

# Intimate partner violence and utilization of reproductive and maternal health services in Cambodia

Vanthy Mai and Win Ei Phyu  
*Institute for Population and Social Research,  
Mahidol University, Bangkok, Thailand*

## Abstract

**Purpose** – The purpose of this paper is to explore an association between women experience lifetime intimate partner violence (IPV) and women decision making with utilization of reproductive and maternal health services in Cambodia.

**Design/methodology/approach** – An analysis of secondary data of Cambodia Demographic and Health Survey (CDHS) 2014. The total number of sample size was 1,539 married women who had birth in the last five years prior to the time of interview and completed the domestic violence module in the CDHS 2014 questionnaire.  $\chi^2$  test and binary logistic regression were performed in this study.

**Findings** – Results give an evidence that emotional violence had significant impact on receiving sufficient antenatal care (ANC) (OR: 0.7, 95%CI: 0.43–0.86) while physical violence had significant association with deliver with skilled birth attendance (SBA) (OR: 0.5, 95%CI: 0.27–0.79). Further, women's participation in household decision making played as important factor in enabling women receive sufficient ANC (OR: 1.7, 95%CI: 1.19–2.29), and utilization of modern contraceptive method (OR: 1.5, 95%CI: 1.09–1.97).

**Originality/value** – This study provides significant finding on the impact of IPV and women's decision making on reproductive and maternal health in Cambodia. Result has drawn an attention to policy makers, related ministries and stakeholder to promulgate and effectiveness of policies and program implementation within the country.

**Keywords** Intimate partner violence, Reproductive and maternal health services, Women decision making, Cambodia

**Paper type** Research paper

## Introduction

The Royal Government of Cambodia has made a strong commitment to protect women's rights and promote gender equality by promoting several national policies[1] and has ratified international conventions to respond to gender-based violence[2]. However, gender inequality is still considered an issue as Cambodia was ranked 116th among 160 countries globally in the Gender Inequality Index[3]. Inequality between men and women is a major cause of gender-based violence, and women are more likely to become a victim especially from their intimate partners. Data from a national survey implied that over 30 percent of Cambodian women had experienced intimate partner violence (IPV) in any or all forms in their lifetime[4]. Violence against women is a major public health problem globally. Women who are victims of violence suffer various negative health consequences including sexual and reproductive health[5]. In Cambodia, the national evidence shows that 4 percent of Cambodian women experience physical abuse during their pregnancy and reported having



miscarriages and abortions[6]. Access to maternal health services still also remains an issue. Generally, pregnant women and their newborn babies are still unable to fully access the required maternal health services to ensure their wellbeing. An analysis of national surveys indicated that 40 percent of Cambodian women did not receive all three types of maternal health services including antenatal care (ANC) during pregnancy, delivery using skilled birth attendant (SBA) help and postnatal care (PNC) after delivery[7]. The country still has one of the highest levels of maternal mortality compared to neighboring countries in the Southeast Asian region[8].

IPV has various impacts on women's reproductive and maternal health. IPV can cause various negative health consequences such as poor maternal and infant health outcomes for both mother and child[9]. Studies found that women who experienced psychological abuse had a higher risk of postnatal depression and had a poorer mental health-related quality of life[10]. Sexual violence was associated with an increased number and duration of pregnancy-related physical symptoms which may cause women major discomfort and can severely affect their wellbeing during pregnancy[11]. Women with a history of experiencing physical violence had a higher risk of the premature rupturing of membranes and low birth weight for their children [12]. In terms of their reproductive health, women victims of IPV are more likely to have unwanted pregnancies and are unable to decide on the use of a contraceptive method[13, 14]. They are also less likely to utilize sufficient ANC and did not deliver with the help of SBA[15].

There have been several very useful studies conducted to try to understand women's issues in Cambodia. However, most of these focus on the issue of violence and women's health separately, while the study of the association between IPV and women's reproductive health has attracted less attention. This study aims to explore an association between women with experience of IPV during their lifetime, and women's decision making regarding the utilization of reproductive and maternal health services in Cambodia.

## Methodology

### *Study design and sample selection*

This quantitative research study analyzes the secondary data of the Cambodia Demographic and Health Survey (CDHS) 2014 which was the latest survey conducted in Cambodia. CDHS 2014 represents the information on population and health issues of Cambodian women and men aged between 15–49 years old nationally. To measure the utilization of reproductive and maternal health services, this study selected married women who had given birth in the last five years prior to the time of interview and completed the domestic violence module in the CDHS 2014 questionnaire. The total number of the sample size was 1,539 married women.

### *Variables*

*Outcome variable.* This study selected five outcome variables to reflect the reproductive and maternal health services including: use of modern contraceptive methods (such as the pill, IUD, injections, diaphragm, condom, female sterilization, male sterilization, implants, female condom) which are categorized as YES for the use of a modern contraceptive and NO for not using any method or use of traditional methods and folkloric methods. The number of ANC visits were categorized as insufficient ( $< 4$  times) and sufficient ( $\geq 4$  times). Delivery at a health facility was categorized as “institutional delivery” against a “delivery at home”. Institutional delivery included delivering in public or private hospitals or clinics and NGO clinics. PNC was categorized as YES for those who received any postnatal check-up after delivery and NO for those who did not receive any postnatal check-up after delivery. Delivery with SBA refers to women who delivered with the help of a doctor, health professional, nurse and/or midwife.

*Explanatory variable.* There are two major explanatory variables for this study: IPV which refers to women who experience physical, emotional and sexual violence by their partner during their lifetime and Women's participation in household decision making refers to decisions on women's own health, decisions on large household purchases and decisions on visiting family/friends. Women gave three possible answers: making decisions alone, joint decision making with husband, and husband/others making decisions without wife/women's input. We categorized these answers into two categories. "YES" refers to the women's response to make any decision alone and any joint decisions with husband, and "NO" for any decision made by husband/others with no women's input. Attitudes toward IPV was measured based on the women's agreement with any justification for the husband hitting or beating his wife. The justifications were: goes outside without telling husband, neglects children, argues with husband, refuses to have sex with husband and burns the food. Women who responded and agreed with all five statements were coded as YES, while those who agreed with less than the five statements were coded as NO. Other socio-demographic variables included age, place of residence, educational level and wealth index.

#### *Data analysis*

Data were analyzed using statistical software STATA version 14. Three analyses were applied in this study. The first analysis employed descriptive statistics as univariate analyses to examine the frequencies of outcome variables and explanatory variables. Secondly, this study applied chi-square ( $\chi^2$ ) test as a bivariate analysis to study the difference in the prevalence of socio-demographic variables among women who experienced IPV and women who did not experience IPV. In the final analysis, we applied binary logistic regression as a multivariate analysis to access the association between explanatory variables and the utilization of reproductive and maternal health services. Odds Ratio (OR) was used to interpret the strength of association between independent and dependent variables.

#### *Ethical consideration*

This study used data CDHS 2014 downloaded from the Demographic and Health Survey (DHS). This dataset can be accessed subsequent to registration, authorization and after providing information about the guidelines and the conditions of using the data. Procedures and questionnaires used for the CDHS 2014 were reviewed and approved by the ICF Institutional Review Board[16]. This DHS maintained strict standards for protecting the privacy and confidentiality of respondents during data collection and data processing. All respondents were given an informed consent form at the start of individual interviews. Therefore, no further ethical approval was necessary since this study was based on public use data which was anonymous and had no identifiable information on the survey respondents.

## **Results**

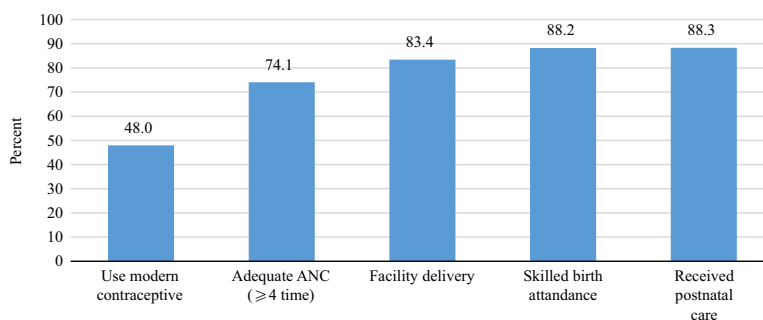
#### *Socio-demographic characteristic*

A total of 1,539 women participated in this study. Of those, the majority aged between 25 and 29 years and 30–34 years (30.3 and 29.0 percent). More than half of the total sample lived in rural areas (76.1 percent). Most of them had attended primary school and 43.4 percent of them had a poor wealth index. This study also found that 86 percent of women had participated in household decision making and 52.6 percent agreed the act of IPV. For women who experienced lifetime IPV, data showed that 13.4 percent of women experienced physical violence, 4.1 percent experienced sexual violence and 19.1 percent experienced emotional violence (Table I).

Figure 1 present the percentage of married women utilize reproductive and maternal health services. More than 50 percent of selected women had access to maternal health

Variables	Frequency	%
<i>Age (years)</i>		
15–19	46	2.9
20–24	320	20.7
25–29	466	30.3
30–34	447	29.0
35–49	260	16.9
<i>Place of residence</i>		
Urban	367	23.8
Rural	1,172	76.1
<i>Educational level</i>		
No education	205	13.3
Primary school	770	50.0
Secondary and higher	564	36.6
<i>Wealth Index</i>		
Poor	669	43.4
Middle	259	16.8
Rich	611	39.7
<i>Women's participation in household decision making</i>		
Yes	1,325	86.1
No	214	13.9
<i>Women's attitude toward IPV</i>		
Agree	810	52.6
Disagree	729	47.3
<i>Women experienced physical violence</i>		
Yes	206	13.4
No	1,333	86.6
<i>Women experienced sexual violence</i>		
Yes	63	4.1
No	1,476	95.9
<i>Women experienced emotional violence</i>		
Yes	304	19.7
No	1,235	80.2
<b>Note:</b> <i>n</i> = 1,539		

**Table I.**  
Distribution of  
socio-demographic  
characteristic, attitude  
toward IPV and  
women experiencing  
IPV, CDHS 2014



**Figure 1.**  
Percentage of  
women's use of  
reproductive and  
maternal health  
services by type

services, including sufficient ANC (74.1 percent), delivery at a health facility (83.4 percent), delivery with SBA (88.2 percent), and received PNC (88.3 percent). While only 48.0 percent reported the use of modern contraceptive methods.

*Prevalence of women experiencing IPV*

Women reporting the experience of emotional, physical and sexual violence were significantly higher amongst the older age group (35–49 years), who had no education, were amongst the poor wealth index, did not participate in household decision making and agreed with acts of IPV. These associations are statistically significant at a high level ( $p \leq 0.001$  to  $p \leq 0.05$ ) (Table II).

*Results of multivariate analysis*

Table III explains the association of women’s experience of IPV, women’s participation in household decision making, women’s attitude toward IPV and selected socio-demographic characteristics with utilization of modern contraceptive methods and attending sufficient ANC.

The use of modern contraceptive methods can be statistically associated with women’s participation in household decision making and the women’s educational level. Women who participated in household decision making were 1.5 times more likely to use modern contraceptive methods (95%CI: 1.09–1.97). Interestingly, women who completed secondary and higher education were 30% less likely to use modern contraceptive methods (95%CI: 0.48–0.99). IPV and other socio-demographic factors were not associated with the use of modern contraceptive methods.

Variables	Type of violence					
	Emotional		Physical		Sexual	
	No (%)	Yes (%)	No (%)	Yes (%)	No (%)	Yes (%)
Age (years)	$\chi^2 = 22.78^{***}$		$\chi^2 = 25.19^{***}$		$\chi^2 = 6.38$	
15–19	78.3	21.7	89.1	10.9	95.7	4.3
20–24	82.8	17.2	90.0	10.0	96.9	3.1
25–29	85.4	14.6	90.6	9.4	97.2	2.8
30–34	78.3	21.7	84.3	15.7	95.1	4.9
35–49	71.5	28.5	78.8	21.2	93.8	6.2
Place of residence	$\chi^2 = 2.98$		$\chi^2 = 0.53$		$\chi^2 = 0.37$	
Urban	83.4	16.6	87.7	12.3	96.5	3.5
Rural	79.3	20.7	86.3	13.7	95.7	4.3
Education level	$\chi^2 = 37.01^{***}$		$\chi^2 = 34.29^{***}$		$\chi^2 = 7.70^*$	
No education	73.7	26.3	76.6	23.4	92.7	7.3
Primary school	76.1	23.9	85.2	14.8	95.8	4.2
Secondary and higher	88.3	11.7	92.2	7.8	97.2	2.8
Wealth Index	$\chi^2 = 28.56^{***}$		$\chi^2 = 17.74^{***}$		$\chi^2 = 7.93^*$	
Poor	74.3	25.7	82.8	17.2	94.3	5.7
Middle	81.9	18.1	86.5	13.5	96.5	3.5
Rich	86.1	13.9	90.8	9.2	97.4	2.6
Women’s participation in household decision making	$\chi^2 = 2.61$		$\chi^2 = 0.89$		$\chi^2 = 3.80$	
No	76.2	23.8	84.6	15.4	93.5	6.5
Yes	80.9	19.1	86.9	13.1	96.3	3.7
Women’s attitude toward IPV	$\chi^2 = 23.74^{***}$		$\chi^2 = 13.58^{***}$		$\chi^2 = 1.56$	
Agree	75.6	24.4	83.6	16.4	95.3	4.7
Disagree	85.5	14.5	90.0	10.0	96.6	3.4

**Table II.**  
Prevalence of women  
who experienced IPV  
and women who did  
not experience IPV

**Notes:** \* $p \leq 0.05$ ; \*\* $p \leq 0.01$ ; \*\*\* $p \leq 0.001$

Variables	Use modern contraceptive		ANC ( $\geq 4$ times)	
	OR	95% CI	OR	95% CI
<i>Women experienced emotional violence</i>				
No (ref.)				
Yes	1.2	0.89–1.67	0.7**	0.43–0.86
<i>Women experienced physical violence</i>				
No (ref.)				
Yes	0.9	0.59–1.25	1.1	0.69–1.56
<i>Women experienced sexual violence</i>				
No (ref.)				
Yes	0.9	0.55–1.62	0.9	0.49–1.57
<i>Women's participation in household decision making</i>				
No (ref.)				
Yes	1.5*	1.09–1.97	1.7**	1.19–2.29
<i>Women's attitude toward IPV</i>				
Agree (ref.)				
Disagree	1.1	0.85–1.28	1.0	0.81–1.33
<i>Age (years)</i>				
15–19 (ref.)				
20–24	1.3	0.71–2.47	1.9	0.95–3.69
25–29	1.2	0.66–2.27	2.1*	1.08–4.06
30–34	1.2	0.62–2.10	2.3*	1.17–4.46
35+	1.2	0.61–2.17	1.2	0.59–2.27
<i>Place of residence</i>				
Urban (ref.)				
Rural	1.0	0.78–1.36	0.9	0.64–1.32
<i>Educational level</i>				
No education (ref.)				
Primary school	0.8	0.59–1.12	1.9***	1.36–2.65
Secondary and higher	0.7*	0.48–0.99	3.0***	1.99–4.45
<i>Wealth Index</i>				
Poor (ref.)				
Middle	0.9	0.66–1.19	1.4*	1.00–1.98
Rich	0.9	0.71–1.24	2.0***	1.41–2.78

**Table III.**  
Multivariate analysis  
of factors influencing  
the use of modern  
contraceptive methods  
and attending  
sufficient ANC among  
married women

**Notes:** ref, reference. \* $p \leq 0.05$ ; \*\* $p \leq 0.01$ ; \*\*\* $p \leq 0.001$

Receiving sufficient ANC ( $\geq 4$  times) was statistically associated with women who experienced emotional violence, women who participated in household decision making, the age of the women, their educational level and wealth index. Women who experienced emotional violence were 30 percent less likely to attend sufficient ANC (95%CI: 0.43–0.86). Women who participated in decision making were almost 1.7 times more likely to have sufficient ANC ( $\geq 4$  times) (95%CI: 1.19–2.29). Women aged 25–29 were 2.1 times more likely (95%CI: 1.08–4.06) and women aged 30–34 were 2.3 times (95%CI: 1.17–4.46) more likely to receive sufficient ANC. Women who completed primary school were 1.9 times more likely to attend sufficient ANC (95%CI: 1.36–2.65), and women who completed secondary and higher education were 3 times more likely to receive sufficient ANC (95%CI: 1.99–4.45). Regarding the wealth index, women in the middle wealth index were 1.4 times more likely to visit an ANC facility (95%CI: 1.06–1.98) while women amongst the higher wealth index were two times more likely to have sufficient ANC (95%CI: 1.41–2.78).

Table IV presents the results of the binary logistic regression analysis. The analysis looked at the association of women’s experience IPV, women’s participation in household decision making, women’s attitude toward IPV and selected socio-demographic characteristic with attend institutional delivery, skilled birth attendance and attended PNC. Babies delivered at a health facility were statistically associated with some socio-demographic factors such as place of residence, educational level, and wealth index. Women who lived in rural areas were 60 percent less likely to deliver at a health facility (95%CI: 0.20–0.66). Women who attended only primary school were 1.7 times more likely to have an institutional delivery (95%CI: 1.19–2.44), while women who attended secondary or higher education were 2.8 times more likely to deliver at a health facility (95%CI: 1.75–4.57). Regarding the wealth index, women in the middle wealth index were 2.4 times more likely to deliver at a health facility (95%CI: 1.59–3.71) and women in the richer wealth index were

Variables	Institutional delivery		Deliver with SBA		Received PNC	
	OR	95% CI	OR	95% CI	OR	95% CI
<i>Women experienced emotional violence</i>						
No (ref.)						
Yes	1.0	0.68–1.58	1.2	0.74–1.99	1.1	0.70–1.86
<i>Women experienced physical violence</i>						
No (ref.)						
Yes	0.7	0.42–1.10	0.5**	0.27–0.79	0.8	0.47–1.40
<i>Women experienced sexual violence</i>						
No (ref.)						
Yes	1.2	0.60–2.38	1.1	0.53–2.37	1.1	0.48–2.37
<i>Women’s participation in household decision making</i>						
No (ref.)						
Yes	1.1	0.74–1.68	1.0	0.63–1.67	0.9	0.61–1.58
<i>Women’s attitude toward IPV</i>						
Agree (ref.)						
Disagree	1.0	0.76–1.36	1.2	0.81–1.63	1.2	0.88–1.73
<i>Age (years)</i>						
15–19 (ref.)						
20–24	1.1	0.44–2.69	1.7	0.64–4.37	0.9	0.36–2.40
25–29	0.9	0.38–2.25	1.4	0.56–3.54	1.1	0.43–2.82
30–34	0.9	0.38–2.28	1.7	0.69–4.48	1.5	0.58–3.94
35+	0.5	0.22–1.32	0.9	0.35–2.21	0.9	0.35–2.34
<i>Place of residence</i>						
Urban (ref.)						
Rural	0.4***	0.20–0.66	0.5	0.26–1.11	0.6	0.30–1.01
<i>Educational level</i>						
No education (ref.)						
Primary school	1.7**	1.19–2.44	2.1***	1.45–3.14	1.8**	1.23–2.71
Secondary and higher	2.8***	1.75–4.57	5.1***	2.74–9.38	4.1***	2.33–7.12
<i>Wealth Index</i>						
Poor (ref.)						
Middle	2.4***	1.59–3.71	2.8***	1.69–4.78	1.5	0.94–2.33
Rich	3.6***	2.31–5.68	7.5***	3.77–14.91	2.5***	1.49–4.06

**Table IV.**  
Multivariate analysis  
of women who  
attended institutional  
delivery, skilled birth  
attendance and  
attended PNC among  
married women

**Notes:** ref., Reference. \* $p \leq 0.05$ ; \*\* $p \leq 0.01$ ; \*\*\* $p \leq 0.001$

3.6 times more likely to have an institutional delivery (95%CI: 2.31–6.00). No IPV factors and women's participation in household decision making was found to have a significant association with institutional delivery.

Women who delivered with the help of SBA were found to have significant associations with women who experienced physical violence, their educational level, and the wealth index. Results showed that women who experienced physical violence were 50 percent less likely to deliver with SBA (95%CI: 0.27–0.79). Women who completed primary education were 2.1 times more likely to deliver with SBA (95%CI: 1.45–3.14) and women who completed secondary and higher education were 5.1 times more likely to delivery with SBA (95%CI: 2.74–9.38). At the same time, women in the middle wealth index were 2.8 times more likely to attend SBA (95%CI: 1.69–4.78) and women in the rich wealth index were 7.5 times more likely to deliver with SBA (95%CI: 3.77–14.91). No women's participation in household decision-making factors was found to have significant association with deliveries using the help of SBA.

Women who received PNC were found to have a significant association with women's educational levels and wealth index. Results implied that women who attended primary school were 1.8 times more likely to have PNC (95%CI: 1.23–2.71) while women who attended secondary and higher education were 4.1 times more likely to have received PNC (95%CI: 2.33–7.12). Women in the rich wealth index were 2.5 times more likely to have attended PNC (95%CI: 1.49–4.06). No IPV factors and women's participation in household decision making were found to have significant association with receiving PNC (Table IV).

## Discussion

This study is based on CDHS 2014 which examined the impact of IPV on the utilization of reproductive and maternal services in Cambodia. A significant finding from this study indicated that IPV has a strong impact on the utilization of reproductive and maternal health services. Results show that women who experienced emotional violence were less likely to receive sufficient ANC. Simultaneously, women who experienced physical violence were less likely to deliver using SBA professionals. This result is in line with findings from other countries such as Ethiopia and Kenya[17,18]. Two separate studies have stressed that women who experienced IPV before pregnancy and before delivery were more likely to have low birth weight infants and experience of stillbirth[19,20]. Therefore, IPV does not only impact on women's health but raises a barrier for them to access the required maternal health services and impacts upon the health of their newborn babies as well.

Further important results from this study highlight women's participation in household decision making and the utilization of reproductive and maternal health services. Women who are authorized to make decisions alone or make joint decisions with their husbands were more likely to use modern contraceptive methods and receive sufficient ANC for their maternal health. These findings show that when women can make their own decisions or are involved in decision making on maternity issues, they are also able to make decisions related to their own fertility as well[21]. Women who have decision making power have the autonomy to seek out maternal health services and gain access to sufficient maternal health care for their own pregnancy and health[22].

Besides those major explanatory variables, some socio-demographic factors such as place of residence, women's educational levels, age of the women and place on the wealth index also showed significant association with the utilization of maternal health services.

Results from this study confirmed that rural women were less likely to deliver at a health facility compared to urban women. Health seeking behaviors would be the best explanation



to support this finding. Most Rural communities prefer to seek health services from indigenous practitioners as their priority and usually would not go to health facilities unless they experienced a failure of treatment from indigenous practitioners[23]. This decision indicates that local people have low regard and distrust of the public health facilities, whilst some were not even aware of the services available to them. In terms of supply, unequal distribution of health services and infrastructure between urban and rural areas, and a limited health workforce might also be a cause that contributes to the choice of delivering in a health facility[24].

This study also confirmed that educated women were more likely to utilize all the required maternal health services such as receiving sufficient ANC, delivery at a health facility, delivery with SBA professionals and receiving PNC after delivery. Education has long been regarded as one of the most powerful tools for enhancing women's health[25]. Regarding this factor, one study highlighted the very strong influencing power of a woman's educational level. The author of this study also revealed that women able to deliver the child at a Health facility still showed a higher maternal mortality level if they were women with a lower educational level[26]. Another study from Peru also stressed the same issue that women's education has a great impact on maternal mortality [27]. Therefore, it can be shown that education plays an essential role in enhancing women's health.

Even though many studies have acknowledged education and the use of modern contraceptive methods, an interesting finding arising from this study showed that women with a higher educational level were less likely to use a modern contraceptive method. This result seems to go against many major findings, but it is explainable. One qualitative study from Sri Lanka also found the same result that a lower level of modern contraceptive use was prevalent among women with a higher education qualification. The same study states that educated women who do not wish to have a baby tend to choose traditional methods over modern methods because they have a better understanding of how to record their ovulatory cycle and have very good cooperation from their husbands for the effective use of traditional methods[28]. The implication of this study does not discredit education, as education on options does not always mean using contraceptive methods, but it does influence women's knowledge about their own fertility. When women can understand and manage their ovulatory cycle, the choice of using contraceptive methods (either modern or traditional) does not matter so much. However, education still has a significant involvement in women's reproductive health.

The age of women was only found to have a significant association with ANC in this study. Women aged between 25 to 34 years old were more likely to receive sufficient ANC compared to the younger or older age group. As it also happens in some other countries, research from Uganda and Nepal also found the same results which are in line with our study[29, 30]. Regarding this finding, there are a lot of controversial discussions about the age of women and when they seek maternal health support. A study in Ethiopia indicated that women at a younger age (15–19 years old) are more likely to receive sufficient ANC compared to an older age group[31]. Therefore, an association between the age of women and sufficient ANC is not consistent.

As expected, wealthier women are more likely to utilize sufficient maternal health services including sufficient ANC, institutional delivery, and delivery with SAB help and adequate PNC. Among other socio-demographic factors, the wealth index stands as a leading factor that is significantly associated with maternal health services. This study was found to have similar results with similar research globally[32–34].

Another interesting finding from this study was that more than half the women who agreed with acts of IPV were more likely to have experienced IPV. The social and cultural contexts of Cambodia is one of hegemonic masculinities where society accepts violence

against women and IPV as a cultural norm[35]. This result highlights the impact of cultural norms on IPV and marks a significant and much-needed spotlight showing the level of gender inequality in Cambodia.

## Conclusion

Gender inequality still exists among the Cambodian population and is considered a root cause of IPV. Women still experience IPV and women's participation in household decision making had a significant contribution to the utilization of reproductive and maternal health services. Therefore, the government should help promote and strictly implement existing policies that support gender equality. This will help citizens have a better understanding of gender issues and help to prevent IPV in the community. Moreover, continuing to promote women's education enables them to join the labor force with equal decent living wages so they have access to economic benefits that especially empower their household decision making.

## References

1. Ministry of Women's Affairs. Guidelines for legal protection of women's and children's rights in Cambodia. Phnom Penh: Ministry of Women's Affairs; 2014.
2. United Nations Women Asia and the Pacific. How far has Cambodia come on gender equality? November; 2013 [cited 2019 Feb 22]. Available from: <http://asiapacific.unwomen.org/en/news-and-events/stories/2013/11/how-far-has-cambodia-come-on-gender-equality>
3. United Nation Development Program. Human development report: gender inequality index (GII); 2017 [cited 2019 Jan 23]. Available from: <http://hdr.undp.org/en/composite/GII>
4. Ministry of Women's Affairs. Cambodia datasheet on intimate partner violence 2016 [cited 2019 Feb 25]. Available from: [https://cambodia.unfpa.org/sites/default/files/pub-pdf/Leflet\\_IPV\\_English.pdf](https://cambodia.unfpa.org/sites/default/files/pub-pdf/Leflet_IPV_English.pdf)
5. World Health Organization [WHO]. Violence against women. November; 2017 [cited 2019 Feb 25]. Available from: [www.who.int/news-room/fact-sheets/detail/violence-against-women](http://www.who.int/news-room/fact-sheets/detail/violence-against-women)
6. World Health Organization [WHO]. National survey on women's health and life experience in Cambodia; 2015 [cited 2019 Feb 25]. Available from: [www.wpro.who.int/mediacentre/releases/2015/vaw\\_full-en.pdf](http://www.wpro.who.int/mediacentre/releases/2015/vaw_full-en.pdf)
7. Wang W, Hong R. The continuum of care for maternal and newborn health in Cambodia: where are the gaps and why? A population-based study. *The Lancet*. 2013 Jun 17; 381: S145.
8. World Bank. Maternal mortality ratio (modeled estimate, per 100,000 live births). 2019 [cited 2019 Feb 23]. Available from: <https://data.worldbank.org/indicator/SH.STA.MMRT>
9. New Zealand Family Planning. Sexual and reproductive health and autonomy: the impact of intimate partner violence. November; 2017 [cited 2019 Feb 25]. Available from: [www.familyplanning.org.nz/news/2017/sexual-and-reproductive-health-and-autonomy-the-impact-of-intimate-partner-violence](http://www.familyplanning.org.nz/news/2017/sexual-and-reproductive-health-and-autonomy-the-impact-of-intimate-partner-violence)
10. Tiwari A, Chan KL, Fong D, Leung WC, Brownridge DA, Lam H, *et al*. The impact of psychological abuse by an intimate partner on the mental health of pregnant women. *BJOG*. 2008 Feb; 115(3): 377-84.
11. Lukasse M, Henriksen L, Vangen S, Schei B. Sexual violence and pregnancy-related physical symptoms. *BMC Pregnancy Childbirth*. 2012 Aug 11; 12(1): 83.
12. Abdollahi F, Abhari FR, Delavar MA, Charati JY. Physical violence against pregnant women by an intimate partner, and adverse pregnancy outcomes in Mazandaran Province, Iran. *J Family Community Med*. 2015 Jan-Apr; 22(1): 13-18.
13. Quelopana AM, Alcalde C. Exploring knowledge, belief and experiences in sexual and reproductive health in immigrant Hispanic women. *J Immigr Minor Health*. 2014 Oct; 16(5): 1001-1006.

14. Raj A, Liu R, McCleary-Sills J, Silverman JG. South Asian victims of intimate partner violence more likely than non-victims to report sexual health concerns. *J Immigr Health*. 2005 Apr; 7(2): 85-91.
15. Rahman M, Nakamura K, Seino K, Kizuki M. Intimate partner violence and use of reproductive health services among married women: evidence from a national Bangladeshi sample. *BMC Public Health*. 2012 Oct 29; 12(1): 913-25.
16. National Institute of Statistics, Directorate General for Health, ICF International. Cambodia Demographic And Health Survey 2014. Phnom Penh: National Institute of Statistics; 2015.
17. Mohammed BH, Johnston JM, Harwell JL, Yi H, Tsang KW, Haidar JA. Intimate partner violence and utilization of maternal health care services in Addis Ababa, Ethiopia. *BMC Health Serv Res*. 2017 Mar 7; 17(1): 178-88.
18. Goo L, Harlow SD. Intimate partner violence affects skilled attendance at most recent delivery among women in Kenya. *Matern Child Health J*. 2012 Jul 1; 16(5): 1131-7.
19. Mogos MF, Araya WN, Masho SW, Salemi JL, Shieh C, Salihu HM. The fetomaternal health cost of intimate partner violence among delivery-related discharges in the United States, 2002-2009. *J Interpers Violence*. 2016 Feb; 31(3): 444-64.
20. Silverman JG, Decker MR, Reed E, Raj A. Intimate partner violence victimization prior to and during pregnancy among women residing in 26 US states: associations with maternal and neonatal health. *Am J Obstet Gynecol*. 2006 Jul; 195(1): 140-8. Epub 2006 Apr 21.
21. OlaOlorun FM, Hindin MJ. Having a say matters: influence of decision-making power on contraceptive use among Nigerian women ages 35-49 years. *PLoS One*. 2014 Jun 4; 9(6). doi: 10.1371/journal.pone.0098702.eCollection2014.
22. Ghose B, Feng D, Tang S, Yaya S, He Z, Udenigwe O, *et al*. Women's decision-making autonomy and utilisation of maternal healthcare services: results from the Bangladesh demographic and health survey. *BMJ Open*. 2017 Sep 7; 7(9): e017142.
23. Ros B, Fustukian S, McPake B. Health care seeking behaviour and impact of health financing policy on household financial protection in post conflict Cambodia: a life history approach. Liverpool: Liverpool School of Tropical Medicine, Pembroke Place; 2015.
24. Bigdeli M, Annear PL. Barriers to access and the purchasing function of health equity funds: lessons from Cambodia. *Bull World Health Organ*. 2009 Jul; 87(7): 560-4.
25. United Nations Chronical. Improving maternal health through education: safe motherhood is a necessary. Vol. XLIV No. 4. December 2007 [cited 2019 Mar 4]. Available from: <https://unchronicle.un.org/article/improving-maternal-health-through-education-safe-motherhood-necessity>
26. Karlsen S, Say L, Souza JP, Hogue CJ, Calles DL, Gülmezoglu AM, *et al*. The relationship between maternal education and mortality among women giving birth in health care institutions: analysis of the cross sectional WHO Global Survey on Maternal and Perinatal Health. *BMC Public Health*. 2011 Jul 29; 11(1): 606.
27. Weitzman A. The effects of women's education on maternal health: evidence from Peru. *Soc Sci Med*. 2017 May; 180: 1-9.
28. Perera N. Preference for traditional contraceptive use and women's education: the case of Sri Lanka. *Sri Lanka J Popul Stud*. 2014; 14: 115-29.
29. Pandey S, Karki S. Socio-economic and demographic determinants of antenatal care services utilization in central Nepal. *Int J MCH AIDS*. 2014; 2(2): 212-19.
30. Kalule-Sabiti I, Amoateng AY, Ngake M. The effect of socio-demographic factors on the utilization of maternal health care services in Uganda. *African Population Studies*. 2014; 28(1): 515.
31. Bayu H, Adefris M, Amano A, Abuhay M. Pregnant women's preference and factors associated with institutional delivery service utilization in Debra Markos Town, North West Ethiopia: a community based follow up study. *BMC Pregnancy Childbirth*. 2015 Feb 5; 15: 15.
32. Arthur E. Wealth and antenatal care use: implications for maternal health care utilisation in Ghana. *Health Econ Rev*. 2012 Aug 6; 2(1): 14.

33. Yaya S, Bishwajit G, Shah V. Wealth, education and urban–rural inequality and maternal healthcare service usage in Malawi. *BMJ Glob Health*. 2016 Aug 16; 1(2): e000085
34. Obiyan MO, Kumar A. Socioeconomic inequalities in the use of maternal health care services in Nigeria: trends between 1990 and 2008. *SAGE Open*. 2015 Oct; 5(4): 1-11.
35. Hill PS, Ly HT. Women are silver, women are diamonds: conflicting images of women in the Cambodian print media. *Reprod Health Matters*. 2004 Nov; 12(24): 104-15.

**Corresponding author**

Vanthy Mai can be contacted at: [maivanthy@yahoo.com](mailto:maivanthy@yahoo.com)