women ($N = 6,138$)

Reviewing the coefficients of multinomial logistic models can be complicated, so it is important to calculate probability [16], which is based on the purpose of some selective variable analysis such as birth cohort, wealth index, mass media scores, and female labor force participation. In Table III, for the early cohort (1966–1987), the normal marriage age was experienced by 23.1% and was the highest proportion, while late marriage and early marriage were at 10.2% and 0.3%, respectively. However, the women in the late cohort (1988-2001) were more likely to have an "early marriage" than other marriage groups, and these were followed by "normal marriage" and "late marriage" groups. Concentrating on the wealth index, women with a higher wealth index were more likely to remain "single" longer than those with a lower wealth index, and the probability of experiencing each type of marriage decreased. With reference to mass media scores, it predicted that if mass media scores increased, the probability of more "single" women would increase, while the type of marriage could decrease. As for the female labor force, when the percentage of female labor force participation increased, the probability of women remaining "single" also increased. Looking at the type of marriage, the probability of each type of marriage age group decreased when the percentage of the female labor force increased (Table III).

Birth cohort and contraceptive methods used

Figure 1 shows methods of contraceptive use among married women with their first child and those without a child during a five-year period. In addition, the information in Tables IV

IHD										
34,3	Characteristics	Single	Early marriage	Type of marriage Normal marriage	Late marriage	Total				
	Birth cohort									
	1966-1987	66.4	0.3	23.1	10.2	100				
	1988-2001	57.4	37.9	4.6	0.1	100				
91 <i>1</i>	Wealth index									
214	Poorest	52.2	32.1	11.7	0.4	100				
	Poorer	58.2	27.8	10.7	3.3	100				
	Middle	59.5	25.8	11.4	3.3	100				
	Richer	62.1	26.1	9.0	2.8	100				
	Mass media scores									
	5	63.4	22.4	10.0	4.2	100				
	10	77.7	11.9	7.7	2.7	100				
	15	87.4	5.6	5.4	1.6	100				
	20	92.9	2.5	3.7	0.9	100				
	25	96	1.1	2.4	0.5	100				
Table III	Percentage of fema	le labor force	participation							
Predicted probability	20	65.4	18.5	10.2	5.9	100				
of the type of marriage	40	66.4	18.9	9.8	4.9	100				
by focusing on some	60	67.0	19.3	9.5	4.2	100				
selective	80	67.7	19.6	9.2	3.5	100				
characteristics	100	68.4	19.9	8.8	2.9	100				



Figure 1. Methods of contraceptive use among married women within five years

and V gave some socioeconomic background information and contraceptive methods used by married women for each cohort. When comparing the two birth cohorts, the rate of contraceptive use in the early cohort (1966–1987) was less than the late cohort (1988–2001). Focus on age groups in the early (15–24) and late (0–49) cohorts was not included in this

Socioeconomic background	Not use	Pill	Injection	IUD	Implant	Condom	Others	Marriage
Total	60.5	11.1	20.9	2.6	1.6	1.6	1.8	contraceptive
Age group (yrs)								methods
25–29	51.9	15	26.3	2.5	2.5	0.6	1.3	
30–34	61.6	10.1	21.3	3.1	1.6	1.2	1.2	
35–39	61.5	10.3	17.1	2.6	0.9	4.3	3.4	215
40-44	77.8	0	11.1	0	0	0	5.6	
45-49	100	0	0	0	0	0	0	
Residence								
Rural	64.7	8.5	23.4	0.6	0	1.7	1.1	
Urban	53.7	15.3	16.7	6	4.2	1.4	2.8	
Occupation								
No work	60.8	9.1	22.2	2.3	1.7	1.7	2.3	
Non-agriculture	58.8	12.7	20.7	2.9	1.7	1.7	1.4	
Agriculture	72.3	6.4	17	2.1	0	0	2.1	
Migration								
No	61.5	10.3	21.4	2.5	1.6	1.4	1.4	
Yes	51.8	17.9	16.1	3.6	1.8	3.6	5.4	
Type of marriage								
Early marriage	42.9	21.4	21.4	7.1	7.1	0	0	
Normal marriage	55.8	12.8	25	2.4	1.8	1.2	0.9	Table IV
Late marriage	68.4	7.9	14.9	2.6	0.9	2.2	3.1	Percentage of cohort
Wealth index								1966–1987 and
Poorest	66.7	5.3	24	1.3	0	0	2.7	selective
Poorer	71.4	9.1	19.5	0	0	Õ	0	socioeconomic background and
Middle	59.3	10.2	25.4	0.8	0.8	2.5	0.8	contracentive use
Richer	55.3	15.8	21.9	2.6	0.9	2.6	0.9	among married women
Richest	57.5	11.8	167	54	3.8	16	3.2	(N - 570)

analysis. The samples were collected from women aged between 15 and 49 years during the 2015–2016 period. The earliest birth year was 1966, and the latest birth year was 2001. The age group (45–49 years) in the early cohort did not use any contraceptives. The injection, pill, and IUD were the top three contraceptive methods used among those in the 25–39 age groups. Young women (15–29) in the late cohort mostly used the injection followed by pills, IUD, and other methods. When the women's age increased, the percentage of those not using contraception increased in both cohorts. The women in rural areas used the injection more than those in the urban areas, especially the early cohort. However, the proportion of women who used the injection was nearly the same in both rural and urban areas in the late cohort. Looking at pill use, women in urban areas were more likely to use the pill than those in rural areas. Women who were employed in non-agricultural sectors used more contraceptives than women in other working environments. Looking at the migration status, those who migrated used more contraceptives than non-migrants did. On the wealth index, poor women used contraception less than rich women. All findings showed similar patterns between the two birth cohorts.

Discussion

Empirical studies argued that the younger cohort had more single women, and the age at the first marriage was higher than the older cohort [17]. This evidence is inconsistent with this

IHR								
34.3	Socioeconomic background	Not use	Pill	Injection	IUD	Implant	Condom	Others
04,0	Total	51.5	16.8	28	1.2	0.8	0.6	1.1
216	Age group (yrs) 15–19 20–24 25–29	55.3 49.9 52.4	12.9 19.4 14.2	31 27.4 27.2	0.4 0.9 2.3	0 1 0.8	0 0.5 1.3	0.4 0.9 1.8
	<i>Residence</i> Rural Urban	54.4 44.1	15.3 20.9	27.7 28.9	1 1.8	0.6 1.3	0.5 1	0.7 2.1
	<i>Occupation</i> No work Non-agriculture Agriculture	51.4 49.9 57.8	15.7 18.3 14.6	28.9 28.1 25.2	1.2 1.4 0.5	0.8 0.6 1.5	$1 \\ 0.4 \\ 0.5$	1.2 1.3 0
	<i>Migration</i> No Yes	52.1 45.9	16.2 23	28.3 24.6	1 3.3	0.8 0	0.7 0	0.8 3.3
Table V. Percentage of cohort1988–2001 andselectivesocioeconomicbackground andcontraceptive useamong marriedwomen ($N = 1,422$)	<i>Type of marriage</i> Early marriage Normal marriage	51.4 52	17.5 13.5	28.4 26.2	0.8 2.9	0.7 1.2	0.4 1.6	0.8 2.5
	Wealth index Poorest Poorer Middle Richer Richest	59 51.9 52.8 44.3 49.3	12.9 16.9 14.4 21.5 18.7	25.8 28.6 29.8 31.3 23.1	0.6 0.8 1 1.6 2.2	1 0.8 0.3 0.3 1.8	$egin{array}{c} 0 \ 0 \ 1 \ 0.3 \ 2.2 \end{array}$	0.6 1.1 0.7 0.6 2.7

current study, as the women who were born in 1966–1987 (the older cohort) were more likely to remain single and were older at marriage than those who were born in 1988–2001 (the younger cohort). One observation for this could be that they may have experienced some hardships related to economic and social problems when they were growing up [2]. In the later cohort, the proportion of early marriage increased because they were more likely to have some freedom and a well-developed economic situation. In addition, another possible explanation is that the participants were those who married within five years. Moreover, the youths (15–24 years) in the early cohort and adults (30–49 years) in the later cohort were not included because the participants were already older than the 15–24 age group, while the women had not yet reached 30 years old in the late cohort. Surprisingly, the proportion of single women and the age at first marriage of non-migrant women was higher than that of migrants. Some studies proved that migration can promote marriage, while other studies stated that it delayed marriage [18]. Research findings showed that women who were exposed to mass media were less likely to marry and were more likely to stay single. Scholars found that there were delays in getting married due to excessive consumption of mass media [13].

As mentioned earlier, contraceptive method use is one of the indicators that point to demand and supply of contraception [7, 8]. Importantly, the birth cohort can reflect some of the tastes and perceptions of the individual through their contraceptive behaviors [19]. The percentage of no contraceptive use was very high (70%) among those who did not have any children. This can be explained by the observation that there could have been some migration between spouses, such as husbands working away, or they were trying to have children [8].

Considering each method, the study found that the pill and injection were the most popular methods. For example, the percentage of women who had no children while using the pill was about 14%, while those who had their first child were about 16%. The reason for using this method here maybe was for birth spacing. At the same time, regarding the use of contraceptive injection, it can be done only at the public health center or the private health sector, and the percentage of those who had their first child was higher than those who did not have children. We are able to conclude that the injection method is now popular among females in Myanmar. For other contraceptive methods such as the IUD, condoms, implants, and sterilization, the uptake percentage is not as high. This is not only because public health centers or the private health facilities for implementing or operations are quite limited but also because some couples may be afraid of the side effects and the costs [8]. The skill levels of the health workers who can provide the service may need to be improved, and they may require retraining. However, a study conducted in Pattani province, Thailand, stated that condoms were the most used method followed by the pill, the withdrawal method, the injection, the emergency pill, and the calendar method [20].

Women who lived in urban areas used contraception at a higher proportion than those in rural areas for both cohorts, because women in urban areas seemed to have more awareness of contraceptive usage than those in the rural areas. There were also different levels of access to contraceptive methods in both the private and public sectors [8]. The women employed in professional work had a higher proportion of contraceptive use than the women who had worked in low-skilled or agrarian settings in both cohorts. The injection was the highest used method of contraception among women engaged in non-agricultural work. They did not want to have children as they were worried they would have to leave their jobs. Newly married early-age women used contraception more than normal-age and late-married women because they wanted to avoid teenage pregnancy. When we look at birth cohort and contraceptive use, women who live in urban areas, those who are migrants, those working in non-agriculture sectors, and those having a rich wealth index used contraception more than the other groups did. These findings are consistent with other literature on the subject [19].

Conclusion

This study confirmed that women in the 1966–1987 cohort faced more difficulties and hardships than when they were growing up. The proportion of marriages was high among the late-marriage group rather than the early-marriage group. This phenomenon is quite different when compared to the younger age groups born during the socialeconomic development and national freedom years. Looking at family planning methods, the two most popular methods are the injection and the pill, and these are not expensive and are easy to access because the government provides them. Surprisingly, IUD, implant, sterilization, and others need highly skilled health personnel, which is more expensive and, consequently, the number of people using those methods is still quite low. Moreover, the percentage of contraceptive use in the early cohort and the late cohort is similar, but the younger ones are more likely to use contraceptives more regularly, particularly for birth spacing. The female labor force participation showed a marked preference for late-marriage age and contraceptive use. That is to say, women empowerment via development and enrolling in the job market is important. As a result, a strategy to encourage women to marry in the normal age group is required. Importantly, the nation needs to promote not only the pill and injection but also other methods such as the IUD and implants, but will need medical centers and well-trained health workers to effectively implement this strategy.

Marriage patterns and contraceptive methods

IHR Limitation of the study

34.3

218

This study employed some secondary data from another cross-sectional study, and it had already set up the selection criteria. The main purpose of this study was to see how the dependent variables (age at first marriage) were affected by current social and socioeconomic characteristics. If not affected, those independent variables were not updated and not referred to as the respondents' recent status. For example, if the respondent married in 2000, it was impossible to claim that recent characteristics (2015) affected or did not affect the age at first marriage. This does result in some limitations at the analysis stage. It also affects the mean age at first marriage. With regards to the early cohort (1966–1987), the mean age at first marriage was 21.28 years in MDHS, while the mean age was 29.14 years in this current study. Meanwhile, it was found that the mean age at first marriage in the late cohort (1988–2001) was 18.85 years according to MDHS, while it was 19.63 in this study. This current study studied the respondents who had married within five years of the study and aimed to find the temporary effect of modernization and socioeconomic characteristics on the age at first marriage. After selection, in the current sample (6, 138) from a sample of MDHS (12,885), about 90% of women who married over five years in the early cohort (1966–1987) were excluded from this study. However, regarding the late cohort (1988–2001), nearly 30% who had been married for more than five years were also excluded from the study. As most of the women (90%) in the early cohort had already been married for over five years and only 30% of women in the late cohort had been married for more than five years, there was a large difference in mean age at first marriage between the two cohorts in this study.

References

- 1. Schellekens J. The marriage boom and marriage bust in the United States: an age-period-cohort analysis. Popul Stud. 2017; 71(1): 65-82.
- 2. Devi KS. Myanmar under the military rule 1962-1988. Int Res J Soc Sci. 2014; 3(10): 1046-1050.
- Department of Immigration and Population. Population changes and fertility survey, 1991. Yangon: Ministry of Immigration and Population; 1995.
- Department of Health Planning and UNFPA. Myanmar Reproductive Health Baseline Community survey. Yangon: Ministry of Health; 2002.
- Meyer DLP. Beginning population studies. Australia: National Centre for Development Studies; 1994.
- Ministry of Labour, Immigration and Population. The 2014 Myanmar population and census report. Naypyitaw: The Union of Myanmar; 2015.
- World Health Organization [WHO]. Myanmar birth spacing overview; 2014 [cited 12 Jan 2019]. Available from: http://www.searo.who.int/entity/maternal_reproductive_health/documents/mmrfp.pdf?ua=1.
- United Nations Population Fund [UNFPA]. 2015 Health facility assessment for reproductive health commodities and services report. Yangon: Department of Medical Services; 2016.
- Ministry of Health and Sports. Myanmar demographic and health survey 2015–16. Naypyitaw: Department of Health; 2016.
- Winn P. Myanmar: Ending the world's longest-running civil war. Pittsburgh Post-Gazette; 2012 [cited 10 Feb 2019]. Available from: https://www.post-gazette.com/news/world/2012/05/13/ Myanmar-ending-the-world-s-longest-running-civil-war/stories/201205130149.
- Kok J, Engelen T. Permeant celibacy and late marriage in The Netherlands 1890–1960. J Popul. 2003; 58: 67-96.
- Celik LDC. Access to contraceptives in Uganda: approachability, acceptability, and users' abilities. Amsterdam, Netherlands: Vrije Universiteit Amsterdam; 2016.

13.	Easterlin R. Modernization and fertility: critical essay in determinants of fertility in developing
	countries: In: Bulatao RA, Lee RD, editors. Fertility regulation and institutional influences: vol 2.
	New York: Academic Press; 1983.

- 14. Smith PC. Asian marriage patterns in transition. J Fam History. 1980; 5(1): 58-96.
- Cameron AC, Miller DL. A practitioner's guide to cluster-robust inference. J Human Resour. 2015; 50: 317-372.
- Long JK, Freese J. Regression models for categorical dependent variables using Stata. Texas: A Stata Press Publication; 2001.
- 17. Roudi-Fahimi F, Kent MM. Challenges and opportunities-the population of the Middle East and North Africa. Popul Bull. 2007; 62(2): 1-20.
- Jampaklay A. How does leaving home affect marital timing? An event history analysis of migration and marriage in Nang Rong, Thailand. Demography. 2006; 43(4): 711-725.
- Asiimwe JB, Ndugga P, Mushomi J, Ntozi JPM. Factors associated with modern contraceptive use among young and older women in Uganda; a comparative analysis. BMC Public Health. 2014 Sep 8;14: 926.
- Smuseneto A. Determinants of contraceptive use among people of reproductive age in Pattani Province, Thailand. J Health Res. 2012; 25(3): 161-165.

Corresponding author

Nyein Chan can be contacted at: nyeinchan.dsmrc@gmail.com

Marriage patterns and contraceptive methods