

HIV and AIDS prevention behavior among housewives in South Purwokerto sub-district, Indonesia

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Abstract

Introduction: Human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS) is a health problem associated with risky behavior. In Indonesia, AIDS cumulative cases from 1987 to September 2014 showed housewives as the highest number of AIDS cases among other type of occupations, with 6,539 cases (21.4%). South Purwokerto is a sub-district in Banyumas District, Central Java, Indonesia, with sexually transmitted infection (STI) cases as many as 45 people.

Material and methods: In this quantitative cross-sectional study, health belief model (HBM) was employed to determine individual acceptance in conducting HIV and AIDS prevention behavior. A total of a 100 housewives from South Purwokerto sub-district were included using proportional random sampling technique. Data were collected through interview using questionnaires, and analyzed with χ^2 test.

Results: The results showed that most respondents (51%) perceived themselves as vulnerable to HIV infection, 52% described HIV as an emergency disease, 65% reported that HIV prevention is not helpful, 71% stated that there are no barriers to HIV prevention, 62% had a positive belief on HIV prevention, and 65% of women had a cue to act in preventing HIV transmission. HIV and AIDS good prevention behavior was seen in 56% of respondents. There is a relationship between cue to act and prevention of HIV transmission, and no connection between perception of vulnerability, urgency, benefits, barriers, and beliefs with HIV and AIDS prevention behavior as dependent variable.

Conclusions: The results of this study show that there is a relationship between the cue to act in preventing HIV/AIDS and the prevention behavior, while there is no relationship between the acceptance of vulnerability, emergency, benefits, barriers, and beliefs with the HIV and AIDS prevention behavior as dependent variable.

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Key words: HIV, housewife, housewives, perceive, prevention, behavior, Indonesia.

Introduction

Central Java, Indonesia was ranked sixth in the number of human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS) cases, with 9,830 and 4,079

of HIV and AIDS cases, respectively, until December 2014. The spread of HIV and AIDS among housewives in Central Java Province have reached 18.5% (4,992 cumulative cases). Also, the number of HIV/AIDS cases among infants and

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toddlers was high: age 0 to 4 years, 69 cases (3.2%), and 5 years old, 24 cases (11%). Banyumas, as one of the districts in Central Java Province, is vulnerable towards HIV infection because it is an area of transit, vacation, and business center. Banyumas currently ranked second as the city with the highest number of people living with HIV and AIDS after Semarang in Central Java, with a number of 460 of HIV and 254 of AIDS registered cases [1].

The number of people living with HIV and AIDS in Banyumas continue to rise year after year. According to information of District Health Office (DHO) of Banyumas in 2012, there were 166 of HIV cases, of which, 64 were AIDS-positive and 24 died. In 2013, there were 215 of HIV-infected people: 101 with AIDS and 34 died. Data from 2014 showed 202 people infected with HIV, of which 107 people were AIDS-positive and 19 died [2]. In Indonesia, from 1987 to September 2014, housewives were reported as the highest number of AIDS cases among other types of occupations, with 6,539 cases (21.4%) [3], whereas in Banyumas in 2013, the number of HIV and AIDS cases among housewives reached 14.4%. High number of HIV (96%) and AIDS (90.6%) cases dominate productive age (15-49 years old). The development of South Purwokerto, one of sub-districts in Banyumas, as a center of services and education, had a negative impact, which triggered the emergence of sexually transmitted infections (STIs) and HIV/AIDS due to drugs usage among students brought by migrants, with data showing 45 cases with STIs in South Purwokerto [2, 4].

The highest risk factor for HIV is unsafe heterosexual sex (65%). HIV-infected housewives constitute 13.98%, and the most possible way of getting infected is from their husbands who can be HIV-infected due to sex with HIV-positive female sex workers [5, 6].

In health belief model (HBM), behavior is influenced by perceptions of susceptibility, severity, benefits, barriers, and cue to act. Research showed that HIV testing and condoms use were influenced by perception as well as other factors, such as weak barriers, high signal for action, and young age [7, 8].

The high number of HIV infection among housewives and their risk of getting infected by their husband indicated that HIV infection among family members is still not considered. In some cases, husbands hide their HIV status from their wives, therefore housewives must prevent their own selves. Due to this phenomenon, this study aimed to describe housewives HIV prevention behavior, and examine self-perception-related factors.

Material and methods

This was a cross-sectional study, with HIV and AIDS prevention behavior as a dependent variable, and independent variables, such as self-perception of vulnerability, receiving benefits, acceptance of barriers, acceptance of threats, self-confidence, and cue to act. Hundred housewives from South Purwokerto sub-district were included. Exclusion criteria were widows, and mothers who were not registered

administratively as citizens of District South Purwokerto, even though they lived in that area.

Data were collected with a questionnaire in the form of a list of closed questions. Validity test was used to examine whether each of the questions of variables applied in the study can actually reveal the variables studied. Validity test was done using Pearson's correlation between the respective indicator scores and the total score of construct. Reliability test was used to determine the consistency of measuring methods with Cronbach α coefficient [9].

Data processing included editing, coding, data entry, and tabulating. Descriptive analysis was performed on each variable of the research that resulted in the distribution and percentage of each variable, to explain or describe the characteristics of each studied variables [10].

Perception of vulnerability was divided into 'not susceptible' (score < 21) and 'susceptible' (score \geq 21). Perception of severity was divided into 'not serious' (score < 23) and 'distress' (score \geq 23). Perception of benefits was distributed into 'yes' (score < 16) and 'no' (score \geq 16), while perception of barriers was divided into 'with barriers' (score < 13.53) and 'no barriers' (score \geq 13.53). Perception of beliefs was distinguished into 'negative' (score < 9) and 'positive' (score \geq 9), whereas cue to act was divided into 'yes' (score < 11) and 'no' (score \geq 11). HIV and AIDS prevention behavior was distributed into 'not good' (score < 11) and 'good' (score \geq 11). All independent variables were tested for conjunction with behavioral HIV prevention and AIDS using χ^2 test.

Results

In this study, the majority of the respondents were aged between 36 and 40 years ($n = 23$, 23%), and mostly were married between 6 and 10 years ($n = 23$, 23%). In majority, the education level was high school graduation with 39 individuals (39%). Most frequently, the period of husband staying away from family was shown as 'never' (0 day) stated by 92 women (92%). Most of the respondents had a husband who works as a private employee ($n = 39$, 39%) (Figure 1).

Table 1 shows that majority of the respondents had a perception of vulnerability ($n = 51\%$), gravity of the perception was as much as 52%, the perception of no benefit in preventing HIV was declared by 65% of the respondents, the perception that there are no obstacles in preventing HIV was shown by 71%; the perceived belief towards prevention was 62%, having cue to act was 65%, and good HIV and AIDS prevention behavior was declared by 56% of the participants.

Participants who responded to the risk of HIV and AIDS (49%) had a greater proportion of unfavorable behavior in the prevention of HIV and AIDS compared with respondents who had not vulnerable perception (38.8%). The result of this study showed that there was no connection between the perception of vulnerability and HIV and AIDS prevention behavior (Table 2).

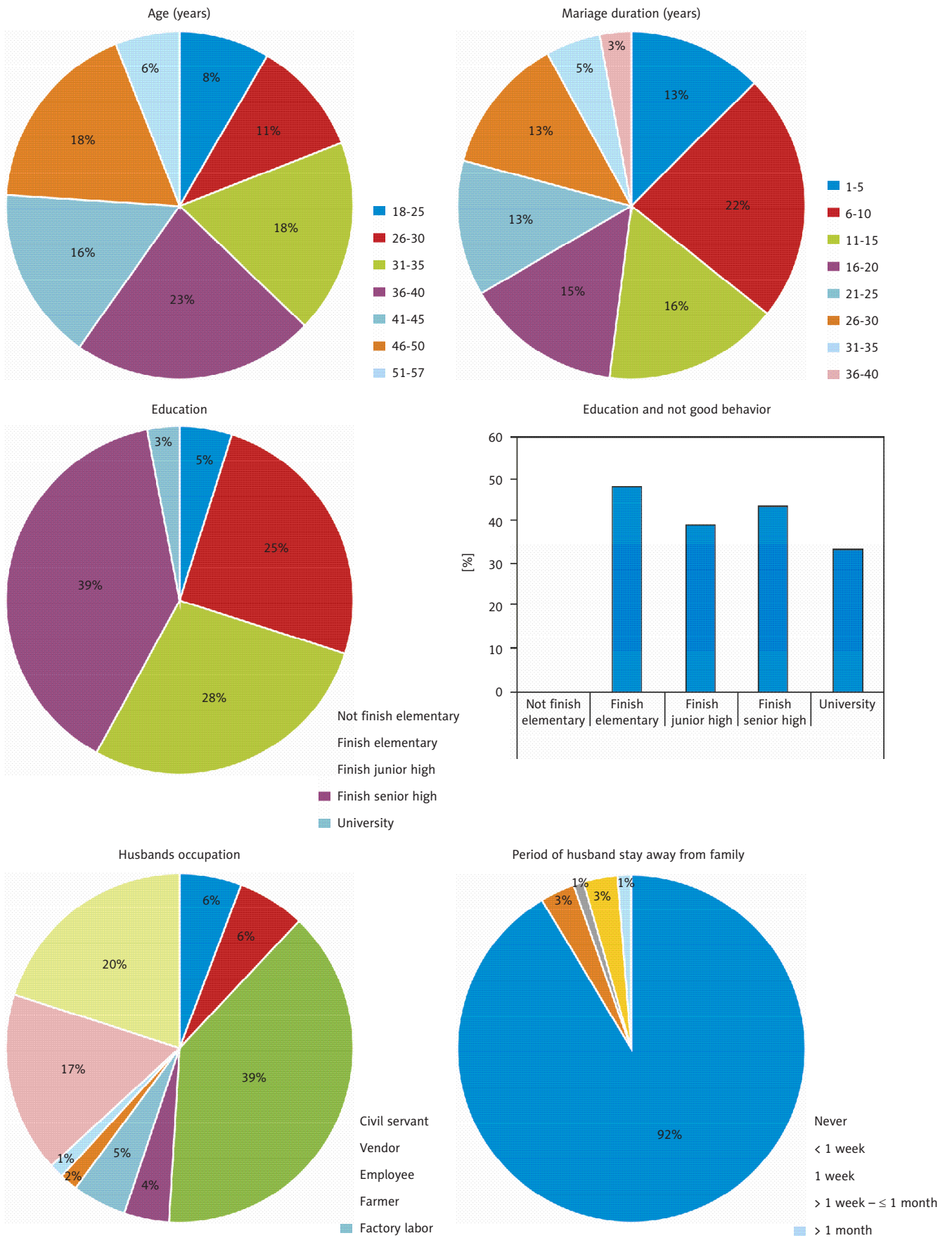


Figure 1. Characteristic of respondents

Table 1. Respondents perception of HIV and AIDS prevention

No.	Perception	%
1	Self-perception vulnerability	51
2	Urgency of disease perception	52
3	Perception has barriers in behaving	29
4	Perceived benefits of doing prevention	35
5	Perception beliefs towards prevention	62
6	Having cue to act	65
7	Perform preventive behavior	56

Discussion

The results of this study did not adhere to HBM, in which the perceived vulnerability is the perception that the person is at risk for contracting the disease, and the individual will tend to take steps to prevent the disease. This non-compliance was caused by demographic factors, such as maternal age, perception of gender, and social and cultural factors.

Most of the respondents were aged 36-40 years (23%). This age range is vulnerable of contracting HIV and AIDS because of high sexual activity, and individuals should seek HIV and AIDS prevention. The respondents were not good at doing prevention behavior in that age range (i.e., 36-40 years, 30%), while good prevention behavior was mostly seen in women aged 46-50 years (27%). This was due to physical and psychological changes at that age because of diminished capacity of reproduction in women who enter menopausal age as well as reduction in sexual activity, which is different from that of man who are usually still sexually active.

The results show that the overall HIV and AIDS prevention behavior was not good, with feeling vulnerable (49%) greater than the proportion of those who did not feel vulnerable (38.8%). Perception of vulnerability is not related to HIV and AIDS prevention behavior. Women who are vulnerable and susceptible to HIV and AIDS demonstrate also not good behavioral HIV and AIDS prevention, which can be attributed to gender inequality experienced by many women. The position of women as housewives have lower bargaining position because of economic dependence from their husbands, which can lead to not optimal HIV and AIDS prevention behaviors.

Socially, women do not have the bargaining power to refuse sexual intercourse with their husbands, let alone the authority to ask the husband to use condom during sexual intercourse. Talking with their husbands about sex, reproductive health, and other intimate subjects is a taboo among women. In general, women are very economically dependent on men [11].

The results of susceptibility perception of contracting HIV and AIDS showed that 74% of the respondents did not feel vulnerable to HIV and AIDS. This aspect can be attributed to the perception that they are not likely to be infected from their husbands (16%). Behavioral HIV and AIDS prevention in 44% of housewives only is still not good result,

Table 2. Respondents perception and behavior of HIV and AIDS prevention

Risk factor	HIV and AIDS prevention behavior		Total, n	p-value
	Not good, n (%)	Good, n (%)		
Self-perception vulnerability				
No	19 (38.8)	30 (61.2)	49	0.406
Yes	25 (49.0)	26 (51.0)	51	
Urgency of disease perception				
No	21 (43.8)	27 (56.2)	48	1.000
Yes	23 (44.2)	29 (55.8)	52	
Perceived benefits of doing prevention				
No	16 (45.7)	19 (54.3)	35	0.966
Yes	28 (43.1)	37 (56.9)	65	
Perception has barriers behaving				
Yes	11 (37.9)	18 (62.1)	29	0.576
No	33 (46.5)	38 (53.5)	71	
Perception beliefs towards prevention				
Negative	14 (38.8)	24 (63.2)	38	0.357
Positive	30 (48.4)	32 (51.6)	62	
Having cue to act				
No	10 (28.6)	25 (71.4)	35	0.038
Yes	34 (52.3)	31 (47.7)	65	

although the respondents expressed they are vulnerable to contracting HIV and AIDS (49%).

Women who responded showing urgency of HIV/AIDS prevention behavior (44.2%) had almost the same proportion to unfavorable behavior in the prevention of HIV and AIDS compared with those who have no perception of distress (43.8%). This result shows there is no connection with the perception of the urgency of HIV and AIDS prevention behavior.

The perception of urgency stimulates a person to seek treatment and prevention of a disease. In this study, mothers perceived that HIV is a serious disease, and they were following HIV prevention practices. The study showed no association with the urgency of HIV and AIDS prevention behavior, due to a long marriage, education level, occupation, residence, and time of husband staying at home.

Respondents were not good in preventing HIV and AIDS, and majority were married for 6 to 10 years (27%). HIV and AIDS prevention behavior was good in those who were married for 6-10 years, 11-15 years, 16-20 years, 21-25, and 26-30 years (> 10%).

A study by Awosan *et al.* [12] reported that out of 97.8% of patients who have heard of HIV and AIDS, only 18.3% knew the causes of HIV and AIDS. A total of 57.25% of the respondents knew where to do an HIV test, but only

23.9% have done the test. Good knowledge of the risk and perception of HIV and AIDS does not affect the behavior prevention. Such behaviors can be observed from the persistence of behaviors, including needles sharing (stated by 12.2%) and free sex (stated in 8.3%).

The results showed that the respondents who had a perception of severity (19%) did not need to re-test if a HIV test result was negative. Signs and symptoms of exposure to HIV, such as body weight dropping dramatically, was considered in 21% of the respondents. As many as 24% of them disagreed that chronic diarrhea is an infection that appears when someone has AIDS. Participants' perceptions about people living with HIV and AIDS who cannot be cured were noted in 47%. There was no relation between knowledge and HIV and AIDS prevention efforts, as not only the knowledge was a factor that influenced a person's behavior [13].

In this study among housewives, mother's perception as an aspect of seriousness of the disease, HIV was not considered serious by 48% of the housewives; behavioral HIV and AIDS prevention was not done by all housewives and HIV status examined through VCT clinic, neither was the status of HIV checked during pregnancy.

Increased HIV and AIDS epidemic among women is due to poverty and gender inequality. Although women have increased vigilance through the role of media and healthcare through health professionals, they are still not able to protect themselves, which increase vulnerability risk in women [14].

A study by Saki *et al.* [15] observed that HIV and AIDS is a phenomenon of health issues, economy, and wider culture. The effect of stigma of people infected with HIV leads to discrimination and rejection in society. Stigma is associated with cultural background, so that patient and family are affected by negative attitudes of society.

Most women who had a poor behavior in HIV and AIDS prevention (93.2%) compared with good (91.1%) had their husbands live at home almost every day. Mostly, husbands work as private employees (48%), and are in the group of not good HIV and AIDS prevention behavior. Husband job is not an excuse for not having time to stay at home reduced; based on data, most working husbands have time to stay at home almost every day (92%), the largest percentage is the husbands who work as private employees, with 39.1%.

Housewife's husband dwell time assume that being at home almost every day is not a reason that husband would perform risky behavior as well as a wife who has a husband who often work outside the city. Wives had the perception that their husbands do not perform risky behaviors, which would lead to contracting HIV and AIDS.

Ranjan *et al.* [16] reported that only 16% of migrant workers' wives have ever heard that condoms, sharing needles/syringes, and blood testing before transfusion, were related to HIV and AIDS. Moreover, nearly 85% of wives of migrant workers feel that their husbands are at a very low level of risk for HIV infection. The respondents who had a perception that there are benefits (43.1%) compared with no benefits (45.7%) had almost the same proportion of unfavorable behavior in the prevention of HIV and AIDS. The results of this

study mention no relationship between perceptions of benefits and behavioral HIV and AIDS prevention. Perception of benefits means that the participant responds himself to perceiving the benefits of prevention of HIV and AIDS.

Perception of benefits is likely shown by a person who seek treatment and prevention of the disease. In this study, mothers (65%) perceived the benefits of preventing HIV, but not housewives who were not doing HIV prevention practices. From the research results analysis, benefits of the relationship with behavioral HIV prevention and AIDS were not shown, possible due to stigma and discrimination.

Chimoyi *et al.* demonstrated that low perception of benefits, stigma, and social discrimination reduce the likelihood of women to test for HIV. There was no correlation between perceptions of benefits (VCT) with HIV prevention behavior [17, 18].

According to Elseikh *et al.* [19] research, HIV testing in women is considered an additional burden of anxiety and worry. Respondents expressed that the most influential role of health professionals is related to the acceptance of HIV testing, where speed and confidentiality of the testing process is a key factor that affects women to have an HIV test done. HIV-related stigma is due to lack of awareness of health workers on HIV-related stigma in healthcare facilities, lack of comprehensive knowledge about HIV transmission, and HIV associated with bad/immoral sexual behavior. To combat the stigma, interventions are required at the individual and environmental levels as well as policy [20].

Distribution of respondents stating that only 60% agree to use a condom every time they have risky sexual intercourse, shows that the perception of benefits of condoms as an HIV prevention benefit is perceived not only as a contraceptive to prevent HIV transmission. Stigma for women can also lead to lower condom use as well as lack of knowledge on the availability and ways to obtain condoms [21].

Condom utilization is a barrier for housewives whose husbands do not want to use condoms. Housewives' risky husbands are those who advise their wife to use condoms, but there is resistance from wives because of security reasons. Moreover, according to wives, condoms are only suitable for female commercial sex workers [22].

Married women tend to stigmatize people living with HIV and AIDS, and blame them for transmitting HIV. Providing right information is needed to reduce stigma and discrimination of HIV/AIDS in the community. Interventions reducing HIV-related stigma are likely to boost psychological functioning among women that in turn can improve their welfare and quality of life [23, 24].

Women who responded that perceive the absence of barriers to behavioral HIV and AIDS prevention (46.5%) had a greater proportion of unfavorable behavior in the prevention of HIV and AIDS compared with the respondents who reported no barriers perception (37.9%). The study shows that there is no connection between the perception of barriers and preventive behavior.

Participants largely perceived the absence of barriers in the prevention of HIV and AIDS (71%). Respondents expressed the barriers, in which housewives agreed that they do not know their husband sexual behavior (37%), and that they did not know if the husband had a sexual partner other than wife (33%). Perception barriers in questions included health insurance that does not cover the financing of HIV and AIDS treatments. Thirty percent of women agreed that the condoms will not be noticed by their husbands.

From the results of the study, there was no association with perception of having barriers to HIV and AIDS prevention behavior. Barriers in this study were self and partner/husband barriers. Self-barrier was influenced by stigma, while partner's barrier was influenced by the dominance of husbands of women (housewives) with an inferior position.

Prevention behaviors are influenced by the willingness, intentions, and decisions to protect. Other personal factors, included personal, social, and environmental barriers. The willingness to avoid the use of condoms was because it can reduce sexual pleasure. Barriers can be derived from the trust in your partner, misperception, and lack of access to condoms, unplanned sex, fear of contracting the disease, desire, and ethical commitments of couples. Barriers that occur in the low-risk group, such as housewives, include the existence of barriers of condoms' use because it is perceived as a stigma associated with the ownership of a condom, while in the high-risk groups, such as female sex workers, barriers are perceived because of their/sexual partners dominance [25].

Barriers to accessing HIV services are the fear of stigma, lack of support from husband, tight work schedule, and high transportation costs. Obstacles also include the absence of HIV symptoms, denial of HIV status, and inadequate behavior of health workers disrespecting patients. The importance of interventions to combat stigma incorporate reinforcement of health education programs, gender disparities, implementation of patient-friendly services as well as flexible hours of services [26].

Barriers to HIV testing are at the level of the patient, such as barriers to healthcare providers as well as obstacles that refer to the policy level. Lack of structured information are the obstacles to consider legal factors, administration, finance, attitudes and practices of healthcare workers as well as patient's own perception; it is necessary to increase the effectiveness of HIV counseling and testing [27].

Barriers were not perceived by some of the respondents because they have a formal worker husband with health insurance to access health services. Perceived barriers were stigma associated with HIV status during testing. Barrier to condom use was also experienced by the respondents because the beliefs of condom utilization tend to be more widely used, in pair unofficial and WPS.

Respondents having positive perception of confidence (48.4%) had a greater proportion of unfavorable behavior in the prevention of HIV and AIDS compared with respondents having negative perception of confidence (38.8%). This result demonstrates that there is no connection between the perception of confidence with behavioral HIV and AIDS

prevention. Perception of positive belief means that housewives perceive themselves in the positive belief group to conduct HIV and AIDS prevention.

Most of the respondents had a positive belief (62%). From the resulting distribution of answers, the respondents agreed that HIV transmission cannot be prevented by any means (22%). Women also stated that wife does not have the authority to offer condom to her husband, which was expressed by 33% of the participants.

Condoms are effective and simple interventions in preventing HIV infection. Low condom use in males is based on factors, such as embarrassed to buy condoms and reduced sexual pleasure. Using of female condoms is still low due to condoms interfering with sexual pleasure and the inability to convince couples to use condoms [28].

Piper *et al.* [29] reported that most women who had not an HIV test were confident that they are not at risk of contracting HIV. The risk of contracting HIV was believed more likely exposed to those who were not married. Women are not confident they may have an STI, and have the perception that husband/sexual partner have the authority to have sex without using a condom. This can be due to gender inequality, cultural sanctions, and structural factors. It is necessary to provide interventions to promote gender equality in sexual decisions and initiatives that encourage efforts to change the beliefs and values related to sexual behaviors [30].

Perceptions of self-stigma associated with HIV and AIDS are experienced. Research on stigma shows that a person with low HIV and AIDS self-stigma is more willing to do VCT than a person who has strong self-stigma [31].

Positive confidence among the respondents showed that the use of condoms was in the authority of husband; wives felt that husbands did not perform risky behaviors because every day they return home or have time to stay at home. The presumption of women can be used as a reason that the respondent's husband will not perform risky behavior. The participants believed that they belong to a group of low-risk of HIV infection. With regards to HIV test as a practice of HIV/AIDS prevention method, all respondents claimed that they never did it, even when they were pregnant.

Housewives who had a cue to act (52.3%) had a greater proportion of unfavorable behavior in the prevention of HIV and AIDS than those without cue to act (28.6%). The results of this study suggest a link between cue to act with behavioral HIV and AIDS prevention. Perception of cue to act means that the respondents said they were in the group who seek to conduct behavioral intention to act in preventing HIV/AIDS transmission. An internal factor of housewives in this research was to avoid the drugs for HIV and AIDS (80%).

Conclusions

The results of this study show that there is a relationship between the cue to act in preventing HIV/AIDS and the prevention behavior, while there is no relationship between the acceptance of vulnerability, emergency, benefits, barriers,

and beliefs with the HIV and AIDS prevention behavior as dependent variable.

Disclosures

1. Institutional review board statement: The study was approved by the Faculty of Medicine Ethics Commission Jenderal Soedirman University, with approval number: 1492/KEPK/IV/2017, issued on April 11, 2017.
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