

# Prevention Behavior of HIV/AIDS Transmission in High-Risk Populations

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**Abstract**—Cases of HIV/AIDS in Indonesia continue to increase each year, including in the province of Central Java. One area that has a high HIV/AIDS case is Batang. This region has a lot of localization as a place for risk of HIV/AIDS transmission. In the past year in Batang 75 new cases of HIV/AIDS have been found and 10 people have died. This case occurs a lot in female sex workers (FSW). Banyuputih District is the region with the highest HIV/AIDS cases in Batang. This is presumably because the area has the most localization sites in Batang. Analysis of the prevention behavior of HIV/AIDS transmission in FSW and its determinants is very necessary. The Health Belief Model (HBM) was adopted to be able to describe the behavior. This study was a descriptive analytic study with a cross sectional design. The population of this study is all female sex workers in the Banyuputih localization. This research uses total sampling technique. Data analysis was conducted to determine the factors that influence the behavior of prevention of HIV/AIDS transmission carried out by high-risk populations in localization with Chi-square test. The results showed that perceptions of Susceptibility, perceptions of Severity, perception of benefits, perceptions of barrier, influenced the prevention behavior of HIV/AIDS transmission.

**Keywords**—HBM, risk behavior, HIV/AIDS

## I. INTRODUCTION

The number of HIV / AIDS cases in Indonesia always increasing. Likewise in Central Java, HIV / AIDS cases in the last three years also increased. This fact made Central Java province ranked fifth in the largest number of AIDS cases nationally. Based on these data, it was known that everyday 10 new AIDS cases are found in Central Java [1].

Batang Regency is one of the districts that has high risk transmission of HIV / AIDS because the region has the most localization sites in Central Java, which is 12 prostitution localizations spread along the northern coast of Java. Batang District AIDS Commission, said AIDS cases in Batang continue to increase. Since 2007 to June 2018 there have been 1,039 cases of HIV / AIDS, 165 of which have died. Another fact is cumulative, many cases occur in housewives, namely 204 cases.

This past year, 75 new cases of HIV / AIDS have been found in Batang district and 10 people have died. Data from

the Batang AIDS Prevention Commission stated that the HIV / AIDS cases in Batang in the past year were dominated by women (63%) and mostly came from Female Sex Workers (Wanita Pekerja Sex in Bahasa or WPS). WPS are the group that has the biggest risk factor due to sexual behavior that alternates partners. This fact shows that HIV / AIDS is increasingly worrying both in quantitative and qualitative terms.

Banyuputih sub-district is the region with the highest HIV / AIDS cases in Batang district, which is 22 cases, followed by Bandar district with 20 cases and Gringsing 16 cases. This is allegedly because the region has the most prostitution localization sites in Batang, namely 3 official localizations and some hidden localization in the form of cafes and karaoke venues. This condition also contributed to the increasing number of localization areas where sexual transactions took place. In 50 countries states that Female Sex Workers have a 14-fold higher risk of HIV / AIDS than women of the same age in the general population [2].

From the facts above, it can be concluded that WPS are a high-risk group that is infected and also transmits HIV / AIDS. In Indonesia, it is predicted that more than 50% of FSW suffer Sexually Transmitted Disease. This is exacerbated by the behavior of FSWs who pay less attention to their own health status. Most FSWs are reluctant to conduct health checks and seek information related to their health status due to economic reasons and negative stigma. They prefer to buy their own medicines, including using antibiotics without consulting health workers.

FSW knowledge are still low related to HIV / AIDS and the reasons for earning more income are the main causes of the weak efforts to prevent HIV / AIDS transmission by FSW in localization. The unavailability of comprehensive and sustainable information in the localization environment causes FSW not fully know the information about the spread and ways to prevent the deadly disease.

Based on preliminary studies by researchers through interviews with FSW and localization officials, it was know that access to information by FSW were very limited, originating only from Puskesmas officials when conducting

STI and VCT screening tests and from NGOs FKPB (Forum Komunikasi Peduli Batang) when conducting outreach and counseling at localization.

FSW need to be empowered to not only reject unprotected sex, but also to be able to motivate clients to use condoms. Intervention and promotion of condoms must also be able to overcome factors that affect the ability of FSW to negotiate condom use [3]. Women's negotiation and economic independence are the most powerful factors influencing their behavior in HIV / AIDS prevention, especially in the use of condoms [4]. This fact is consistent with the study of Lianne, which states that internal factors, physical environment, economy, and policy and social factors, are significantly related to HIV / AIDS prevention efforts through condom negotiations by FSW [5]. The helplessness of sex workers is an obstacle to negotiating safe sex practices<sup>[6]</sup>. Another study by Baral, which stated that the belief in negotiating the use of condoms is a significant predictor in the practice of condom use [2].

The government and non-governmental organizations have made various efforts to reduce and prevent cases of HIV / AIDS transmission in high-risk populations, but these efforts have not been effective in reducing HIV / AIDS. Identification and analysis of HIV / AIDS prevention behavior by high-risk populations and their determinants are very necessary. The Health Belief Model (HBM) is one model that can be used to assess community efforts to prevent disease. Therefore this study will analyze the HBM in relation to the prevention of HIV / AIDS transmission in high-risk populations in localization.

## II. METHOD

This type of research is an observational analytic study with cross sectional design using a quantitative approach. This study was conducted to predict HIV / AIDS prevention behavior among FSWs as a high-risk population that transmits and is infected with HIV / AIDS and its determinants.

The population of this study were all female sex workers who were localized in the Banyuputih sub-district, Batang regency, which was the highest-risk population to be infected and transmit HIV / AIDS. The sample selection technique is total sampling in order to be able to predict HIV / AIDS prevention behavior carried out by WPS comprehensively. Research data collection was carried out using a questionnaire. Data analysis used Chi-square test.

## III. RESULT AND DISCUSSION

Before you Based on the results of the study, from 61 FSW participants in community schools, it is known that their average age is 28 years. The youngest WPS is 20 years old and the oldest 47 years old. The following is an overview of the level of education, marital status and length of time working as WPS in the Localization of Banyuputih, Batang regency.

Table I shows that the majority of FSWs with elementary school education are 57.4%, and JHS 36.1%, and there are 2

people (3.3%) FSW with high school education. Judging from the marital status, the majority of FSWs were widowed / divorced at 75.4%. However, there were 18.0% of FSWs who were still married and there were 4 FSWs who were not married. Based on the length of work as WPS, the majority of WPS who have worked as WPS are between 1 and 5 years. However, there were 13 WPS (21.3%) who took the profession as new WPS.

TABLE I. FSW CHARACTERISTIC

Characteristic Education Level	Frequency	%
No School	2	3,3
Elementary School	35	57,4
Junior High School	22	36,1
Senior High School	2	3,3
<b>Merriage Status</b>		
Single	4	6,6
Merried	11	18,0
Widowed / divorce	46	75,4
<b>Length of Work as FSW</b>		
<1 year	13	21,3
1-5 years	42	68,9
6-10 years	4	6,6
>10 years	2	3,3

The following are the factors that influence the prevention of HIV / AIDS transmission in high-risk populations in the Banyuputih Localization in Batang regency.

TABLE II. CROSSTAB BETWEEN KNOWLEDGE, PERCEPTION OF VULNERABILITY, PERCEPTION OF SERIOUSNESS, PERCEPTION OF USEFULNESS, AND PERCEIVED CONSTRAINTS WITH HIV / AIDS PREVENTION BEHAVIOR IN HIGH-RISK POPULATIONS

Variable	Prevention Behavior of Transmission HIV / AIDS		P Value
	Not Good	Good	
<b>Perception of vulnerability</b>			
Not good	19 (31,1%)	6 (9,8%)	0,031
Good	0 (0,0%)	36 (59,0%)	
<b>Perception of Seriousness</b>			
Not good	18 (29,5%)	8 (13,1%)	0,008
Good	0 (0,0%)	35 (57,4%)	
<b>Perception of Usefulness</b>			
Not Good	25 (41,0%)	10 (16,4%)	0,012
Good	1 (1,6%)	25 (41,0%)	
<b>Perception of Obstacle</b>			
Not good	17 (27,9%)	33 (54,1%)	0,0002
Good	0 (0,0%)	11 18,0 %	

Based on Table II, perceptions about the vulnerability of STI transmission and HIV / AIDS related to HIV / AIDS transmission prevention behavior in high-risk populations at localization (p value 0.00003). Perception related to the seriousness of the impact of STDs and HIV / AIDS related to HIV / AIDS transmission prevention behaviors (p value 0.008). The perception of the benefits of using condoms and VCT is related to HIV / AIDS transmission prevention behavior (p value 0.012). Likewise, perceptions related to barriers to condom use and VCT have also been shown to be related to HIV / AIDS transmission prevention behaviors in high-risk populations in localization (p value 0.0002).

#### IV. CONCLUSION

The perception of susceptibility of STI transmission and HIV / AIDS has been shown to be significantly related to the prevention of HIV / AIDS transmission behavior in high-risk populations in localization (p value 0.031). This is consistent with the Health Belief Model theory that the perceived vulnerability is a person's subjective perception of the risk of certain diseases. Someone will act to treat or prevent disease, if they feel vulnerable to the attack of the [7]. This is one of the strong perceptions to encourage individuals to behave healthily. The greater the risk perception, the greater the likelihood of interest in healthy habits to reduce the risk that will occur. Perception of this relationship someone feels confidence / believe in the possibility of pain that occurs in him.

Likewise, the perception of the seriousness of the impact of STDs and HIV / AIDS has been shown to be significantly related to HIV / AIDS transmission prevention behavior in high-risk populations in localization (p value 0.008). This is in accordance with the Health Belief Model theory which says that a person's actions to seek treatment or prevention are driven by the threat of the disease, in this case conducting a pregnancy check [7]. Perception of seriousness (such as susceptibility to disease, worsening immunity or even death), can make a person FSW motivated to conduct prevention behaviors to prevent transmission.

This perception usually arises from health information or knowledge they receive or signs of disease that appear even symptoms of the disease they begin to feel. This stage includes evaluating health consequences (eg death, disability, and illness) and social consequences (such as the effects of conditions on work, family life, and social relationships). The combination of vulnerability and severity is marked as a threat.

Perceptions of the benefits of using condoms and VCT are also significantly related to the prevention of HIV / AIDS transmission in high-risk populations in localization (p value 0.012). This is in accordance with the Health Belief Model theory which says that the perceived benefits indicate an individual's beliefs to behave [7]. Refers to an individual's opinion of the benefits gained or felt from a new habit in reducing the risk of an illness. People will behave healthy if they believe that these new habits can reduce the risk of disease

or disease. This perception someone weighs the benefits obtained between the costs incurred with the level of risk or illness, for example whether the effective costs incurred at routine pregnancy examinations compared with the level of seriousness or risk that may be faced with pregnancy can also affect behavior decisions. As such, individuals show optimal confidence in vulnerability and severity that is not expected to accept the recommended health action unless they also consider the action as potentially beneficial by reducing threats. FSWs who have high confidence that the use of condoms and VCT can be an effort to prevent and detect early HIV status, will have a tendency to conduct condom and VCT behavior more consistently and regularly.

The next fact, perceptions of barriers to condom use and VCT are also significantly related to HIV / AIDS transmission prevention behavior in high-risk populations in localization (p value 0.0002). there is a relationship between obstacle perception and behavior. Likewise, it is in accordance with the Health Belief Model theory which says that perceived obstacles can be obstacles in carrying out the recommended behavior [7]. This perception refers to an individual's evaluation of barriers to behavior or healthy habits. Perceived Barriers are a significant factor in changing habits. When people or the community believe that new healthy habits or behaviors are more beneficial than old habits in reducing risk, the new healthy habits / behaviors will be used. Potential negative aspects of certain health measures as obstacles to performing recommended behavior. In the results of this study, FSWs who have a perception of obstacles are far greater than the benefits such as feeling that the use of condoms in risky behavior and VCT is something that is difficult to do because it is expensive, inconvenient (requires special time), complicated procedures and far from where you live, will have a tendency not to practice HIV / AIDS prevention.

These perceptions can be changed by comprehensive educational interventions. Jung said that health education has a positive influence on awareness about HIV / AIDS and increasing knowledge about how to transmit and prevent HIV / AIDS [8]. Knowledge is an important determinant for changing health behavior [9].

In general, the results of the study have confirmed the Health Belief Model (HBM) theory. In the concept of HBM stated that health behavior is determined by personal beliefs or perceptions about the disease and strategies available to reduce the occurrence of the disease [10]. HBM is a theoretical construct regarding individual beliefs in healthy behavior [11]. HBM consists of six constructs of Perceived susceptibility, Perceived Severity, Perceived Benefits and Perceived Barriers, Cues to Action and Health Motivation. These six constructs are the main points of HBM in understanding how perceptions of healthy behavior are carried out.

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