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ORIGINAL PAPER

HIV/AIDS-related knowledge among Indonesian women: the role of media exposure and socio-demographic factors

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Abstract

Introduction: This study aimed to determine the relationship of socio-demographic variables (type of residence, age, occupation, level of education, and wealth index) and media exposure variables, with knowledge about human immunodeficiency virus (HIV) among women.

Material and methods: It used secondary data from the 2017 Indonesian demographic and health survey (SKDI) section for fertile age women (WUS). The unit of analysis in this study was households in Indonesia consisting of mothers of reproductive age (range, 15-49 years), with a total sample of 49,627 individuals. Chi-square, correspondence, and *t*-test analyses were applied.

Results: The results of the study indicated that socio-demographic factors, including type of residence, age, occupation, education level, and wealth index, and media exposure variables correlate with knowledge about HIV. However, there are still misconceptions and inaccurate knowledge about HIV among women.

Conclusions: This study found that all socio-demographic variables (type of residence, wealth index, educational level, age group, and occupation) and media exposure variables had a significant relationship with knowledge about HIV. The correlation between education level variables and knowledge of HIV is the strongest correlation among other socio-demographic variables.

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Key words: women, socio-demographic factors, Indonesia, media exposure, HIV/AIDS-related knowledge.

Introduction

Indonesia is one of the Asian countries with the fastest growth of human immunodeficiency virus (HIV) epidemic [1]. The latest data show that Indonesia is in third place after India and China. The spread of HIV in Indonesia grew 16% below China (22%) and India (31%). Twenty-three percent of the growth in the spread of HIV in the Asia Pacific, including Indonesia, occurs among teenagers [2]. Several factors are causing the high number of HIV/acquired immunodeficiency syndrome (AIDS) sufferers in Indonesia. Studies have found various factors, including the intensity of use of syringes [3-6], transition of economic politics [7], stigmatization of people living with HIV [8], and a lack of available information about HIV/AIDS in Bahasa Indonesia in social media [9].

In addition, another factor that influences the acceleration of the growth of people with HIV/AIDS is the lack of public knowledge. This low level of knowledge about

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HIV/AIDS also occurs among medical staff, which was confirmed in previous studies [10-13]. Low community knowledge is reflected in low awareness of the community to conduct voluntary counselling and testing (VCT). Barriers for community to do VCTs include its' non-importance [14], fear of test results [14, 15], and fear of family and community reaction and stigmatization [15].

Other evidence of low public knowledge about HIV/AIDS is the low use of condoms and contraception [16-20]. Main factors causing the lack of condom use are discomfort in sexual activity and perceptions about the importance of using condoms for prevention of sexually transmitted diseases [21, 22].

Globally, knowledge of HIV/AIDS is crucial in the framework of addressing HIV and AIDS [23, 24]. Recently, many efforts have been made to increase public knowledge about HIV/AIDS as a preventive measure through various forms of campaigns. Turk *et al.* [25] showed that a campaign using public washroom posters proved to positively change a behavior of risky sex, and showed curriculum development in schools [26].

However, the prevention of HIV/AIDS still faces many obstacles, including structural violence, stigma and discrimination [27], limited service facilities and medical staff in dealing with ODHA [22] as well as late diagnosis and low access to anti-retroviral drugs [28-30]. According to Spooner *et al.* [29], stigmatization of drug users, especially women in Indonesia, contributes to the increased use of syringes with close friends. Additionally, according to LaCroix *et al.* [31], there are still disparities due to differences in reaching and effectiveness of HIV prevention campaigns in reducing HIV globally.

Therefore, it is necessary to improve communication strategies to prevent the spread of HIV/AIDS, especially among women in vulnerable groups. The focus on reaching out to women is vital, since this group has a higher level of vulnerability, and wider impact than other segments of the society. Studies have proven a correlation among women, HIV, poverty, and violence. Mitra and Sarkar [32] also showed that one of correlation, due to spread of HIV, causes low social status among women. On the other hand, Manfrin-Ledet and Porche [33] reported that violence and HIV are two crucial public health problems affecting millions of women in the world today. Lichtenstein's [34] study proved that women cannot control their sexual activities, including using condoms in abusive relationships with HIV-positive men. Ghosh *et al.* [35] identified three factors of vulnerability in women in the spread of HIV, such as low level of education, powerlessness in expressing and accessing information related to sexual matters, and poverty.

Efforts to increase public knowledge through mass media campaigns have been carried out in many countries. Most studies show that knowledge about HIV/AIDS is influenced by media exposure. In addition, campaigns through mass media were proven to increase not only knowledge, but also positive attitudes and behaviors as part of efforts to prevent HIV/AIDS. Various studies reveal the effectiveness of mass media in increasing the knowledge about HIV/AIDS [36-44], in increasing the willingness to conduct tests (VCT) [44, 45], in increasing the awareness of prevention, including use of condoms [31, 44, 46, 47], in increasing positive attitudes [31, 40, 43, 46, 47], and in reducing stigma [42, 48]. Today, the change of media use in social media among women raises a question of whether media exposure is correlated with teens' knowledge about HIV/AIDS. Therefore, the present study investigated whether media exposure and socio-demographic variables are related to knowledge of HIV/AIDS among Indonesian women, and aimed to determine the relationship between media exposure and women's knowledge about HIV/AIDS. In addition, this study attempted to determine the relationship between socio-demographic variables (type of residence, age, occupation, level of education, and wealth index) and knowledge about HIV/AIDS.

Indonesian demographic and health survey: an overview

Indonesian demographic and health survey (SDKI) is a social analysis organized by the Central Bureau of Statistics (BPS), BKKBN, and the Ministry of Health since 1987. Moreover, SDKI has been carried out eight times (1987 [SPI], 1991, 1994, 1997, 2002/2003, 2007, 2012, 2017). SDKI is specifically designed to collect information on birth rates, deaths, family planning, and health, especially reproductive health.

The 2017 SDKI aimed to gather information on fertility, family planning participation, maternal and child health, immunization prevalence, and knowledge about HIV/AIDS and other sexually transmitted infections (IMS). Fieldwork was carried out from July to September 2017 in 34 provinces. The sample frame used was a census block list at selected primary sampling unit (PSU) supplemented with information on the number of households according to the 2010 Population Census listing. The 2017 SDKI sample was designed to produce national estimates based on important characteristics of women of childbearing age (range, 15-49 years). However, several indicators could be presented by the province by taking into account the adequacy of the sample.

Material and methods

The current study was based on secondary data from cross-sectional and population-based eight Indonesian demographic and health survey (SDKI) 2017. SDKIs are nationally representative surveys designed to collect data from a sample of household on socio-demographic and health reproductive. Data presented in this study came from the 2017 SDKI from fertile age women (WUS) section. The unit of analysis in this study was households in Indonesia consisting of mothers of reproductive age (range, 15-49 years). There were 49,627 samples in this study. Data collection was carried out using a questionnaire. SPSS software version 22.0 was applied for data analysis. The variables in this study included: (1) type of residence (rural, urban); (2) educational level (no education, primary, secondary, and university); (3) age group (< 20 years, 21-30 years, 31-40 years, and 41-50

years old); (4) mother's work (unskilled, semi-skilled, and skilled); (5) wealth index (poorest, poorer, middle, richer, and richest); (6) media exposure (low, moderate, and high); (7) knowledge about HIV (low, moderate, and high); and (8) attitude towards HIV sufferers (low, moderate, and high).

Before conducting data analysis, variables from the SDKI datasheet were selected and inserted into a new data set. Then, a new category from the original data category for the selected variables was created. The data set in the questions is presented in Table 1.

Table 1. Variable data sets

Code	Variable	Value/original category	New category
V102	Type of residence	Urban Rural	Urban Rural
V013	Age in years group	15-19 20-24 25-29 30-34 35-39 40-44 45-49	< 20 20-29 30-40 40-49
V106	Educational level	No education Primary Secondary Higher	No education Primary Secondary University
Media exposure			
V157	Frequency of reading newspaper/magazine	Not at all Less than once a week At least one a week Almost every day	Low Moderate High
V158	Frequency of listening to the radio		
V159	Frequency of watching television		
V171B	Frequency of using Internet last month		
V190	Wealth index	Poorest Poorer Middle Richer Richest	Poorest Poorer Middle Richer Richest
V716	Occupation	Not working and did not work in last 12 months Professional, technical Manager and administration Clerical Salesperson Service Agricultural worker Industrial worker Other Don't know	Skilled (1, 2) Semi-skilled (3, 4, 5) Unskilled (6, 7, 96)
V751	Ever heard of AIDS	No Yes	No Yes
Knowledge about HIV			
V754BP	Reduce the risk of getting HIV: do not have sex at all	No Yes Don't know	Low Moderate High
V754CP	Reduce the risk of getting HIV: always use condom during sex		
V754DP	Reduce the risk of getting HIV: have one sex partner only who has no other partners		
V754JP	Cannot get HIV from mosquito bites		
V754WP	Cannot get HIV by sharing food with persons who have AIDS		
V756	A healthy-looking person can have HIV		
V774A	HIV transmitted during pregnancy		
V774B	HIV transmitted during delivery		
V774C	HIV transmitted during breastfeeding		

Table 2. Percentage distribution and results of contingency analysis of women who had ever heard of HIV/AIDS by different characteristics (Indonesia, 2017)

Characteristic	Rural		Total, *n* (%)	Urban		Total, *n* (%)
	Yes, *n* (%)	No, *n* (%)		Yes, *n* (%)	No, *n* (%)	
Media exposure						
Newspaper						
Yes	7,608 (32.9)	1,379 (6.0)	8,987 (38.8)	13,226 (50.1)	701 (2.7)	13,927 (52.7)
No	8,660 (37.4)	5,504 (23.8)	14,164 (61.2)	10,372 (39.3)	2,107 (8.0)	12,479 (47.3)
Statistics	χ^2 = 1,455,248; df = 1 Sig. = 0.000; Phi = 0.251			χ^2 = 972,694; df = 1 Sig. = 0.000; Phi = 0.192		
Television						
Yes	15,675 (67.6)	5,928 (25.6)	21,603 (93.2)	23,206 (87.9)	2,696 (10.2)	25,902 (98.1)
No	603 (2.6)	974 (4.2)	1,577 (6.8)	383 (1.5)	119 (0.5)	502 (1.9)
Statistics	χ^2 = 828,006; df = 1 Sig. = 0.000; Phi = 0.189			χ^2 = 91,413; df = 1 Sig. = 0.000; Phi = 0.059		
Radio						
Yes	7,014 (30.2)	1,812 (7.8)	8,826 (38.1)	11,634 (44.0)	915 (3.5)	12,549 (47.5)
No	9,271 (40.0)	5,091 (22.0)	14,362 (61.9)	11,966 (45.3)	1,900 (7.2)	13,866 (52.5)
Statistics	χ^2 = 581,843; df = 1 Sig. = 0.000; Phi = 0.158			χ^2 = 284,377; df = 1 Sig. = 0.000; Phi = 0.104		
Internet						
Yes	6,916 (29.8)	507 (2.2)	7,423 (32.0)	15,819 (59.9)	540 (2.0)	16,359 (62.0)
No	9,368 (40.4)	6,401 (27.6)	15,769 (68.0)	7,769 (29.4)	2,277 (8.6)	10,046 (38.0)
Statistics	χ^2 = 2,750,865; df = 1 Sig. = 0.000; Phi = 0.344			χ^2 = 2,488,975; df = 1 Sig. = 0.000; Phi = 0.305		
Wealth index						
Poorest	4,805 (20.7)	4,234 (18.2)	9,039 (39.0)	1,382 (5.2)	603 (2.3)	1,985 (7.5)
Poorer	4,153 (17.9)	1,479 (6.4)	5,632 (24.3)	3,142 (11.9)	709 (2.7)	3,851 (14.6)
Middle	3,357 (14.5)	757 (3.3)	4,114 (17.7)	4,644 (17.6)	694 (2.6)	5,338 (20.2)
Richer	2,576 (11.1)	325 (1.4)	2,901 (12.5)	6,288 (23.8)	497 (1.9)	6,785 (25.7)
Richest	1,401 (6.0)	114 (0.5)	1,515 (6.5)	8,149 (30.8)	315 (1.2)	8,464 (32.0)
Statistics	χ^2 = 2,384.00; df = 4 Sig. = 0.000; Phi = 0.321			χ^2 = 1,590,429; df = 4 Sig. = 0.000; Phi = 0.245		
Education level						
No education	98 (0.4)	605 (2.6)	703 (3.0)	62 (0.2)	139 (0.5)	201 (0.8)
Elementary	3,636 (15.7)	4,149 (17.9)	7,785 (33.6)	2,899 (11.0)	1,575 (6.0)	4,474 (16.9)
Secondary	9,665 (41.7)	2,103 (9.1)	11,768 (50.7)	14,509 (54.9)	1,060 (4.0)	15,569 (58.9)
University	2,893 (12.5)	52 (0.2)	2,945 (12.7)	6,135 (23.2)	44 (0.2)	6,179 (23.4)
Statistics	χ^2 = 5,026,878; df = 3 Sig. = 0.000; Phi = 0.465			χ^2 = 4,434,744; df = 3 Sig. = 0.000; Phi = 0.410		
Age group						
< 20 years old	2,859 (12.3)	725 (3.1)	3,584 (15.4)	3,995 (15.1)	357 (1.4)	4,352 (16.5)
21-30 years old	4,992 (21.5)	1,321 (5.7)	6,313 (27.2)	6,805 (25.8)	495 (1.9)	7,300 (27.6)
31-40 years old	4,927 (21.2)	2,171 (9.4)	7,098 (30.6)	6,932 (26.2)	770 (2.9%)	7,702 (29.1)
41-50 years old	3,514 (15.1)	2,692 (11.6)	6,206 (26.7)	5,873 (22.2)	1,196 (4.5)	7,069 (26.8)
Occupation						
Unskilled	3,799 (27.6)	3,171 (23.0)	6,970 (50.6)	2,321 (14.7)	485 (3.1)	2,806 (17.7)
Semi-skilled	4,210 (30.5)	1,117 (8.1)	5,327 (38.6)	9,607 (60.7)	1,114 (7.0)	10,721 (67.7)
Skilled	1,440 (10.4)	46 (0.1)	1,486 (10.8)	2,278 (14.4)	20 (0.1)	2,298 (14.5)
Statistics	χ^2 = 1,463,489; df = 2 Sig. = 0.000; Phi = 0.326			χ^2 = 371,548; df = 2 Sig. = 0.000; Phi = 0.153		

Statistical analysis

A χ^2 test was applied to determine the relationship between variables, and if the relationship was statistically significant, correspondence analysis was used to determine the closeness of the relationship between variables. χ^2 formula was as follows:

$$\chi^2 = \sum_i^m \sum_j^n \frac{(O_j - E_j)^2}{E_j},$$

where O_{ij} is the number of observations in the i^{th} row and j^{th} column, E_{ij} is the number of expected values in the i^{th} row and j^{th} column, i is 1, 2, … m, j is 1, 2, ..., n. χ^2 has a χ^2 distribution, with degrees of freedom df = (m-1, n-1).

Results

In general, knowledge of HIV among Indonesian women was shown as quite good, and knowledge of women in urban areas was better than in rural areas. It was found that 28.4% of women in rural areas had never heard of HIV/AIDS, while only 8.8% of urban women had never heard of HIV/AIDS. Table 2 shows that all respondents' socio-demographic characteristics, including wealth index, education, occupation, age, and media exposure, correlate with knowledge about HIV. This means that the richer the women, the higher the level of education, the higher the level of skills in work, the higher the age and media exposure, and the better the knowledge about HIV. Regarding the age group, women's knowledge about HIV was best in the 21-30 years age group. The largest chi-square coefficient value for all characteristics of respondents in both rural and urban areas was the level of education. The most accessible mass media for women in both rural and urban areas included TV, newspapers, radio, and Internet. Overall, 95.65% of women accessed TV (93.2% in rural areas and 98.1% in urban areas). This implies that TV is the most effective media in delivering health messages on HIV/AIDS prevention and control. Unfortunately, this survey did not identify people's habits in the use of social media, which is currently experiencing rapid development in the community. In the future, social media has great potential as an effective media in conveying HIV/AIDS information to the public.

Table 3 shows that there is a significant difference in the knowledge of HIV between rural and urban communities. Knowledge of urban communities was relatively better than that of rural communities. These differences included all aspects of knowledge about HIV on how to prevent, transmit, and detect/diagnose HIV. The table also shows that there are still misconceptions about HIV, especially that HIV can be transmitted through mosquito bites. Misconceptions about this aspect occurred in both rural and urban areas. In addition, there were misconceptions about how HIV is transmitted through the use of shared eating utensils with HIV sufferers and the use of condoms before sex.

Chi-square test

Knowledge about HIV in this study included four indicators: knowledge about prevention, transmission, identification/diagnosis, and transmission. There were nine questions to measure knowledge about HIV, three questions related to prevention, two questions related to transmission, one question related to diagnosis, and three questions related to transmission. Each question had three alternative answers, in which 'Yes' had a value of 1, and 'No' and 'Don't know'

Table 3. Percentage of correct answers regarding HIV by type of region in Indonesia, 2017

No.	Aspects of HIV knowledge	Residence		*t*, sig. (two-tailed)	*p*-value, approx. sig.
		Rural, *n* (%)	Urban, *n* (%)		
I. Prevention					
1	Limited sex	N.A.	N.A.	N.A.	N.A.
2	Use a condom every time having sex	9,599 (24.1)	15,717 (39.4)	–20,652, 0.000	0.106, 0.000
3	Having sex with one partner only	12,760 (32.0)	19,973 (50.1)	–17,778, 0.000	0.097, 0.000
4	Avoid mosquito bites	6,412 (16.1)	11,813 (29.6)	–12,696, 0.000	0.106, 0.000
5	Using cutlery together with HIV patients	6,575 (16.5)	11,538 (28.9)	–17,458, 0.000	0.099, 0.000
II. Mode of transmission					
1	HIV can be transmitted by pregnant women during pregnancy	13,249 (33.2)	20,763 (52.0)	–16,874, 0.000	0.098, 0.000
2	HIV can be transmitted by pregnant women during the birth process	11,615 (29.1)	18,583 (46.6)	–16,258, 0.000	0.093, 0.000
3	HIV can be transmitted by pregnant women during breastfeeding	12,966 (32.5)	20,022 (50.2)	–13,133, 0.000	0.075, 0.000
III. How to diagnose/detect					
1	Look at someone's physical appearance	12,717 (31.9)	20,030 (50.2)	–16,343, 0.000	0.095, 0.000

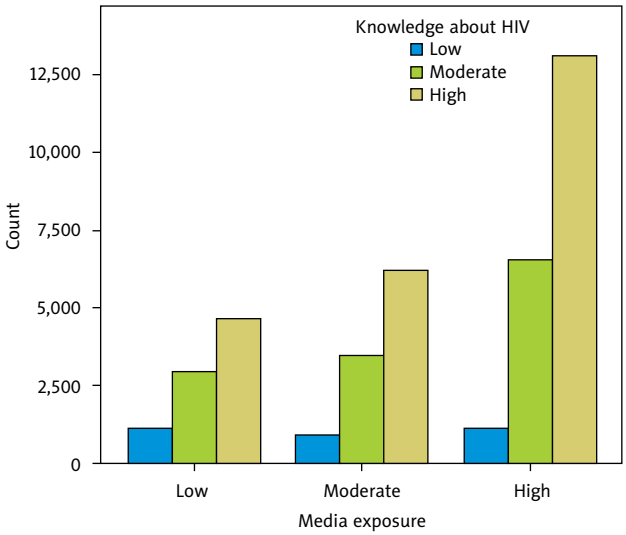

Figure 1. Media exposure vs. knowledge about HIV

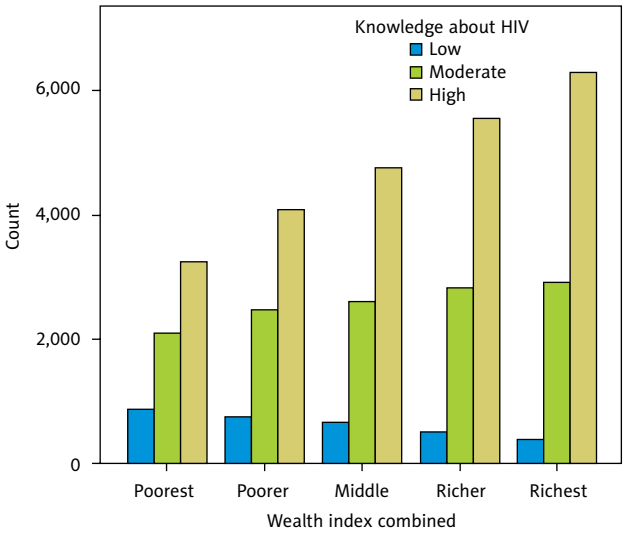

Figure 2. Wealth index vs. knowledge about HIV

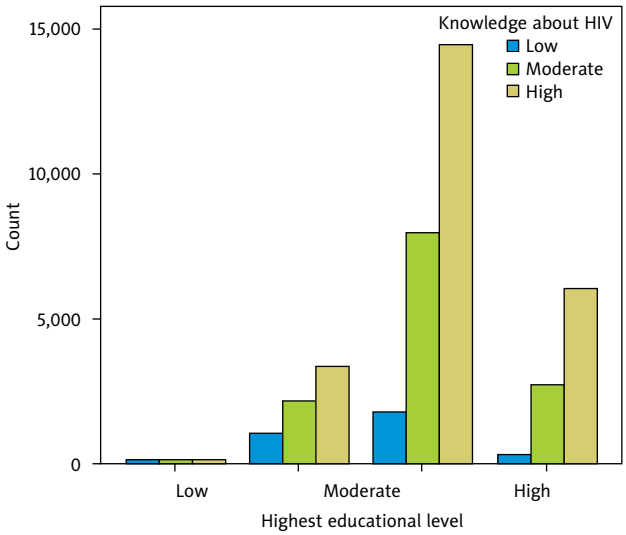

Figure 3. Education level vs. knowledge about HIV

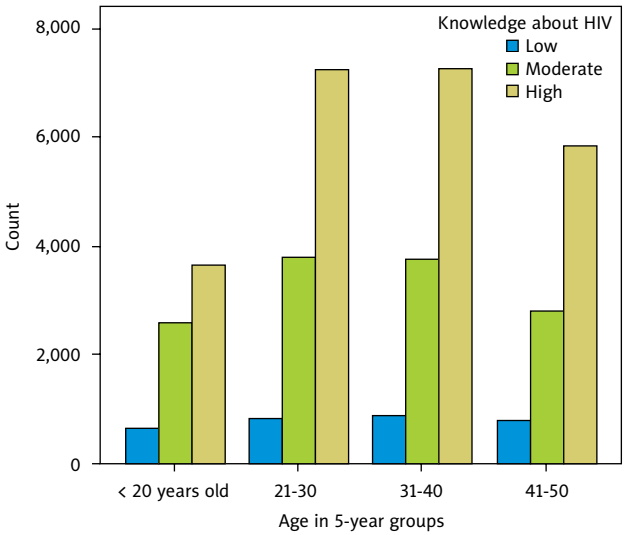

Figure 4. Age groups vs. knowledge about HIV

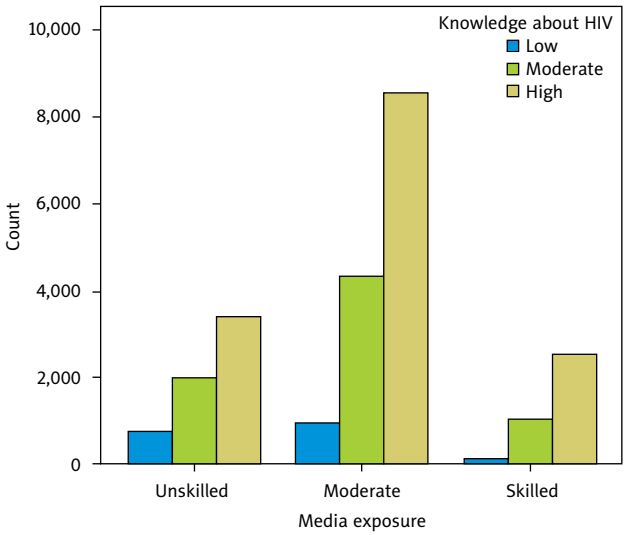

Figure 5. Occupation vs. knowledge about HIV

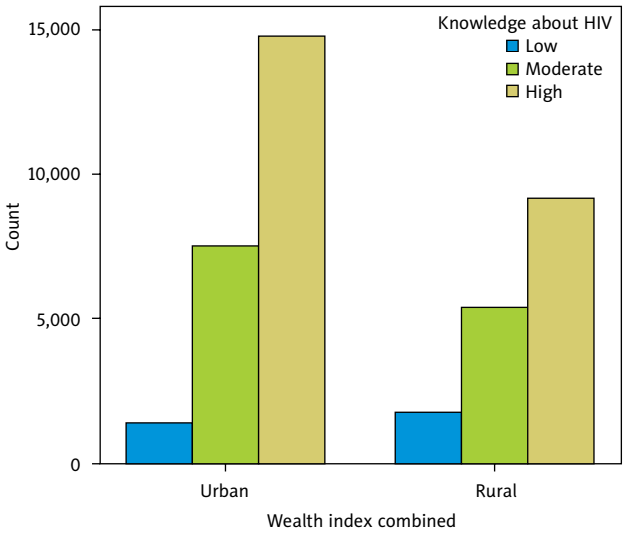

Figure 6. Type of residence vs. knowledge about HIV

Table 4. χ^2 test on socio-demographics and knowledge about HIV

Socio-demographics variables	χ^2 value	*p*-value	Symmetric measure	
			Phi.	Cramer's
Media exposure	551,661**	0.000	0.118	0.083
Wealth index	773,756**	0.000	0.139	0.098
Education level	1039,880**	0.000	0.161	0.114
Age groups	189,931**	0.000	0.069	0.049
Occupation	365,289**	0.000	0.124	0.088
Type of residence	382,449**	0.000	0.098	0.098

***Significant at 0.01. *Significant at 0.05*

had a value of 0. Categorization for this variable was determined as follows: Low (value of 0-3), medium (4-6), and high (7-9). Furthermore, socio-demographic variables and media exposure were associated with variables of knowledge about HIV using χ^2 statistical test. This test was also applied to find out the relationship between knowledge variables on HIV and attitudes towards HIV sufferers.

Figure 1 shows the relationship between media exposure variables and knowledge about HIV. In the group of women with low media exposure levels, 53.42% of women had knowledge of HIV in the high, 33.81% in the medium, and 12.76% in the low category. In the group of women with medium exposure levels, 59.11% of them were knowledgeable about HIV in the high category, 32.79% the moderate, and 8.01% in the low. In the group of women with high media exposure levels, 63.24% of them presented knowledge on HIV in the high category, 39.40% in the moderate, and 5.36% in the low. The chi-square coefficient value of the relationship between the two variables was 365,289, with a *p*-value of 0.000.

Figure 2 shows the relationship between wealth index and knowledge about HIV. In the group of poor women (poorer and poorest), 54.3% of them had knowledge about HIV in the high category, 33.86% in the medium, and 11.8% in the low category. In the middle women's group, 59.55% had knowledge about HIV in the high category, 32.48% in the medium, and 7.96% in the low category. In the richer and richest women group, 64.39% were in the high category, 31.05% in the medium, and 4.56% in the low category. The χ^2 coefficient value between the wealth index variable and knowledge about HIV was 773,756, with a *p*-value of 0.000. This means that there was a relationship between wealth index and knowledge about HIV. The richer a person was, the better the knowledge about HIV.

Figure 3 shows the relationship between education level and knowledge about HIV. In the no education group, there were 36.3% of women with high knowledge, which was identical to women with knowledge in the medium category, while 27.4% had low knowledge. In the elementary education group, 51.4% had high knowledge, 33.2% medium knowledge, and 15.4% presented low knowledge. In the secondary education group, 59.9% of women had high knowledge, 32.9% had medium knowledge, and 7.2% had low knowledge. In the university education group, 67% had high knowledge, 30% had medium knowledge, and only 3% had low knowledge. The χ^2 coefficient value of the relationship between the two variables was 1,039,880, with a *p*-value of 0.000. This means that the higher the level of education, the higher the level of knowledge about HIV.

The relationship between age variables and HIV knowledge is shown in Figure 4. Among women aged below 20 years, more than 50% showed knowledge on HIV in the high category, while 84% were in the medium category, and slightly less than 10% were in the low category. In the 20-29 years age group, 61.23% had knowledge on HIV in the high category, 31.99% in the medium category, and 6.77% in the low category. In the 30-39 years age group, 61.22% were knowledgeable about HIV in the high category, 32.53% in the medium category, and 7.23% in the low category. In the 40-49 years age group, 62% had knowledge about HIV in the high category, 29.74% in the medium category, and 8.26% in the low category. The χ^2 coefficient for the two variables was 189,931 with a *p*-value of 0.000, meaning that the higher the age, the better the knowledge about HIV.

The correlation between occupation variables and knowledge about HIV is shown in Figure 5. In the unskilled workgroup, 55.29% of women had knowledge in the high category, 32.53% in the medium category, and 12.32% in the low category. In the semi-skilled workgroup, 61.23% of women had knowledge of HIV in the high category and 6.82% in the low category. In the skilled workgroup, 68.42% were knowledgeable about HIV in the high category, 28.64% in the medium category, and 2.93% in the low category. The χ^2 coefficient value for both variables was 365,289, with a *p*-value of 0.000.

Figure 6 shows the relationship between types of residence and knowledge about HIV. It was found that 66.6% of urban women presented high knowledge about HIV, 31.7% moderate knowledge, and only 5.6% had low knowledge. Meanwhile, for rural areas, 53.3% of women had high knowledge, 33% medium knowledge, and 10.6% had low knowledge. The χ^2 coefficient value was 382,449, with a *p*-value of 0.000, indicating that there was a significant relationship between the type of residence and knowledge about HIV, as the knowledge of urban communities was shown relatively better compared to rural communities.

Discussion

This study found that all socio-demographic variables (type of residence, wealth index, educational level, age group, and occupation) and media exposure variables had a significant relationship with knowledge about HIV. The correlation between education level variables and knowledge of HIV was the strongest correlation among other socio-demographic variables. Several studies have also documented the relationship between socio-demographic variables and knowledge about HIV as well as the correlation between media exposure and knowledge about HIV. For example, Ackerson *et al.* [49] concluded that education and wealth have a positive association with awareness of HIV/AIDS and knowledge about prevention and transmission of AIDS. Dimbuene and Defo [50] showed that family structure and communication with parents/ guardians and peers about sexual topics are significantly associated with accurate HIV knowledge. Other socio-demographic factors, which influence knowledge about HIV are occupation type [51] age, residence, education, religion, marital status, and wealth index [52-54]. Meanwhile, previous studies reported a correlation between media exposure and knowledge about HIV [43, 55-59].

Theoretically, mass media have an important role in the formation of knowledge, attitudes, and behavior of a person. Empirically, some studies on the role of mass media in shaping knowledge, attitudes, and behaviors related to HIV/AIDS, also showed the same effect. Rahman and Rahman [60] proved that mass media, especially TV, have a direct impact on HIV/AIDS awareness, while other factors, such as education, employment, and economic status correlate indirectly [52, 61]. Many previous studies [58, 62-66], have shown that media exposure was a highly significant predictor of knowledge about HIV/AIDS. In addition to increasing knowledge about HIV/AIDS, media exposure variables play a role in reducing stigma about HIV [67], communicating with partners and parents more respectfully [68], increasing the need for information about HIV [69], increase the awareness of HIV/AIDS [70] and HIV testing [59], and reduce misconceptions about HIV/AIDS [71].

In the context of Indonesia, mass media that is mostly accessed by people in both rural and urban areas is TV. Therefore, an HIV/AIDS prevention campaign through TV has a potential to achieve the greatest effectiveness, although further studies are needed to confirm this theory. Besides TV, campaigning through social media has a great potential for the dissemination of information relating to HIV and AIDS. Indonesia still needs a large-scale education campaign, especially about the risks faced by wives when their husband uses intravenous drugs, in addition to an education campaign for their husband on risks they face [72]. This indicates that the level of public knowledge about HIV is still low, so that frequent misconceptions occur related to HIV/AIDS.

The urgency of HIV/AIDS prevention and control campaigns in Indonesia is related to various misunderstandings about HIV and AIDS in the community. Table 3 shows that misconceptions and inaccurate knowledge about HIV/AIDS still occur in the community. Misconceptions and inaccurate knowledge, especially among women, have greater risks and impacts than in other segments of society. This is related to the phenomenon of HIV feminization, which is that women have the risk and vulnerability of HIV transmission. The burden of caring for families or partners infected with HIV is also greater for women, and generally, the level of education and knowledge related to HIV in women is much lower than for men. In the end, many women are infected with HIV from their partners. In addition, HIV-infected women generally experience relatively greater negative impacts. A number of studies show negative effects experienced by women infected with HIV, including depression, anxiety, symptoms of traumatic stress and thoughts of suicide [73], stigma [74-76], psycho-emotional suffering [77], and unwanted pregnancy [78].

Conclusions

Knowledge about HIV is a crucial factor in the spread of HIV and AIDS. This study examines the correlation between socio-demographic variables and media exposure. The results of this study indicate that socio-demographic variables (i.e., type of residence, wealth index, education level, occupation, and age group) and media exposure correlate with HIV knowledge. The educational qualification variable is the socio-demographic variable, with the strongest relationship with knowledge about HIV. Mass media supporting the campaign has strategic value, considering that in society, there are still misconceptions about HIV and risks of spreading the disease, especially among women. The results of this study have policy implications in the form of increasing public access to information about HIV/AIDS through the mass media. The tendency of people to switch to social media is necessary to develop models for HIV prevention campaigns through social media. In addition, it is necessary to develop reproductive health education models among adolescents based on android application.

Conflict of interest

The authors declare no conflict of interest.

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