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Factors determining the use of modern contraceptive among married women in Cambodia: Does their decision-making matter?

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ABSTRACT

Introduction

In Cambodia, modern contraceptive use has increased slightly from 35.0% to 39.0% between 2010 and 2014. However, this proportion remains low in the South-East Asia regions; and more efforts are needed to increase the use of modern contraceptive (MC). Our study aimed to explore the determinants of MC use and to assess whether women's decision-making power on contraceptive use is more influential determinant.

Methods

We analyzed data from the Cambodia Demographic Health Survey 2014 in which a total of 611 clusters (urban and rural) from 15,825 households with selected samples of 17,578 women aged 15-49 years old. They were interviewed about sexual, and reproductive health. We restricted our analysis to married women (n=11,668). Bi-variate and multivariate logistic regression were performed using STATA version 14. Sampling weight was taken into account in all analyses.

Results

The prevalence of modern contraceptive use in 2014 was 39.0%. Factors independently determining the use of modern contraceptive methods included decision on contraceptive use made by women alone (AOR=5.31, 95% CI=4.01-7.04) and made jointly with husband or partner (AOR=1.59, 95% CI=1.29-1.96) compared with that decision made by husband or partner alone. Women aged ≥ 35 years old was less likely to use MC than those aged 15-34 years old (AOR=0.73, 95% CI= 0.61-0.87). Also, the lower odds of using MC was found among women who completed secondary or higher education (AOR=0.70, 95% CI=0.54-0.90) compared with those who had no education, and women living in the urban area (AOR=0.73, 95% CI= 0.60-0.88) compared to those living in the rural area.

Conclusions

Married women's participation in decision-making on contraceptive use is the influential determinant of modern contraceptive use. Future interventions to improve the use of MC methods should focus on empowerment of women to actively participate in making decision on the use of contraceptive methods and other health services.

"Keywords: Modern contraceptive use; Decision-making; Women's empowerment; Determinants; Cambodia;"

Introduction

Family planning program is critical for improving reproductive and sexual health, and right [1]. It recognizes the basic rights of all couples or individuals to decide freely and responsibly the number, spacing, timing of their children. Comprehensive family planning service is fundamental to women and child health by preventing pregnancy-related health risks, reducing maternal and child health, and lowering unsafe abortion. In nonmedical aspects, family planning plays a key role in poverty reduction and

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human development [2]. Family planning is an important intervention to achieve Sustainable Development Goal 3 (SDG3) especially SDG3.7.1 "Proportion of women who have their need for family planning satisfied with modern methods" [3]. In Cambodia, family planning was firstly introduced in 1994 and has successfully increased the contraceptive prevalence rate by 43.7% between 1995 and 2014 [4]. Between 2010 and 2014, the use of modern contraceptives (MC) in Cambodia increased from 35.0% to 39.0%, while the MC use prevalence was high at 75.5% of women in reproductive age in Thailand in 2016 and 57% in Vietnam in 2014 [5]. Cambodia's MC prevalence remains low and more efforts are needed to increase the MC use among married women.

The prevalence varied by socio-demographic, socio-economic, and socio-cultural factors [6]. Previous literatures in various countries have indicated some socio-demographic and socio-economic factors that impact on the use of modern contraceptive such as age and education in Nigeria [7], education and number of children in Cameroon [7, 8], women's age, education, region, number of living children, and child preference in Bangladesh [9, 10], wealth quantile in Malawi [11], access to media in Cameroon and Bangladesh [8, 12], desire for children and visited by health worker in urban Maldives [13] and autonomy on health care in Bangladesh [14]. Moreover, women's empowerment was found to be a key to using modern contraceptives in African countries [15] and women's lack of power restrained themselves from making decision on family planning in Ghana [16, 17].

A recent literature in Cambodia has studied the effect of household decision-making on contraceptive use shown the positive association between women's power in decision-making on their own earning, large household purchases and visiting family was associated with contraceptive use [4]. However, little is known about whether women's participation in decision-making affected the contraceptive use, in particular MC use among married women in Cambodia. Hence, our study aims to explore the determinants of MC and to assess whether married women's decision-making on contraceptive use is more influential determinant

Methods

Data source

We used women dataset extracted from the 2014 Cambodia Demographic Health Survey (CDHS), a nationally representative household survey. The CDHS 2014 used a two-stage clustered sampling design with probability proportional to cluster size selection for the first stage and probability systematic sampling for the second stage of household selection. In total, 17,578 women of reproductive age (15-49) were interviewed using standardized questionnaires. However, this study restricted the analysis on married women with the total sample of 11,668. Detailed methodology and questionnaires could be found in CDHS 2014 report [6].

Measurements

Dependent Variable: The dependent variable was MC use among married women aged 15-49 years old which was dichotomous (yes/no). MC use were included female sterilization, male sterilization, the pills (daily or monthly), injectable, intra-uterine device (IUD), implants, male condom, female condom and lactational amenorrhea (LAM).

Independent Variables: Women's age (15-34 years old, and ≥35 years old), age difference of spouse, women's and husband's level of education (none, primary and secondary/higher), place of residence (urban or rural), employment of women and their husband (did not work, non-agricultural work, agricultural work), household wealth quintile (poor, middle, rich), heard of family planning message from media (TV, radio, or newspaper with the coded 0 if they have never heard all of the three, coded 1 if they have heard at least one of the three), visited by family planning workers last 12 months (yes or no), and number of children. Decision-making on contraceptive use was categorized as decision made by respondent alone, joint decision between respondent and husband, and husband's decision alone

Data analysis

The differences in MC use by socio-demographic characteristic were assessed via bi-variate analysis using chi-square test. Only variables with p-value was ≤0.05 at the bi-variate were retained in the multi-variable logistic regression analyses. Adjusted odds ratio (AOR) with 95% confidence intervals (CI), and the significance level of p-value ≤ 0.05 were reported. Sample weights and complex survey design were accounted for in both descriptive and logistic regression analyses.

Results

Socio-demographic characteristics by MC use among married women

MC use prevalence was 39.0% among married women. As shown in the **Table 1**, 41.2% of the married women aged 15 to 34 years old used MC while the proportion was 35.1% for women aged above 35 years old. Among those women with education, 39.7% of whom completed primary education used MC, while only 36.7% of women completed secondary or higher education used MC. The proportion of married women used MC was 37.1% of women with one child, 46.6% of women with two children and 42.2% of women with more than three children. Among women has accessed to at least one mass media about family planning message and have been visited by family planning worker in the last 12 weeks, there was around 42.4 % used MC. 39.9 % of women living in rural area, and 32.8% of women in urban area used MC. The proportion of using MC was 41.0% of women from the poor households, 38.3% of women from medium households and 36.9% of women from rich households. Among women who decide alone on contraceptive use, 86.5% used MC, while the proportion was only 55.1% of women whose husband decide alone on contraceptive use.

Factors determining modern contraceptive use among married women

As shown in **Table 2**, women who decided alone on contraceptive use (AOR=5.31, 95% CI=4.01-7.04) was five times more likely to use MC and women jointly took decision with their husband (AOR=1.59, 95% CI=1.29-1.96) was 1.5 times more likely to use MC than those whose husband took decision alone.

Women aged more than 35 years old (AOR=0.73, 95% CI= 0.61-0.87) was less likely to use MC than those who aged between 15 and 34 years old. Women who completed secondary or higher education (AOR=0.70, 95% CI=0.54-0.90) is less likely to use MC than those who have no education.

Women from the rich HH (AOR=0.74, 95% CI=0.60-0.92) was less likely to use MC than those from the poor HH. Women lived in urban areas (AOR=0.73, 95% CI= 0.60-0.88) was less likely to use MC than those in rural areas. Husband of the married women who worked in non-agricultural sectors (AOR=0.78, 95% CI=0.66-0.93) was less likely to use MC than the husband working in agricultural sector.

Table 1: Socio-demographic characteristics of MC use among married women (n = 11,668)

Variables	Weighted freq.	%	P-value
Decision-making in contraceptive use*			
Husband decide alone	405	55.1	<0.001
Spouses jointly decide	2938	65.4	
Women decide alone	1271	86.5	
Women age group (in years)			
15-34	2952	41.2	<0.001
≥ 35	1666	35.1	
Age difference between spouses			
Women older	817	36.5	0.110
Same age	397	40.9	
Men older	3404	39.1	
Women education			
No education	707	39.9	0.060
Primary education	2545	39.7	
Secondary/ higher education	1366	36.7	
Husband/partner education			
No education	491	41.6	0.164
Primary education	2119	39.3	
Secondary, higher education	2008	37.8	
Number of children			
≤ One child	967	27.0	<0.001
Two children	1446	46.6	
≥ Three children	2205	42.2	
Access to media			
No access	1971	39.7	0.186
Access to ≥ 1 mass media about FP	2646	38.1	
Wealth quintile			
Poor	1928	41.0	<0.001
Middle	906	38.3	
Rich	1784	36.9	
Place of residence			
Rural	4021	39.9	<0.001
Urban	597	32.8	
Women's work status			
Agricultural sector	1966	41.6	<0.001
Non-agricultural sector	1915	39.1	
Not working	737	32.5	
Husband/partner's work status			
Agricultural sector	2477	41.9	<0.001
Non-agricultural sector	2108	36.1	
Not working	32	23.8	
FP workers visited in the last 12 months			
No	3404	37.7	<0.001
Yes	1214	42.4	

**Among married women reported using contraceptive only (n = 6691)*

Table 2: Multivariate logistic regression analysis: Determinants of modern contraceptive use among married women

Variables	Total N = 6,481	
	AOR* (95% CI)	P value
Decision-making in contraceptive use		
Husband decide alone	1 (Referent)	
Spouses jointly decide	1.59 (1.29-1.96)	**<0.001**
Women decide alone	5.31 (4.01-7.04)	**<0.001**
Women age group		
15-34	1 (Referent)	
≥ 35	0.73 (0.61-0.87)	**<0.001**
Women level of education		
No education	1 (Referent)	
Primary education	0.81 (0.64-1.02)	0.080
Secondary, higher education	0.70 (0.54-0.90)	**0.006**
Number of children		
≤ One child	1 (Referent)	
Two children	1.00 (0.83-1.21)	0.975
≥ Three children	1.03 (0.85-1.26)	0.726
Wealth quintile		
Poor	1 (Referent)	
Middle	0.88 (0.71-1.08)	0.235
Rich	0.74 (0.60-0.92)	**0.007**
Place of residence		
Rural	1 (Referent)	
Urban	0.72 (0.60-0.87)	**0.001**
Women type of occupation		
Agricultural sector	1 (Referent)	
Non-agricultural sector	0.93 (0.73-1.18)	0.577
Not working	0.91 (0.75-1.10)	0.333
Husband type of occupation		
Agricultural sector	1 (Referent)	
Non-agricultural sector	0.78 (0.66-0.93)	**0.006**
Not working	0.64 (0.36-1.14)	0.136
FP health worker visited in the last 12 months		
No	1 (Referent)	
Yes	1.00 (0.86-1.26)	0.746
**AOR: Adjusted odd ratios*		

Discussion

This study is the first ever of its kind in Cambodia that assessed the association between married women's decision-making in contraceptive use with the MC use. It also identified the other determinants contributed to the increase and decrease in MC use. Our finding proves that married women's decision-making is a potential matter for MC use. The result of women's decision-making alone in contraceptive use is similar with the previous study in Tanzania [18] and the Republic of Congo [19]. Empowered women in making decision on their contraceptive use is giving them freedom and right to make a better choice for using MC. This will further impact on their reproductive health and will in turn reduce maternal mortality rate.

Surprisingly, the use of MC is significantly associated with women from the poor households, had no education and living in rural area. It likely reflects the limited coverage of family planning services which dominantly located at the public health facility especially health center level [20]. The services provided at the health center are largely used by rural women who is less educated [21]. It also can interpret that women from the rich households tend to use less MC due to their financial independence and far beyond the capacity to raise as many children as they want. One possible explanation is that urban and rich household women tended to use the private health facilities and did not report it. This was confirmed by the previous study in Cambodia which indicated that public sector were distributed in favor of the poor; and private sector was in favor towards the richest quintile [22]. However, it is contradictory to previous study in Tanzania where the rich is more likely to use MC [18]. Further research should be investigated on the influence of women's knowledge on contraception use and their service satisfaction on the MC use.

Limitations

This study has faced some limitations. The study was a cross-sectional study which we cannot use to make causal interpretations. Because of the cross-sectional design of the study, all of the variables analyzed in the logistic regression especially decision-making on the contraceptive use came from the time of the survey, the result can only provide statistical association and cannot show cause-effect relationship. There is a probability of social desirability and under or over reporting of decision making linked to MC use.

Conclusions

The study found that women's participation in making decision on contraceptive use especially when such decision was made by women alone has a strong influence on the likelihood of using modern contraception. Future interventions to improve the use of modern contraceptive methods should focus on empowering women to participate in decision about their health, in particular about their use of contraceptive methods. Raising their awareness and knowledge about the methods, their advantages and disadvantages can contribute to their empowerment.

Ethics clearance

The CDHS 2014 was approved by the National Ethics Committee for Health Research (Ref number: 056 NECHR), Cambodia and the Institutional Review Board (IRB) of ICF in Rockville, Maryland, USA. The CDHS data are publicly accessible and were made available to us upon request to the DHS Program, ICF.

Written consents were obtained from all participants before the interview with participants in the CDHS.

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