JURNAL BIOMETRIKA DAN KEPENDUDUKAN

(Journal of Biometrics and Population)

HIV KNOWLEDGE AND SEXUAL RELATIONSHIP NEGOTIATION AMONG INDONESIAN WOMEN LIVING IN AREAS WITH HIGH VS LOW HIV PREVALENCE

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Published by *Fakultas Kesehatan Masyarakat Universitas Airlangga*

Keywords:
disparities,
HIV prevalence,
HIV knowledge,
women empowerment

ABSTRACT

The prevalence of HIV in Indonesia is increasing, particularly among certain regions and married women. Such disparities have a significant impact on regional development. Knowledge of HIV and the ability to negotiate sexual relationships with their spouses can help prevent the spread of HIV in the population. This study aims to compare the HIV knowledge, stigma, sexual relationship negotiation, and attitudes toward negotiating safer sexual relationships of Indonesian married women in high and low HIV prevalence areas (Papua and West Sulawesi). Percentages, t-tests, and logistic regression were conducted using the 2017 Indonesian Demographic and Health Survey (IDHS) to analyze the differences between the two regions. The study found that HIV knowledge and negotiating skills differed between the two regions. Married women in the region with the highest HIV prevalence had better HIV knowledge but lower ability to negotiate sexual relationships with their husbands compared to married women living in the lowest HIV prevalence. The differences in HIV knowledge and ability to negotiate sexual relationships may be linked to gender disparities as well as efforts to prevent HIV transmission in the regions. Further studies are needed to explore the experiences and perspectives of married women in negotiating sexual relationships to develop more effective strategies to prevent HIV transmission in this population group.

Kata Kunci:
disparitas,
penularan HIV,
pengetahuan HIV,
pemberdayaan
Perempuan

ABSTRAK

Prevalensi HIV di Indonesia meningkat di daerah tertentu dan di kalangan wanita menikah. Ketimpangan tersebut mempunyai dampak yang signifikan terhadap pembangunan daerah. Pengetahuan tentang HIV dan kemampuan wanita menegosiasikan hubungan seksual dengan pasangannya diharapkan dapat membantu mencegah penyebaran HIV di masyarakat. Penelitian ini bertujuan untuk membandingkan pengetahuan, stigma, sikap terhadap negosisasi hubungan seksual pada wanita menikah yang tinggal di wilayah dengan prevalensi HIV tinggi (Papua) dan rendah (Sulawesi Barat). Persentase, uji t dan analisis regresi logistik digunakan untuk menganalisis data dari Survey Demografi dan Kesehatan Indonesia tahun 2017. Hasil penelitian ini menemukan bahwa pengetahuan HIV dan kemampuan perempuan menikah bernegosiasi seksual cukup berbeda di kedua wilayah. Perempuan menikah yang tinggal di wilayah HIV tinggi memiliki pengetahuan HIV lebih baik, namun kemampuan negosisasi hubungan seksual dengan suami yang lebih rendah dibandingkan perempuan menikah yang tinggal di daerah dengan prevalensi HIV rendah. Perbedaan pengetahuan dan kemampuan negosiasi hubungan seksual mengenai HIV mungkin terkait dengan disparitas gender serta upaya pencegahan penularan HIV di daerah tersebut. Penelitian lebih lanjut diperlukan untuk mengeksplorasi pengalaman dan perspektif wanita menikah dalam menegosiasikan hubungan seksual untuk mengembangkan strategi yang lebih efektif dalam mencegah penularan HIV pada kelompok populasi ini.

INTRODUCTION

HIV (human immunodeficiency virus) continues to have devastating health consequences. Indonesia has one of the world's fastest increasing HIV epidemics, with more than 38.4 million people living with HIV in 2021 (1,2). However, HIV has disproportionately affected particular regions in Indonesia.

Received in 28 November 2023 ; **Reviewed** in 06 November 2024 ; **Accepted** in 02 December 2024 ; **p-ISSN** 2302–707X - **e-ISSN** 2540–8828 ; **DOI:** https://doi.org/10.20473/jbk.v13i2.2024.192-201 ; **Cite this as :** Sitohang MY, Arifa RF. HIV Knowledge and Sexual Relationship Negotiation among Indonesian Women Living in Areas with High VS Low HIV Prevalence. J Biometrika dan Kependud [Internet]. 2024;13(2):192–201. Available from: https://doi.org/10.20473/jbk.v13i2.2024.192-201

The mean HIV prevalence in Indonesia is 0.41%, yet there are regional differences in HIV prevalence. Some areas had tens of thousands of HIV cases, while others had only a few hundred (3). Furthermore, there is a tenfold disparity in prevalence between areas, with Papua having the highest (5%) and West Sulawesi the lowest (<1%) HIV prevalence (1). While HIV has a substantial influence on the development and economic growth of individuals, households, communities, and regions, regional variations in HIV prevalence may lead to a serious problem overall regional disparities and inequalities (1,4).

Additionally, HIV has disproportionately impacted one gender, which may exaggerate HIV transmission to the broader population. Indonesian married women are more likely than males to contract HIV. Women account for more than 35% of new HIV infections and total HIV cases in Indonesia, with the majority of women being married or housewives (1,5). HIV infections are frequently associated with key populations, including gay men, drug users, transgender individuals, and sex workers along with their male clients. However, HIV transmission among housewives can also contribute to the spread of the virus in the broader population. As key population infections rise, the concentrated HIV epidemics in Indonesia could extend to non-key groups through housewives, who may become mothers and pass the virus to their babies during pregnancy, childbirth, or breastfeeding (2,6). According to research, 90% of new infections in infants are transmitted from mother to child (7).

Although HIV affects women of reproductive age disproportionately, knowledge about HIV is part of the capacity to protect women against HIV (7). However, more than half of young women in Indonesia still lack HIV-related knowledge, while only 15% of married women and men have a thorough understanding of HIV transmission and prevention (4,8). One of the causes for the rise in HIV incidence is a lack of HIV understanding (9). In addition, HIV stigma frequently limits access to legitimate sources of HIV knowledge. Stigma against HIV is also a result of HIV misinformation which leads to social constructions that devalue, label, and stigmatize those living with HIV(4,9). HIV stigma can lead to discrimination against people living with HIV, hinder people's access to HIV information and treatment, and undermine efforts to prevent HIV transmission (1,9,10). Again, there were variations among Indonesia areas, with young women's knowledge and attitudes toward HIV differing across the country. Compared to other places, the western part of Indonesia and urban areas were shown to have greater stigma against people living with HIV(4). Knowledge regarding HIV transmission, on the other hand, may result in fewer stigmatized attitudes, increased access to HIV treatment, and promote HIV prevention (4,9,10).

Women who have knowledge about HIV and can make choices about their sexual and reproductive health play a crucial role in preventing HIV transmission (11). Women's capacity to negotiate sexual relationships and safer sex play an important role in preventing HIV transmission (12,13). Heterosexual transmission accounts for half of HIV incidence and has emerged as the primary method of HIV transmission among married women or housewives in Indonesia (1,3). However, in a patriarchal culture where males hold more control in all decisions, including women's sexual and reproductive aspects, women frequently face challenges negotiating sexual relationships with their husbands (12). Being a married woman in a male-dominated country such as Indonesia increases women's risk of HIV infection since society typically expects women to be submissive to their husbands (13). When married women are able to protect their sexual and reproductive health and rights, it may increase efforts to prevent HIV transmission as well as stigma and discrimination toward people living with HIV (PLHIV) (6).

Given the regional disparities in HIV prevalence and the importance of HIV knowledge and married women's ability to negotiate sexual relationships, the purpose of this study is to compare HIV knowledge, stigma, sexual relationship negotiation, and attitudes toward negotiating safer sexual relationships among Indonesian women living in high and low HIV prevalence areas. This study identifies the proportion of each variable in both regions as well as examining the predictor of safer sexual negotiation in each area. Currently, limited Indonesian study appears to have investigated geographical disparities in HIV prevalence in Indonesia, specifically the differences in HIV knowledge and sexual relationship negotiation among married women living in high vs low HIV

prevalence areas in Indonesia. Such insights may widen HIV prevention knowledge and aid policymakers in preventing HIV transmission and any negative health impacts associated with unsafe sex among married women, as well as women empowerment, which is crucial to enhancing family wellness and socioeconomic development.

METHODS

This study uses data from the 2017 Indonesian Demographic and Health Survey (IDHS) because it provides comprehensive information necessary to address the study's objectives, particularly regarding sexual negotiation and condom use. The more recent health datasets, such as the 2023 Indonesian Health Survey, do not include data on knowledge and attitudes toward HIV/AIDS or sexual negotiations, making the 2017 dataset the most suitable choice for this research. The population study was limited to two provinces, Papua and West Sulawesi. Papua is classified the highest HIV prevalence, while West Sulawesi is classified the lowest HIV prevalence (1,3). This study examined 443 women from Papua and 161 women from West Sulawesi who met the inclusion criteria, such as being married or cohabiting and aged 15 to 49 years.

The dependent variable in this study is the attitude for a safer sex negotiation with the husband in an unsafe circumstance: "If a woman knows her husband has a disease that she can get during sexual intercourse, is she justified in asking that they use a condom when they have sex?" However, in general the ability to negotiate sexual relations with husbands is a reflection of gender balance in an intimate relationship. DHS guidelines suggest evaluating negotiation skills through questions like, "Are they able to refuse their husband if they don't wish to engage in sexual intercourse?" and "Can they request their husband to use a condom?" Additionally, regarding HIV prevention, attitudes toward negotiating safer sexual relationships with husbands are assessed through statements like, "women believe it is acceptable for a woman to refuse sexual intercourse with her husband if she knows he is having sex with other women," and "women believe it is acceptable for a woman to ask her husband to use a condom if she knows he has a sexually transmitted infection (STI)." (14).

The researcher selected socio-demographic characteristics including age (15-24, 25-34,35-49), age at marriage (≥ 18 years, < 18 years), women's education levels (no education, primary [elementary], secondary [junior and senior high school], and higher education [university/diploma]), husband's education levels (no education, primary [elementary], secondary [junior and senior high school], and higher education [university/diploma], (women's working status (yes, no), household wealth (middle-poor, rich), residence (urban, rural), HIV knowledge (low, medium, high), and HIV stigma (no, yes) as independent variables.

The wealth index in the DHS is calculated using a composite measure based on household ownership of selected assets, such as a television, refrigerator, and car, along with housing characteristics like flooring and sanitation, which are then used to classify households into wealth quintiles (Q1-Q5)(15), with poor-middle households classified as Q1-Q3 and rich households as Q4 and Q5. Moreover, HIV knowledge was assessed using nine questions by adopting and combining the methods of measurement in some studies (4,12). Each question was given a score of one for the correct answer. The overall score, which ranged from 0 to 9, was divided into three categories: low (total score 50%; knowledge score 0-5), medium (51%-74%, knowledge score 6-7), and high (75%; knowledge score 8-9). We determined that the internal consistency was reliable, with a Cronbach's alpha of 0.92. Five questions were used to develop the HIV stigma attitude (4). Each question was tracked as yes and given a score of one. Three categories—low (total score 50%; stigma score 0-3), medium (51%-74%), and high (75%; stigma score 8–9)—were created from the total score, which ranged from 0 to 5. The HIV stigma attitude was derived from five questions. For the purpose of calculating HIV stigma, each question was tracked as "yes" and given a score of one. The overall score, which ranged from 0 to 5, was broken down into three groups: low (total score 50%; stigma score 0-3), medium (51%-74%), and high (75%; stigma score 8-9). Using a Cronbach's alpha of 0.79, we concluded that the internal consistency was reliable.

The IDHS 2017 recommendations were followed for presenting descriptive statistics in terms of frequency and weighted percentage. Moreover, t-test was used to compare the two populations' measures of negotiation, knowledge of HIV, and attitudes toward HIV stigma. For each province, binary logistic regression was employed to investigate the factors influencing attitudes toward negotiating safer sexual relationships, specifically whether a woman is justified in requesting condom use if she is aware that her husband has a sexually transmitted infection (STI). All descriptive and analytical procedures were carried out with complex sample weighting using "svy" command in STATA version 17.0.

RESULTS

An overview of the characteristics of a sample of married women aged 15-49 years in West Sulawesi and Papua is presented in Table 1. Both West Sulawesi and Papua, have more than 75% married women living in rural area and middle-poor household. The majority of married women's education and husband's education in West Sulawesi and Papua is secondary education. Married women in West Sulawesi are slightly higher educated (14.68%) compared to married women in Papua (12.43%). More than half of married women in West Sulawesi and Papua are working. Married women in West Sulawesi (34.57%) show to be slightly more likely than married women in Papua (33.77%) to have experienced a first-marriage before the age of 18. However, there are more young married women (15-34 years) in Papua (76%) than in West Sulawesi (69%).

Table 2 presents levels and differences in wives' negotiating skills, attitudes toward negotiating safe sexual relations, and knowledge and stigma of HIV in West Sulawesi and Papua. Based on Table 2, both sexual relationship negotiation and HIV knowledge are statistically different among married women living in areas with high (Papua) versus low (West Sulawesi) HIV prevalence. There is greater ability to negotiate sexual relationships among married women living in low HIV prevalence areas. In both areas, married women tend to unable asking their husbands to use condoms during sexual intercourse. But married women in low HIV prevalence areas are more able to negotiate asking for condoms during sexual intercourse than married women in high HIV prevalence areas.

Attitudes toward negotiating safe sexual relations with HIV/STIs show the same pattern as those toward negotiating sexual relations with husbands in general. Married women living in areas with low HIV prevalence were more able to negotiate safer sex with their husbands compared to married women living in areas with high HIV prevalence. The proportion of married women who refused sexual intercourse with their husband if they knew their husband had sex with other married women was higher in areas with low HIV prevalence compared to married women who asked their husband to use a condom if they knew that their husband had a sexually transmitted disease. Married women in both areas tend to have low HIV knowledge. Areas with high HIV prevalence have better HIV knowledge compared to married women living in areas with low HIV prevalence. There was not a significant difference in HIV stigma between the two areas.

.Table 3 presents factors associated with negotiating condom use for safe sex to prevent HIV/STIs in West Sulawesi and Papua. In West Sulawesi, education level, working status, and age were not significant factors, though married women with secondary or higher education had slightly higher odds of negotiating condom use. In contrast, in Papua, age was significant, with married women aged 35-49 being less likely to negotiate condom use compared to younger married women (15-24). Women married before 18 in Papua had lower odds of negotiating condom use, indicating early marriage as a risk factor.

Wealth showed a clear effect in which women from wealthier households (Q4-Q5) in both regions had higher odds of negotiating condom use, particularly in Papua, where the odds were significantly higher (AOR = 5.22). HIV knowledge was a strong predictor in both regions, with women with medium to high knowledge about HIV being much more likely to negotiate condom use. In particular, married women with high HIV knowledge had significantly higher odds of negotiating condom use in both regions (AOR = 2.94 in West Sulawesi and AOR = 5.11 in Papua).

HIV stigma played a role in Papua, where married women with higher stigma were more likely to have negative attitudes toward negotiating condom use, with the odds

significantly increased (AOR = 2.07). In West Sulawesi, however, stigma did not significantly affect married women's attitudes. As for residence, it did not have a significant impact in either region. In West Sulawesi, the odds for rural vs. urban women were 0.80 (AOR = 0.80, 95% CI: 0.45-1.43, p = 0.447), indicating no substantial difference. In Papua, while rural married women had slightly higher odds (AOR = 1.23, 95% CI: 0.45-3.39), this result was also not statistically significant (p = 0.670).

These findings highlight the importance of education, HIV knowledge, wealth, and stigma in shaping women's negotiating behaviors for safer sex practices in both regions, with no significant difference between rural and urban areas.

Table 1. Percentage of sample characteristics of married women aged 15-49 years in West Sulawesi and Papua

Variable	West Sulawesi		Papua	
	n	%	n	%
Education				
No education	7	4.14	70	15.72
Primary	65	40.16	116	26.28
Secondary	66	41.02	202	45.46
Higher	23	14.68	55	12.43
Working status				
No	73	45.42	149	33.69
Yes	88	54.58	294	66.31
Age				
15-24	50	31.36	165	37.28
24-34	60	36.91	171	38.67
35-49	51	31.72	107	24.05
First Age married				
≥ 18 years	105	65.43	293	66.23
< 18 years	56	34.57	150	33.77
Husband Education				
No education	7	4.1	34	7.82
Primary	69	42.98	108	24.86
Secondary	66	41.09	235	54.3
Higher	19	11.82	56	13.02
Wealth				
Middle-poor (Q1-Q3)	128	79.68	372	83.91
Rich (Q4-Q5)	33	20.32	71	16.09
Residence				
Urban	38	23.50	93	20.97
Rural	123	76.50	350	79.03
Total	161	100.00	443	100.00

Source: Calculated from the 2017 IDHS

Table 2. Levels and differences in wife's negotiating skills, attitudes toward negotiating safe sexual relations, knowledge and stigma of HIV in West Sulawesi and Papua

Variable	West Sulawesi*		Papua**		Different (West Sulawesi-Papua)	p
	n	%	n	%		
Ability to Negotiate Sexual Relations with Husband						
Can say no to their husband if they do not want to have sexual intercourse						
No	56	34.89	196	44.17		
Yes	105	65.11	247	55.83	9.28	0.0408
Can ask their husband to use a condom						
No	118	72.97	387	87.41		
Yes	43	27.03	56	12.59	14.44	0.0000
Attitudes toward Negotiating Safer Sexual Relations with Husband						
Justified in refusing to have sexual intercourse if husband has sex with other women						
No	32	20.12	218	49.26		
Yes	129	79.88	225	50.74	29.14	0.000
Asking for condom if she knows that her husband has STI						
No	48	30.07	212	47.94		
Yes	113	69.93	231	52.06	17.87	0.0001
HIV Knowledge						
Low	100	62.17	228	51.51	10.66	0.0200
Medium	36	22.14	156	35.24	-13.10	0.0022
High	25	15.69	59	13.25	2.44	0.4434
HIV Stigma						
No	133	82.63	339	76.37		
Yes	28	17.37	105	23.63	-6.26	0.1003
Total	161	100.00	443	100.00		

* : area with low HIV prevalence
** : area with high HIV prevalence
Significance p<0.05
Source: Calculated from the 2017 IDHS

Table 3. Factors related to women's attitudes toward negotiating asking for condom for safe sex from HIV/STI in West Sulawesi and Papua

Variable	West Sulawesi*			Papua**		
	AOR	95%CI	*p*	AOR	95%CI	*p*
Education						
No education						
Primary	1.16	0.63-2.14	0.632	0.94	0.47-1.89	0.867
Secondary	1.48	0.77-2.85	0.239	1.87	0.67- 5.18	0.218
Higher	1.64	0.69-3.93	0.261	3.04	0.58-15.87	0.176
Working status						
No						
Yes	0.89	0.61-1.30	0.549	0.65	0.33-1.28	0.200

Variable	West Sulawesi*			Papua**		
	AOR	**95%CI**	***p***	**AOR**	**95%CI**	***p***
Age						
15-24						
24-34	0.90	0.5701.42	0.637	0.79	0.49-1.25	0.296
35-49	0.77	0.50-1.19	0.231	0.57	0.33-0.97	0.039
Age married						
≥ 18 years						
< 18 years	1.19	0.88-1.63	0.256	0.51	0.30-0.87	0.017
Husband's Education						
No education						
Primary	1.83	0.92-3.64	0.086	1.23	0.50-3.02	0.631
Secondary	2.29	1.08-4.84	0.031	1.36	0.64-2.89	0.401
Higher	2.13	0.83-5.46	0.112	0.76	0.28-2.04	0.565
Wealth						
Middle-poor (Q1-Q3)						
Rich (Q4-Q5)	1.68	1.08-2.60	0.021	5.22	1.66-16.37	0.007
Residence						
Urban						
Rural	0.80	0.45-1.43	0.447	1.23	0.45-3.39	0.670
HIV Knowledge						
Low						
Medium	4.67	2.84-7.66	0.000	5.00	2.54-9.84	0.000
High	2.94	2.84-4.87	0.000	5.11	2.45-10.63	0.000
HIV Stigma						
No						
Yes	1.16	0.74-1.80	0.518	2.07	1.21-3.53	0.010

* : area with low HIV prevalence
** : area with high HIV prevalence
Significance p<0.05
Source: Calculated from the 2017 IDHS

DISCUSSION

This study aims to compare HIV knowledge, stigma, sexual relationship negotiation, and attitudes towards negotiating safer sexual relationships among Indonesian married women living in high and low HIV prevalence areas. While the ability to negotiate sex and more positive attitudes toward negotiating safer sexual relationships are better among married women living in area with the lowest HIV prevalence, better HIV knowledge were found among married women living in area with the highest HIV prevalence compared to other areas. West Sulawesi was found to have lower gender inequality index (GII) in 2017 compared to Papua, 0.5 and 0.52 sequentially. Although the difference was not that big, data showed decreasing GII from 2015 to 2017 in West Sulawesi compared to Papua with stagnant condition of gender disparities, showing more gender equality existed in West Sulawesi than in Papua. Moreover, the disparity in the GII within cities/districts in Papua was greater than the GII disparity in West Sulawesi. The dimensions of this index consist of reproductive health, empowerment, and labor force participation, by which the indicators for reproductive health are proportion of childbirth not in health facilities and adolescent birth rate (16). Although the indicator is not directly about sexual negotiation and gender equality within

household, it may show the overall gender disparities condition in West Sulawesi and Papua.

Regarding HIV knowledge, married women in both areas tend to have low HIV knowledge with married women living in high HIV prevalence having better HIV knowledge compared to married women living in areas with low HIV prevalence. This finding is different to previous study using IDHS 2012 that found more than half women aged 15-49 years old having good HV knowledge. However, the study also found that married women tend to have low HIV-knowledge which is the sample of this study (17).

Moreover, stigma against HIV is not significantly different between these areas. This finding is similar with another studies that found that the eastern half of Indonesia was shown to have less stigma against people living with HIV (4). Better HIV knowledge among married women living in Papua may be because of massive HIV intervention in this area. While married women in Papua had better HIV knowledge, they still lacked ability to negotiate sexual relationship and attitudes toward negotiating safer sexual relationships their husband. These two variables are significant to protect married women from contracting HIV from their husband (12,13). Although they know that they can acquire HIV from people with HIV by doing sexual intercourse, they are still at risk to contract HIV if they are not able to negotiate a safer sexual relationship to protect themselves by asking their partner to use a condom.

HIV knowledge in both areas needs to be improved to enhance HIV prevention among married women. While this study found that Papua has better HIV knowledge than West Sulawesi, other studies using different tools and methods found that Papua had the lowest level of HIV-related knowledge compared to all regions in Indonesia (4,18). The different result of the other studies with this study may be because of different participants and region categorized. While this study analyzed Papua as a province, previous studies combined Papua with another province, West Papua, and analyzed it as an island. Moreover, HIV knowledge among married women living in areas with the lowest HIV prevalence need to be improved for them to protect themselves from HIV. This study found that the proportion of married women living in areas with low HIV prevalence who refused sexual intercourse with their husband if they know their husband having sex with other married women was higher compared to married women asking their husband to use a condom if they know that their husband has a sexually transmitted disease. Findings from this study implied that without good HIV knowledge, married women who were able to negotiate sexual relationship with their husband tend to not use their ability to protect themselves from HIV.

Findings from this study suggest a comprehensive approach for HIV prevention in these two areas in addition to HIV knowledge improvement. The comprehensive approach includes enhancing gender equality between spouses in families that enable married women to negotiate a safer sexual relationship with their husband. While both West Sulawesi and Papua are part of eastern Indonesia with lower human development index compared to other areas, this index tend to be associated with gender development index (16). Increasing the quality of human development in the eastern part of Indonesia will affect not only gender equality related to HIV prevention but also close the gaps with other areas.

Finally, this study has strength and limitation. This study utilized secondary data that were collected with rigorous method which resulted in valid and reliable data. Findings from this study may shed light in HIV prevention among married women by providing new knowledge about the gaps within areas in Indonesia with the lowest and highest HIV prevalence. However, findings from this study are limited to explain married women's ability to negotiate safer sexual relationships with their husband since it used a quantitative approach. Qualitative approaches are needed to explain married women's experiences, values they held, and cultures in the community related to sexual negotiation within married couples.

CONCLUSIONS AND SUGGESTIONS

Conclusion

Married women in areas with low HIV prevalence had better sexual relationship negotiation and attitudes toward negotiating safer sexual relationships with their husbands compared to married women living in areas with high HIV prevalence. However, married women in high HIV prevalence areas had better

HIV knowledge than married women in low HIV prevalence areas. Despite the better HIV knowledge among married women in Papua, they still faced challenges in negotiating sexual relationships and safer sex with their husbands. The study also found that having good HIV knowledge and a high wealth index increased the likelihood of negotiating safer sex among married women. The study concludes that HIV knowledge in both areas needs to be improved to enhance HIV prevention among married women, and that improving the ability to negotiate sexual relationships and attitudes toward negotiating safer sex is important to protect married women from contracting HIV from their husbands.

Suggestion

This study highlights the importance of addressing gender disparities, improving HIV knowledge, and empowering married women to negotiate safer sexual relationships in both high and low HIV prevalence areas. These efforts have to be implemented simultaneously as the recent data showed low HIV prevalence in West Sulawesi even though married women there have low HIV knowledge. Efforts to prevent HIV transmission among married women in West Sulawesi and Papua can be strengthened by adopting a comprehensive approach and addressing these factors, ultimately contributing to reducing the HIV burden in these regions.

ACKNOWLEDGMENT

The authors would like to thank National Population and Family Planning Board (BKKBN), the Ministry of Health of the Republic of Indonesia, Statistics Indonesia, and ICF for providing the data from Indonesian Demographic Health Survey (IDHS) 2017.

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