

NEGOTIATION FOR SAFER SEX AMONG MARRIED WOMEN IN CAMBODIA: THE ROLE OF WOMEN'S AUTONOMY

MENGIENG UNG*¹, GODFRED O. BOATENG†, FREDERICK A. ARMAH*,
JONATHAN A. AMOYAW†, ISAAC LUGINAAH* AND VINCENT KUIRE*

**Department of Geography, University of Western Ontario, London, Ontario, Canada and*

†Department of Sociology, University of Western Ontario, London, Ontario, Canada

Summary. Negotiating safer sex among married women has been identified as an important determinant of vulnerability or resilience to new HIV infections. Using the Cambodia Demographic and Health Survey data of 2010, this paper examined negotiation for safer sex among 11,218 married women in the context of Cambodia's highly touted reduction in HIV/AIDS prevalence. The results from a complementary log-log regression model indicate that wealthier and highly educated married women were more likely to report that they can refuse sexual intercourse and ask their husbands to use a condom. Interestingly, while women who were fully involved in decision-making on their own health care were 19% more likely to refuse sex, they were 14% less likely to be able to ask their husbands to use a condom, compared with their counterparts who were not involved in this decision-making. Women who were partially involved in decision-making on family visits were 17% less likely to be able to ask their husbands to use a condom compared with those who were not involved. In this context, involvement in decision-making may have translated into trust and risk compensation. Those who believed in HIV transmission myths were less likely to negotiate safer sex relative to their counterparts who did not hold such myths to be true. Women's ability to negotiate for safer sex is, therefore, a function of their autonomy in terms of their full participation in decision-making in health care, household expenditure and mobility. Policy implications of the capacity of women to negotiate for safer sex are delineated.

Introduction

Cambodia is an agricultural country located in South-east Asia. It borders with Thailand to the west, Laos and Thailand to the north, the Gulf of Thailand to the south-west and Vietnam to the south-east. It has a total land area of 181,035 square kilometres (National Institute of Statistics, 2011). Although HIV/AIDS in Cambodia is considered

¹Corresponding author. Email: mung2@uwo.ca

to be on the decline, prevalence is still relatively high compared with other countries in Asia (Sopheab *et al.*, 2009). Bearing this in mind, two pertinent issues call for attention. The first issue relates to how the prevalence data, which seem to suggest that prevalence is declining, are generated. Based on trend data obtained from the national HIV surveillance system, the estimated prevalence in the general adult population aged 15–49 years appeared to have probably peaked in 1997–1998 at about 3% (Sopheab *et al.*, 2006), and diminished to 1.9% in 2003 (Sopheab *et al.*, 2009). Nonetheless, the validity of surveillance-based prevalence and trends over time may be controversial due to potential underestimation (Michelo *et al.*, 2008). This means there is a need to continue to investigate the factors that will improve understanding of the potential determinants of HIV spread in Cambodia. One area that requires greater attention in Cambodia relates to the function that may enable or disable a woman's ability to negotiate safer sex. Yet a limited number of studies in the burgeoning literature on negotiation for safer sex have relied on population-based data. The second issue relates to the fact that, although there is a decline in HIV/AIDS prevalence among the general Cambodian population, the epidemic is disproportionately high among specific social groups (Gray *et al.*, 2009). In the case of women in Cambodia, this potentially emanates from a consistent inability on their part to negotiate for safer sex. This is particularly so because Cambodia has reported several forced marriages, and associated mental health feedbacks (Mollica *et al.*, 1993; Marshall *et al.*, 2005).

Theoretical context

Broadly, in the literature, psychological, social and cultural factors impinge on women's ability to negotiate for safer sex (Sanders-Philips, 2002). Some scholars identify psychological factors that undermine women's capacity to negotiate for safer sex (McNair & Prather, 2004); in particular, experiences in women such as depression (Ickovics *et al.*, 2000), trauma history (Wyatt *et al.*, 2002) and post-traumatic stress disorder (Myers & Durvasula, 1999) have been emphasized. Interestingly, these psychological factors have been linked to the wealth status of women, as very poor women have been found to be excessively impacted. Social issues, such as gender relationships, power dynamics, socioeconomic factors, sex roles and experiences related to ethnicity, have also been identified (Amaro & Raj, 2000). Furthermore, negotiating safer sex is fundamentally regarded as a gender issue, and most definitely a critical element in the quest to reduce HIV/AIDS prevalence (Kippax *et al.*, 1997). Gender and power are fundamental to the analysis of women's HIV/AIDS risks (see Dixon-Mueller, 1993; Amaro, 1995; Wingood & DiClemente, 2000; Gupta, 2001). Some researchers have argued that women usually have less power than their male sexual partners, which limits their ability to protect themselves from HIV risk (see Pulerwitz *et al.*, 2000; Exner *et al.*, 2003; Pulerwitz & Dworkin, 2006). Socio-cultural factors also play an important role in determining women's ability to negotiate for safer sex. For instance, Logan *et al.* (2002) identify cultural beliefs, values and other practices among factors that are related to women's inability to negotiate sex, thereby reinforcing their risk and vulnerability to HIV. Hence, in the Cambodian context, myths and awareness of HIV/AIDS may be important. On a conciliatory side, cultural values and norms influence, and sometimes define, the behaviour of women in interpersonal relationships in which sexual behaviours

take place (Amaro, 1995). This is also true for Cambodian society, where culture and gender characterize women's negotiation for safer sex, especially in situations where women are coerced into early marriage. Although it has been argued that marriages of this nature may constitute a buffer against HIV risks (Bracher *et al.*, 2003; Clark *et al.*, 2006), emerging evidence suggests that it may actually exacerbate HIV risks since younger women are, invariably, less experienced and consequently less likely to be involved in decision-making (including negotiating for safer sex) compared with their older counterparts (Dunkle *et al.*, 2008; Tenkorang, 2012).

Further, conventional HIV prevention strategies, which encourage women to use condoms, do not recognize the barriers that women encounter in negotiating for safer sex with their male partners (Kippax *et al.*, 1997). Kippax *et al.* (1990) draw attention to the fact that women differ in their ability to adopt safer sexual behaviour since this is based on their level of empowerment in decision-making.

To address many of the issues highlighted above, recent strategies developed to curb the HIV pandemic have underscored the value of communication and development of safer sex negotiation skills to reduce women's risk (see Logan *et al.*, 2002). A growing body of literature elucidates the types of condom negotiation strategies used, as well as which strategies are more or less successful. In a study by Williams *et al.* (2001), women proposed different condom negotiation strategies depending on whether the goal was to (a) initially negotiate condom use, (b) manage negative partner reactions, or (c) maintain safer sex over time. The importance of place in a woman's ability to negotiate safer sex has also been noted. For instance, Williams *et al.* (2001) observed differences in rural and urban women's ability to negotiate for sex.

In many societies, as it is in Cambodia, the empowerment of women is expressed through their involvement in decision-making processes at the household level (Kirshor 2000; Kritz *et al.*, 2000). For instance, married women's contribution at the household level to decision-making on their own health care, mobility in terms of visits to family and friends, and household expenditure have been used as surrogate measures of empowerment. These empowerment indicators border on women's autonomy, and potentially reflect whether married women are also capable of negotiating with their partners for safer sex or otherwise. Essentially missing from the burgeoning literature on negotiation for safer sex by married women is how these empowerment indicators *per se* influence their negotiation for safer sex.

This study, therefore, contributes to the extant literature by exploring this gap within the Cambodian context. Specifically, this paper examines how the empowerment of married women, in terms of their involvement in decision-making on health care, mobility and expenditure at the household level, affects their ability to negotiate for safer sex. Some policy implications of the findings and measurement issues pertaining to women's autonomy in Cambodia will be discussed.

Methods

Participants

Participants for this study were drawn from the 2010 Cambodia Demographic and Health Survey (CDHS), a nationally representative sample survey of 18,754 women

and 8239 men aged 15–49. The 2010 CDHS is the third comprehensive survey conducted in Cambodia as part of the worldwide MEASURE DHS project. The CDHS also provides high-quality and reliable quantitative data on basic demographic indices, residential history and awareness of HIV/AIDS, including those related to sexual activity of women in Cambodia. The 2010 CDHS employed a two-stage, stratified sample frame, where systematic sampling with probability proportional to size was applied. Stratification was achieved by separating every reporting domain into urban and rural areas. Thus, the nineteen domains were stratified into a total of 38 sampling strata. Samples were selected independently in each stratum through a two-stage selection process. Implicit stratifications were achieved at each of the lower geographical or administrative levels by sorting the sampling frame according to geographical/administrative order and by using a probability proportional to size selection strategy at the first stage of selection. A total of 16,344 households were selected, of which 15,829 were found to be occupied during data collection. Among these households, 15,667 completed the Household Questionnaire, yielding a response rate of 99%. Only married women whose last sex partner was their husband were selected for this study, resulting in an analytical sample of 11,218. Out of this sample, 57 cases were not used in Model 2 and 3 in the multivariate analyses because of missing values. Married women were focused on because emerging evidence from developing countries indicates that married women face increased risks of contracting HIV compared with their never-married counterparts (Tenkorang, 2012). The argument is that, given the higher expectations for childbearing in marriages in developing countries, negotiating for safer sex, especially asking their husbands to use condoms, is difficult. Moreover, condom use within marriage is usually associated with infidelity and lack of trust.

Measures

Two main outcome variables that reflect women's decision-making on condom use and their ability to negotiate for safer sex were employed and analysed. The first variable asked married women whether they can ask their husbands to use condoms during sexual intercourse, coded as no = 0 and yes = 1; and the second, which asked whether they can refuse sex with their husbands, was also coded as no = 0 and yes = 1. Missing data were less than 0.05% (Stata automatically excluded these from the analyses). In theory, it is possible that there is a bidirectional (two-way) relationship between negotiating safer sex and autonomy. Therefore, in this study, this two-way relationship was accounted for by making either one of them the dependent variable. From the analysis, however, it emerged that, although autonomy predicts increased negotiation for safer sex, the reverse was not the case.

Predictor variables included in the analysis were organized into three main categories: socioeconomic status, women's autonomy (involvement in decision-making at the household level) and HIV/AIDS awareness and myths measures among married women in Cambodia. The first category (demographic and socio-cultural variables) included the age of the participants measured in 5-year groups, and the type of place of residence (urban = 0 and rural = 1). The socioeconomic status of participants was captured with their educational background (no education = 0, primary education = 1, secondary = 2

and higher education = 3) and also with wealth status, a composite index based on the household's ownership of a number of consumer items, including television and a car, flooring material, drinking water, toilet facilities, etc. (National Institute of Statistics, 2011). The second category (women's autonomy) was based on women's involvement in household-level decision-making (on health care, large household purchases and family visits). Responses to the three types of decision-making were classified into: 'other than respondent', 'solely respondent' and 'respondent and husband'. The third category included HIV transmission awareness and HIV transmission myths. HIV transmission awareness was computed from three variables: reducing chance of infecting HIV by using a condom at every sexual encounter, having just one uninfected sex partner and healthy looking person can be HIV positive. In particular, attribution of HIV/AIDS transmission to witchcraft, mosquito bites and sharing of food was aggregated into a composite indicator called 'transmission myths'. Transmission myths were treated as an underlying unobserved dimension that was estimated using latent variable technique (factor analysis). This was then transformed into a single item.

In addition, participants were asked if they had ever been tested for HIV (no = 0 and yes = 1) and had access to condoms (no = 0, yes = 1 and refused to answer = 3). The 'refused to answer' category for this variable was created due to the lack of a response on this question from about 3000 participants. The fertility preferences of women and their husbands were taken into account. Regarding the former, women who wanted no more children, wanted more children or were undecided were coded 0, 1 and 2, respectively. Whether the couple wanted no more children, both the husband and wife wanted more children, the husband wanted more children, or the husband wanted fewer children were also assessed. The four groups were respectively coded 0, 1, 2 and 3.

Data analysis

Both outcome variables on decision-making regarding sex (refusal of sex and use of condom) are dichotomous. Under the assumption of binary response, there are three potential alternatives: the logit model, probit model and complementary log-log model. Both logit and probit links have the same property, which is $\text{link}[\pi(x)] = -\text{link}[1 - \pi(x)]$. This means that the response curve for $\pi(x)$ has a symmetric appearance about the point $\pi(x) = 0.5$ and so $\pi(x)$ has the same rate for approaching 0 as well as for approaching 1. When the data given are not symmetric in the $[0, 1]$ interval, and increase slowly at small to moderate value but increases sharply near 1, as in the case of the two outcome variables in this study, a complementary log-log link function is appropriate. In this study, ability to refuse sex with husband ('yes': 90.06%, 'no': 9.94%) and ability to ask husband to use condom ('yes': 87.3%, 'no': 12.7%) exhibit asymmetry. Therefore, logit and probit models that rely on (50%, 50%) curves are considered inappropriate. The complementary log-log model gives a better representation (Gyimah *et al.*, 2010; Tenkorang 2012), and was, therefore, used for the analysis. Table 1 shows descriptive and bivariate analysis of the outcome and explanatory variables used in this study.

Table 1. Descriptive and bivariate analysis of ability to refuse husband sex and ask husband to use condoms among married women aged 15–49 in Cambodia, 2010 (N = 11,218)

Predictor variable	%	Refuse sex		Condom use	
		OR	SE	OR	SE
5-year age group					
15–19	3.45	1.00		1.00	
20–24	14.36	1.44***	0.10	1.16*	0.08
25–29	21.72	1.36***	0.09	1.11	0.07
30–34	16.11	1.44***	0.10	1.14	0.08
35–39	15.04	1.35***	0.09	1.03	0.07
40–44	15.97	1.23***	0.08	1.02	0.07
45–49	13.36	1.33***	0.09	1.05	0.07
Type of resident					
Urban	29.00	1.00		1.00	
Rural	71.00	0.78***	0.02	0.75***	0.02
Education					
No education	20.88	1.00		1.00	
Primary	52.45	1.28***	0.03	1.38***	0.04
Secondary	24.89	1.51***	0.05	1.74***	0.06
Higher	1.78	1.91***	0.22	2.19***	0.24
Wealth index					
Poorest	19.07	1.00		1.00	
Poorer	18.30	1.20***	0.04	1.33***	0.05
Middle	17.61	1.26***	0.05	1.40***	0.05
Richer	19.29	1.43***	0.05	1.64***	0.06
Richest	25.73	1.69***	0.06	1.80***	0.06
Decision-making on health care					
Other than respondent	9.26	1.00		1.00	
Solely respondent	40.63	1.23***	0.05	1.03	0.04
Respondent and husband	50.11	1.29***	0.05	1.03	0.04
Decision-making on large household purchases					
Other than respondent	4.90	1.00		1.00	
Solely respondent	14.50	0.84**	0.05	0.93	0.05
Respondent and husband	80.61	1.03	0.05	0.90	0.05
Decision-making on family visiting					
Other than respondent	5.08	1.00		1.00	
Solely respondent	21.39	0.94	0.05	0.91	0.05
Respondent and husband	73.53	1.02	0.05	0.87**	0.04
HIV transmission awareness					
No	37.93	1.00		1.00	
Yes	62.96	1.14***	0.01	1.16***	0.01
HIV transmission myths					
No	87.95	1.00		1.00	
Yes	12.05	0.86***	0.01	0.82***	0.01
Ever had HIV test					
No	65.65	1.00		1.00	
Yes	34.35	1.31***	0.03	1.38***	0.03
Access to condoms					
No	3.30	1.00		1.00	
Yes	70.62	1.00	0.07	1.28***	0.08
Refused to answer	26.08	0.72***	0.05	0.73***	0.05
Woman's fertility preferences					
Did not want more children	58.89	1.00		1.00	
Wanted more	38.00	1.02	0.02	1.09***	0.03
Undecided	3.11	0.94	0.06	0.76***	0.05
Husband's fertility preferences					
Did not want more children	13.42	1.00		1.00	
Both husband and wife wanted more children	69.21	1.26***	0.05	1.43***	0.05
Husband wanted more children	12.91	1.02	0.04	1.18***	0.05
Husband wanted fewer children	4.46	1.05	0.69	1.24***	0.08

Cross-tabulation of outcome and predictor variables showed statistically significant differences at an α -level of 0.001, except for decision-making on family visit and access to condoms. In this study, ability to refuse sex with husband (90.06%, 9.94%) and ability to ask husband to use condoms (87.3%, 12.7%) exhibit asymmetry. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Results

In Table 1, the descriptive statistics for the outcome variables indicate that the majority of married women were able to refuse sexual intercourse with their husbands (90%) and were able to ask their husbands to use condoms (87%). The responses of married women reflect asymmetries in the two outcome variables. Women were distributed evenly across age groups (13–16%), except the 25–29 age group (22%) and the 15–19 age group (3%). Approximately 71% of respondents resided in rural areas. The classification of place of residence into rural and urban in this study needs to be understood in the following context: the National Institute of Statistics (2004) developed a new urban classification using commune-level data rather than district-level data, as was used in previous classifications. Communes were classified as urban if: (a) population density exceeded 200 inhabitants per square kilometre; (b) if the total population of the commune exceeded 2000 inhabitants; and (c) if less than 50% of employed males were employed in agriculture. Close to 53% of married women had attained primary education whereas only about 2% had completed higher education. About one-quarter of married women were in the richest wealth quintile. Joint decision-making of married women with their husband on health care, large household purchases and family visits were 50%, 81% and 74%, respectively. Close to 35% of married women had previously ascertained their HIV status. Approximately 63% of the respondents were aware of modes of HIV transmission whereas 12% believed in HIV transmission myths. Close to 71% of married women reported easy access to condoms, and 26% of the participants refused to answer the question on access to condoms.

Table 1 provides bivariate relationships of outcome variables ('refuse husband sexual intercourse' and 'ask husband to use condoms during sexual intercourse') with socio-demographic, autonomy and HIV attitude and awareness variables. Compared with those in the 15–19 age group, married women in all other age groups were more likely to report being able to refuse sexual intercourse with their husbands. However, only married women aged 20–24 were more likely to be able to ask their partners to use condoms (OR = 1.16, $p < 0.05$). Married women residing in rural areas were less likely to be able to refuse sex (OR = 0.78, $p < 0.001$) and less likely to be able to ask their partners to use condoms (OR = 0.75, $p < 0.001$). Compared with women with no education, those who had attained primary, secondary and higher education were more likely to be able to refuse sex and were more likely to be able to ask their partners to use condoms. Wealthier women were more likely to be able to refuse sex and were more likely to be able to ask their partners to use condoms. Married women who made decisions on health care alone and those who made joint decisions on health care with their husbands were more likely (OR = 1.23, $p < 0.001$ and OR = 1.29, $p < 0.001$) to be able to refuse sex with their husbands. Those who made decisions on large household purchases alone were 16% less likely to be able to refuse sex with their partners (OR = 0.84, $p < 0.05$). Those who made joint decisions on family visits with their husbands were less likely (OR = 0.87, $p < 0.01$) to be able to ask their partners to use condoms. Those who were aware of HIV transmission modes were 14% and 16% more likely to refuse sex and ask their partners to use condoms, respectively. Married women who believed in myths about HIV transmission were 14% and 18% less likely to refuse sex and ask their partners to use condoms, respectively. Married women who

reported that they had previously ascertained their HIV status were more likely to be able to refuse sex (OR = 1.31, $p < 0.001$) and more likely to ask partners to use condoms (OR = 1.38, $p < 0.001$). Those who reported easy access to condoms were more likely to be able to ask partners to use condoms (OR = 1.28, $p < 0.001$). However, compared with participants who answered 'no', those in the 'refused to answer' category were less likely to refuse sex (OR = 0.72, $p < 0.001$). Additionally, the participants in the 'refused to answer' category were also less likely to ask their partners to use condoms (OR = 0.73, $p < 0.001$) compared with their counterparts who answered 'no'. At the bivariate level, women's fertility preference was not a significant predictor of their ability to refuse their husbands sex, although it was a significant predictor of their ability to ask their husbands to use condoms. Surprisingly, women who wanted more children were more likely to be able to ask their husbands to use condoms. Conversely, undecided women were less likely to be able to ask their husbands to use condoms. None of the husband's fertility preferences was a significant predictor of ability of women to refuse sex, except joint desire of husband and wife for more children. Desire to have at least one or more children by either husband or wife, or jointly, was associated with higher odds of ability to ask husbands to use condoms.

Tables 2 and 3 provide the multivariate relationships between the predictor and outcome variables. Model 1 includes control variables (5-year age groups, type of residence, education, wealth index). Model 2 includes decision-making variables (decision-making on health care, large household purchases and family visiting) and Model 3 includes HIV and fertility preferences (HIV transmission awareness, HIV transmission myths, ever had HIV test, access to condoms, women's fertility preferences and husband's fertility preferences).

In Model 1, after controlling for socio-demographic and economic variables, married women in all age groups were more likely to be able to refuse sex (Table 2); however, only those in the 20–24, 25–29 and 30–34 age groups were more likely to be able to ask their partners to use condoms compared with the 15–19 reference age group (Table 3). Those who had attained primary, secondary or higher education were more likely to be able to both refuse sex and ask their partner to use condoms, compared with those who had no education. Compared with the poorest quintile, married women who were in the poorer, middle, richer or the richest wealth quintile were all more likely to be able to refuse sexual intercourse and ask their partner to use condoms.

In Model 2, after introducing autonomy variables (namely, decision-making on health care, large household purchases and family visits), age, education and wealth index remained significant predictors of married women's ability to negotiate safer sexual intercourse. Compared with women whose health care decisions were made by others, those who made such decisions by themselves (OR = 1.22, $p < 0.001$) or jointly with their husbands (OR = 1.26, $p < 0.001$) were more likely to be able to refuse sexual intercourse with their partners. Those who made decisions on large household purchases by themselves were less likely (OR = 0.78, $p < 0.01$) to be able to refuse sex compared with married women who were not involved in such decisions (Table 2). Similarly, those who made joint decisions on family visits with husbands were less likely (OR = 0.86, $p < 0.05$) to be able to ask their partners to use condoms compared with those who were not involved in this type of decision-making (Table 3).

Table 2. Complementary log-log models of ability to refuse husband sex among married women aged 15–49 in Cambodia, 2010

Predictor variable	Model 1		Model 2		Model 3	
	OR	SE	OR	SE	OR	SE
5-year age group						
15–19	1.00		1.00		1.00	
20–24	1.45***	0.10	1.41***	0.10	1.34***	0.10
25–29	1.37***	0.09	1.34***	0.09	1.24**	0.09
30–34	1.46***	0.10	1.41***	0.10	1.29**	0.10
35–39	1.34***	0.09	1.30***	0.09	1.22*	0.10
40–44	1.21**	0.08	1.19**	0.08	1.14	0.09
45–49	1.36***	0.10	1.33***	0.10	1.28**	0.11
Type of resident						
Urban	1.00		1.00		1.00	
Rural	0.98	0.03	0.99	0.03	1.01	0.04
Education						
No education	1.00		1.00		1.00	
Primary	1.20***	0.03	1.21***	0.03	1.08*	0.04
Secondary	1.27***	0.05	1.28***	0.05	1.09	0.05
Higher	1.41**	0.17	1.44**	0.17	1.19	0.15
Wealth index						
Poorest	1.00		1.00		1.00	
Poorer	1.18***	0.04	1.19***	0.04	1.15**	0.05
Middle	1.22***	0.04	1.23***	0.05	1.15**	0.05
Richer	1.34***	0.05	1.36***	0.05	1.24***	0.05
Richest	1.54***	0.07	1.55***	0.07	1.38***	0.07
Decision-making on health care						
Other than respondent			1.00		1.00	
Solely respondent			1.22***	0.05	1.16**	0.06
Respondent and husband			1.26***	0.06	1.24***	0.06
Decision-making on large household purchases						
Other than respondent			1.00		1.00	
Solely respondent			0.78**	0.05	0.77**	0.06
Respondent and husband			0.91	0.06	0.89	0.06
Decision-making on family visiting						
Other than respondent			1.00		1.00	
Solely respondent			0.90	0.06	0.91	0.07
Respondent and husband			0.91	0.06	0.93*	0.07
HIV transmission awareness						
No					1.00	
Yes					1.08***	0.01
HIV transmission myths						
No					1.00	
Yes					0.94***	0.01
Ever had HIV test						
No					1.00	
Yes					1.10**	0.04
Access to condoms						
No					1.00	
Yes					0.96	0.07
Refused to answer					0.85*	0.07
Woman's fertility preferences						
Did not want more children					1.00	
Wanted more					0.95	0.03
Undecided					0.95	0.07
Husband's fertility preferences						
Did not want more children					1.00	
Both husband and wife wanted more children					1.10*	0.04
Husband wanted more children					0.90*	0.05
Husband wanted fewer children					0.95	0.07
<i>N</i>	11,218		11,161		11,161	
Log-likelihood	–3477.91		–3426.94		–3109.91	

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table 3. Complementary log-log models of ability to ask husband to use condoms among married women aged 15–49 in Cambodia, 2010

Predictor variable	Model 1		Model 2		Model 3	
	OR	SE	OR	SE	OR	SE
5-year age group						
15–19	1.00		1.00		1.00	
20–24	1.18*	0.08	1.18*	0.08	1.11	0.09
25–29	1.15*	0.08	1.16*	0.08	1.06	0.08
30–34	1.19**	0.08	1.19*	0.08	1.12	0.09
35–39	1.05	0.07	1.06	0.07	1.04	0.08
40–44	1.03	0.07	1.03	0.07	1.04	0.08
45–49	1.12	0.08	1.12	0.08	1.13	0.09
Type of resident						
Urban	1.00		1.00		1.00	
Rural	0.94	0.03	0.94	0.03	0.95	0.04
Education						
No education	1.00		1.00		1.00	
Primary	1.28***	0.04	1.28***	0.04	1.09*	0.04
Secondary	1.45***	0.06	1.44***	0.06	1.15**	0.05
Higher	1.66***	0.19	1.74***	0.21	1.34**	0.17
Wealth index						
Poorest	1.00		1.00		1.00	
Poorer	1.30***	0.05	1.31***	0.05	1.24***	0.05
Middle	1.33***	0.05	1.33***	0.05	1.20***	0.05
Richer	1.49***	0.06	1.51***	0.06	1.33***	0.06
Richest	1.50***	0.07	1.53***	0.07	1.30***	0.07
Decision-making on health care						
Other than respondent			1.00		1.00	
Solely respondent			1.00	0.04	0.92	0.05
Respondent and husband			1.07	0.05	1.02	0.05
Decision-making on large household purchases						
Other than respondent			1.00		1.00	
Solely respondent			0.93	0.07	0.98	0.08
Respondent and husband			0.89	0.06	0.89	0.07
Decision-making on family visiting						
Other than respondent			1.00		1.00	
Solely respondent			0.91	0.06	0.90	0.07
Respondent and husband			0.86*	0.05	0.87*	0.06
HIV transmission awareness						
No					1.00	
Yes					1.07***	0.01
HIV transmission myths						
No					1.00	
Yes					0.91***	0.01
Ever had HIV test						
No					1.00	
Yes					1.10**	0.03
Access to condoms						
No					1.00	
Yes					1.22**	0.09
Refused to answer					0.89*	0.06
Woman's fertility preferences						
Did not want more children					1.00	
Wanted more					1.00	0.03
Undecided					0.79**	0.06
Husband's fertility preferences						
Did not want more children					1.00	
Both husband and wife wanted more children					1.21***	0.05
Husband wanted more children					1.03	0.05
Husband wanted fewer children					1.05	0.07
N	11,218		11,161		11,161	
Log-likelihood	4054.18		–4016.5		–3535.76	

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

In Model 3 of Tables 2 and 3, behavioural and HIV awareness, and fertility preference variables were introduced. In Table 2, after controlling for these predictors, age and wealth variables remained significant predictors of married women's ability to refuse sex, whereas in Table 3, education and wealth variables remained significant predictors of married women's ability to ask their partner to use condoms. Compared with those who were not involved in decision-making on health care, those who made decisions on their own and those who made joint decisions with their husbands were 16% and 24%, respectively, more likely to be able to refuse sexual intercourse (Table 2). Women who made decisions on large household purchases on their own were less likely (OR = 0.77, $p < 0.01$) to refuse sexual intercourse compared with those who were not involved in decision-making. Participants who made joint decisions on family visits were less likely (OR = 0.93, $p < 0.05$) to refuse sexual intercourse compared with those who were not involved (Table 2). Also, those who made joint decisions on family visits with husbands were less likely (OR = 0.87, $p < 0.05$) to be able to ask their partners to use condoms (Table 3).

Relative to participants who had no awareness on HIV transmission, those who were aware of HIV transmission were more likely (OR = 1.08, $p < 0.001$) to be able to refuse sexual intercourse (Table 2) and were also more likely (OR = 1.07, $p < 0.001$) to be able to ask their partner to use condoms (Table 3). Those who believed in HIV transmission myths were less likely to be able to refuse sexual intercourse and less likely to be able to ask their partner to use condoms (OR = 0.94, $p < 0.001$ and OR = 0.91, $p < 0.001$), respectively. Compared with those who had not previously ascertained their HIV status, those who had discovered their status were more likely to be able to refuse sexual intercourse (OR = 1.10, $p < 0.01$) and more likely to be able to ask their partners to use condoms (OR = 1.10, $p < 0.01$) (Tables 2 and 3, respectively). Those who had easy access to condoms were more likely (OR = 1.22, $p < 0.01$) than those with no access to ask their partners to use condoms (Table 3). A two-way connection between negotiating safer sex and women's autonomy was accounted for. A two-way connection also existed between refusal of sex and decision-making on own health care, and between condom use negotiation and decision-making on family visits. Participants in the 'refused to answer' category were less likely (OR = 0.85, $p < 0.05$) to be able to refuse sexual intercourse and were also less likely (OR = 0.89, $p < 0.05$) to be able to ask their partners to use condoms relative to those who had no access to condoms. It was unclear as to the reasons for the behaviour of this category (i.e. 'refuse to answer') in relation to their ability to refuse sex and ability to ask their partners to use condoms. The characteristics of this group were therefore further probed using cross-tabulation. It emerged that there was a consistent increase of refusal to answer the question on 'access to condoms' with increasing age. Additionally, there was a consistent decrease in the proportion of 'refusal to answer' the question with increasing wealth. Also, more than half of the respondents who refused to answer the question on 'access to condoms' had primary education. This suggests that older, less educated and poorer women were less likely to belong to the 'refuse to answer' category on the question of access to condoms.

Women's fertility preference was not a significant predictor of their ability to refuse sex. Husband's fertility preference was not a significant predictor of women's ability to refuse sex, except when husbands and wives simultaneously wanted more children, as

well as when the husband alone wanted more children. Therefore, wives who jointly wanted more children with their husbands were more likely to refuse sex compared with their counterparts who did not want children (OR = 1.05, $p < 0.01$). However, women whose husbands alone wanted more children were less likely (OR = 0.90, $p < 0.05$) to refuse sexual intercourse.

Also, married women's fertility preference was not a significant predictor of women's ability to ask husbands to use condoms, except when married women were undecided about their fertility preference. Within this context, undecided women were less likely (OR = 0.79, $p < 0.01$) to be able to ask their partners to use condoms compared with their counterparts who did not want children. Similarly, husband's fertility preference was not a significant predictor of married women's ability to ask husbands to use condoms, except when both wanted more children. In that case, wives who jointly wanted more children with their husbands were more likely to be able to ask their partners to use condoms (OR = 1.21, $p < 0.001$).

Discussion

Existing literature has shown a decline in HIV prevalence within the Cambodian general population but an increasing prevalence among vulnerable and high-risk social groups (Sopheab *et al.*, 2009). One of these groups includes married women, which may seem counterintuitive since initial evidence seemed to suggest that marriage acts as a shield to HIV infection (Tenkorang, 2012). Nonetheless, a plethora of recent literature has indicated otherwise (Clark, 2004; Cohen 2004; Clark *et al.*, 2006; Dunkle *et al.*, 2008; Tenkorang, 2012). This study sought to add to this literature by examining factors that enable negotiation of safer sex in marriage, with a central focus on women's autonomy. The results provide potentially new directions for policy interventions with the goal of ensuring a decreasing rate of HIV transmission among married women in Cambodia.

The results here revealed that married women aged 20 and above were more likely to be able to refuse sexual intercourse with their husbands and ask for use of condoms compared with their counterparts aged 15–19. However, likelihood of ability to refuse sex generally declined with increasing age. This makes older married women more prone to HIV infection if their husbands are infected. In this context, involvement in decision-making may have translated into trust and risk compensation. This result supports the findings of Bracher *et al.* (2003), that women who marry early may be shielded against HIV risks. It is, however, inconsistent with the findings of Clark (2004), Clark *et al.* (2006), Dunkle *et al.* (2008) and Tenkorang (2012), which suggest that younger married women are less likely to be able to negotiate safer sex with their husbands.

The proportion of highly educated women was relatively higher for individuals below 40 years. In this context, it appears that attainment of higher education makes women more autonomous. This signals the possible contributory effects of female autonomy in the negotiation for safer sex. While some studies have suggested that education and wealth serve as risk factors for HIV and AIDS within the developing world (Hargreaves & Glynn, 2002; Abebe *et al.*, 2003; Cogneau & Grimm, 2006), our findings showed that educated and wealthier married women were more likely to negotiate

safe sexual intercourse than uneducated and poorer women in Cambodia. This is consistent with the findings of Shannon *et al.* (2008) and Tenkorang (2012) on the argument that economic and social empowerment enhances women's ability to negotiate safer sexual relations. It can, therefore, be argued that educated and wealthier women often have autonomy and are less dependent on their husbands; hence, they have the agency to say no to unsafe sexual intercourse. Further, there is no fear of future consequences of the women's actions since their well-being does not solely depend on their husbands' work. Invariably, while the effect of education and wealth may be beneficial to married women in urban areas, this is not the case for their counterparts in rural Cambodia. Married women in the rural areas of Cambodia are less likely to be able to say no to sexual intercourse when their husbands ask for it and less likely to ask their husbands to use condoms during sexual intercourse. This correlates with the poor economic background of such women, the predominance of traditional norms, which lay emphasis on high fertility in marriage (Al-Riyami *et al.*, 2004), and their lack of any safety net or autonomy. The attenuation of the effect of education on the refusal of sex when controlling for knowledge of HIV and modes of transmission points to the importance of self-efficacy in explaining safer sex negotiation. It is worth noting that a small proportion of those who ascribe to HIV transmission myths still remain. Interventions will need to be targeted at this group in order to stem the potential spread of HIV as these groups remain less likely to initiate preventive measures against HIV transmission.

A female's ability to control and make decisions without the influence of any man has been used to explain the condition of a woman's self-determination and autonomy (Abadian, 1996). This is reiterated in the work of Kabeer (2005) as the ability of women to have agency and participate in the decision-making process. In examining the variables that were used to investigate women's involvement in decision-making, those who made decisions on their own health care were more likely to refuse sexual intercourse than those who were not involved, yet they were less likely to be able to ask their husbands to use condoms relative to those who were not involved in the decision-making process. Subsequently, women who had the autonomy to make large household purchases and who were involved in decision-making on family visits were less likely to be able to refuse their husbands sexual intercourse and enforce the use of condoms. This finding is inconsistent with the suggestion by Amaro & Raj (2000), that power dynamics and sex roles influence women's ability to negotiate safer sex. Thus, in this paper, even though they have the power, they are still unable to enforce the use of condoms by their husbands. This then brings to the fore the argument that, while autonomy may reflect a woman's power, power may not always reflect a woman's autonomy.

In conclusion, a married woman's wealth, education and knowledge of the modes of HIV transmission and serostatus then become central to her autonomy and ability to negotiate safer sexual relations. However, this study is not without its limitations. First, it is noteworthy that women's autonomy is used in a limited sense in this work, although it has much broader connotations beyond socioeconomic and household autonomy. Secondly, negotiation for safer sexual intercourse may be represented by several surrogate variables, of which only two were used in this study. These limitations notwithstanding, the findings of this study have several policy implications.

Policy implications

This paper examines how autonomy influences the capacity of married women to negotiate safer sex in Cambodia. Fundamentally, inequities in education, wealth and autonomy between married women younger than 35 years and their older counterparts exist. Also, palpable differences in women's ability to refuse their husband sex and to ask their husband to use condoms exist between rural and urban dwellers. This underscores the importance of place in appreciating safer sex negotiation. A nuanced understanding of the potential mechanisms that influence safer sex negotiation and the relative contribution of the economic, social and educational dimensions of HIV intervention are of central policy relevance in Cambodia and elsewhere. Broadly, addressing the gender dimensions of the HIV/AIDS epidemic – and the implications for policymakers and practitioners – requires a far deeper understanding of how to support families and communities as they mediate the epidemic's repercussions for household restructuring, gender and intergenerational relations, reproductive decision-making, livelihood choices, education planning, economic status and civic participation. Equally urgent is the need to develop the knowledge necessary to strengthen national response capacities so that those most affected by HIV and AIDS do not also have to shoulder its associated burdens.

Given that wealth and education inequities exist among married women in Cambodian society, structural interventions may be required to elicit better health policy outcomes. Specifically, structural interventions that focus on three areas of change are imperative. First, *social change*: these approaches should focus on factors affecting multiple groups, such as legal reform, stigma reduction and efforts to cultivate strong leadership on AIDS (Adimora & Auerbach, 2010). Second, *change within specific groups*: these approaches should address social structures that create vulnerability among specific populations, such as forced-marriage victims, young women or poor women (Auerbach, 2009). Examples include efforts to organize micro-finance programmes for poor women, and interventions to change harmful male norms. Finally, *harm reduction or health-seeking behaviour change*: these approaches should aim to make harm-reduction technologies available to those in need, and to change rules, services and attitudes about these technologies (Auerbach *et al.*, 2011). A good example is the '100% Condom Use Programme' (CUP) campaign. The 100% CUP has been nationally implemented in Cambodia since 2001, after a successful pilot in Phres Sihanok province (DHAPP, 2010; National AIDS Authority, 2010). The 100% CUP's main principle is to encourage 'No Condom–No Sex' in all types of sexual intercourse (Rojanapithayakorn, 2006).

References

- Abadian, S. (1996) Women's autonomy and its implication on fertility. *World Development* **24**(12), 1773–1809.
- Abebe, Y., Schaap, A., Mamo, G., Negussie, A., Darimo, B., Wolday, D. & Sanders, E. J. (2003) HIV prevalence in 72,000 urban and rural male army recruits, Ethiopia. *AIDS* **17**, 1835–1840.
- Adimora, A. A. & Auerbach, J. D. (2010) Structural interventions for HIV prevention in the United States. *Journal of Acquired Immuno Deficiency Syndromes* **55** (Supplement 2), 132–135.
- Al Riyami, A. A., Afifi, M. & Mabry, R. (2004) Women's autonomy, education and employment in Oman and their influence on contraceptive use. *Reproductive Health Matters* **12**(23), 144–154.

- Amaro, H.** (1995) Love, sex, and power: considering women's realities in HIV prevention. *American Psychologist* **50**, 437–447.
- Amaro, H. & Raj, A.** (2000) On the margin: power and women's HIV risk reduction strategies. *Sex Roles* **42**(7/8), 723–749.
- Auerbach, J. D.** (2009) Transforming social structures and environments to help in HIV prevention. *Journal of Health Affairs* **28**(6), 1655–1665.
- Auerbach, J. D., Cáceres, C. F. & Parkhurst, J. O.** (2011) Addressing social drivers of HIV/AIDS for the long-term response: conceptual and methodological consideration. *Global Public Health* **6** (Supplement 3), 293–309.
- Bracher, M., Santow, G. & Watkins, S. C.** (2003) 'Moving' and marrying: modelling HIV infection among newly-weds in Malawi. *Demographic Research* **1**, 208–244.
- Clark, S.** (2004) Early marriage and HIV risks in sub-Saharan Africa. *Studies in Family Planning* **35**(3), 149–160.
- Clark, S., Bruce, J. & Dude, A.** (2006) Protecting young women from HIV/AIDS: the case against child and adolescent marriage. *International Family Planning Perspectives* **32**, 79–88.
- Cogneau, D. & Grimm, M.** (2006) Socioeconomic status, sexual behaviour, and differential AIDS mortality: evidence from Cote d'Ivoire. *Population Research and Policy Review* **25**, 393–407.
- Cohen, S. A.** (2004) Delayed marriage and abstinence until marriage on a collision course? *The Guttmacher Report on Public Policy* **7**(2).
- DHAPP** (2010) *Winning Battles in the War Against HIV/AIDS*. US Department of Defense HIV/AIDS Prevention Program.
- Dixon-Mueller, R.** (1993) The sexuality connection in reproductive health. *Studies in Family Planning* **24**(5), 269–282.
- Dunkle, K. L., Stephenson, R., Karita, E., Chomba, E., Kayitenkore, K., Vwalika, C. et al.** (2008) New heterosexually transmitted HIV infections in married or cohabiting couples in urban Zambia and Rwanda: an analysis of survey and clinical data. *Lancet* **371**, 2183–2191.
- Exner, T., Hoffman, S., Dworkin, S. & Ehrhardt, A. A.** (2003) Beyond the male condom: the evolution of gender-specific HIV interventions for women. *Annual Review of Sex Research* **14**, 114–136.
- Gray, R. T., Heymer, K. J., Hoare, A., Kwon, J. A., Thein, H. H., Lote, N. et al.** (2009) What impact might the economic crisis have on HIV epidemics in Southeast Asia? *Current HIV Research* **7**, 656–665.
- Gupta, G. R.** (2001) Gender, sexuality, and HIV/AIDS: the what, the why, and the how. *SIECUS Report* **29**, 6–12.
- Gyimah, S. O., Tenkorang, E. Y., Takyi, B. K., Adjei, J. & Fosu, G.** (2010) Religion, HIV/AIDS and sexual risk-taking among men in Ghana. *Journal of Biosocial Science* **42**, 531–547.
- Hargreaves, J. R. & Glynn, J. R.** (2002) Educational attainment and HIV-1 infection in developing countries: a systematic review. *Tropical Medicine & International Health* **7**(6), 489–498.
- Ickovics, J. R., Thayaparan, B. & Ethier, K. A.** (2000) Women and AIDS: a contextual approach. In Baum, A., Revenson, T. & Singer, J. (eds) *Handbook of Health Psychology*. Lawrence Erlbaum, Hillsdale, NJ, pp. 821–839.
- Kabeer, N.** (2005) Gender equality and women's empowerment: a critical analysis of the third millennium development goal. *Gender & Development* **13**(1), 13–24.
- Kippax, S., Crawford, J., Waldby, C. & Benton, P.** (1990) Women negotiating heterosex: implications for AIDS prevention. *Women's Studies International Forum* **13**(6), 533–542.
- Kippax, S., Noble, J., Prestage, G., Crawford, J. M., Campbell, D., Baxter, D. & Cooper, D.** (1997) Sexual negotiation in the 'AIDS era': negotiated safety revisited. *AIDS* **11**(2), 191–197.

- Kishor, S.** (2000) Empowerment of women in Egypt and links to the survival of their infants. In Presser, H. & Sen, G. (eds) *Women's Empowerment and Demographic Processes: Moving Beyond Cairo*. Oxford University Press, New York.
- Kritz, M. M., Makinwa-Adebusoye, P. & Gurak, D. T.** (2000) The role of gender context in shaping reproductive behaviour in Nigeria. In Presser, H. & Sen, G. (eds) *Women's Empowerment and Demographic Processes: Moving Beyond Cairo*. Oxford University Press, New York.
- Logan, T. K., Cole, J. & Leukefeld, C.** (2002) Women, sex, and HIV: social and contextual factors, meta-analysis of published interventions, and implications for practice and research. *Psychological Bulletin* **128**, 851–885.
- McNair, L. D. & Prather, C. M.** (2004) African American women and AIDS: factors influencing risk and reaction to HIV disease. *Journal of Black Psychology* **30**, 106–123.
- Marshall, G. N., Schell, T. L., Elliott, M. N., Berthold, S. M. & Chun, C. A.** (2005) Mental health of Cambodian refugees 2 decades after resettlement in the United States. *Journal of the American Medical Association* **294**, 571–579.
- Michelo, C., Sandoy, I. & Fylkesnes, K.** (2008) Antenatal clinic HIV data found to underestimate actual prevalence declines: evidence from Zambia. *Tropical Medicine and International Health* **13**, 171–179.
- Mollica, R. F., Donelan, K., Tor, S., Lavelle, J., Elias, C. Frankel, M. & Blendon, R. J.** (1993) The effect of trauma and confinement on functional health and mental health status of Cambodia living in Thailand–Cambodia border camps. *Journal of the American Medical Association* **270**, 581–586.
- Myers, H. F. & Durvasula, R. S.** (1999) Psychiatric disorders in African American men and women living with HIV/AIDS. *Cultural Diversity and Ethnic Minority Psychology* **5**, 249–262.
- National AIDS Authority** (2010) *A Situation and Response Analysis of HIV and AIDS in Cambodia*. NNA, Phnom Penh, Cambodia.
- National Institute of Statistics** (2011) *Cambodia Demographic and Health Survey 2010*. National Institute of Statistics, Directorate General for Health, and ICF Macro, Phnom Penh, Cambodia and Calverton, MD, USA.
- National Institute of Statistics** (2004) *Cambodia Inter-Censal Population Survey 2004*. General Report. Phnom Penh, Cambodia.
- Pulerwitz, J., Gortmaker, S. L. & DeJong, W.** (2000) Measuring sexual relationship power in HIV/STD research. *Sex Roles* **42**, 637–660.
- Pulerwitz, J. & Dworkin, S. L.** (2006) Give-and-take in safer sex negotiations: the fluidity of gender-based power relations. *Sexuality Research and Social Policy Journal* **3**, 40–51.
- Rojanapithayakorn, W.** (2006) The 100% Condom Use Programme in Asia. *Reproductive Health Matters* **14**(28), 41–52.
- Sanders-Phillips, K.** (2002) Factors influencing HIV/AIDS in women of colour. *Public Health Reports* **117**, S151–156.
- Shannon, K., Kerr, T., Allinott, S., Chettiar, J., Shoveller, J. & Tyndall, M. W.** (2008) Social and structural violence and power relations in mitigating HIV risk of drug-using women in survival sex work. *Social Science & Medicine* **66**(4), 911–921.
- Sopheab, H., Neal, J. J., Morineau, G., Saphonn, V. & Vun, M. C.** (2006) *Report on HIV Sentinel Surveillance in Cambodia, 2003*. National Centre for HIV/AIDS, Dermatology and STDs, Phnom Penh, Cambodia. URL: www.nchads.org
- Sopheab, H., Saphonn, V., Chhea, C. & Fylkesnes, K.** (2009) Distribution of HIV in Cambodia: findings from the first national population survey. *AIDS* **23**, 1389–1395.
- Tenkorang, E. Y.** (2012) Negotiating safer sex among married women in Ghana. *Archives of Sexual Behaviour* doi: 10.1007/s10508-012-9960-4
- Williams, S. P., Gardos, P. S., Ortiz-Torres, B., Tross, S. & Ehrhardt, A. A.** (2001) Urban women's negotiation strategies for safer sex with their male partners. *Women & Health* **33**, 133–148.

- Wingood, G. M. & DiClemente, R. J.** (2000) Application of the theory of gender and power to examine HIV related exposures, risk factors, and effective interventions for women. *Health Education and Behaviour* **27**, 539–565.
- Wyatt, G. E., Williams, J. K., Loeb, T., Carmona, J., Chin, D. & Presley, N.** (2002) Does history of trauma contribute to HIV risk for women of colour? Implications for prevention and policy. *American Journal of Public Health* **92**, 660–665.