

# ANALYSIS OF FACTORS RELATING TO SAFE SEX BEHAVIOR AMONG MEN WHO HAVE SEX WITH MEN (MSM) WITH HIV AT BANDUNG CITY REGIONAL PUBLIC HOSPITAL

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## Abstract

MSM are one of the groups at risk of contracting HIV and AIDS because their safe sexual practices are still low. The low level of safe sexual practices among MSM can increase the prevalence of HIV and AIDS. The health belief model can explain the safe sexual behavior of MSM with HIV. This research aims to analyze factors related to safe sexual behavior among men with HIV at the Bandung City Regional General Hospital. This research uses an analytical correlation method with a cross-sectional research design. The sample used was 89 MSM using a purposive sampling technique. Data collection used the Indonesian version of the Safe Sex Behavior Questionnaire instrument and a questionnaire on factors related to safe sexual behavior. Data analysis uses the Pearson product-moment test and linear regression test. Results: Bivariate results showed that factors related to safe sexual behavior were perceptions of obstacles (p 0.007), perceptions of benefits (p 0.000), cues to action (p 0.000), and self-confidence (p 0.004). The most dominant factor related to safe sexual behavior is the perception of benefits ( $\beta$  0.249, p 0.032, R<sup>2</sup> 0.025), which explains around 25.8%, while the rest is other influencing factors. Most respondents have the perception that safe sexual behavior, namely using condoms and utilizing voluntary counseling and testing (VCT), has benefits for them. The higher the perception of benefits, the better the safe sexual behavior of MSM. Nursing care that is carried out by prioritizing the rights and privacy of MSM and by motivating safe sexual behavior can encourage MSM to engage in safe sexual behavior.

**Keywords:** HIV, AIDS, Men Having Sex with Men, Health Belief Model, Safe Sexual Behavior.

## INTRODUCTION

Human Immunodeficiency Virus (HIV) is a virus that infects T (T-Helper) cells, which play a role in macrophage activation. In T-helper cells, Cluster Differentiation 4 (CD4) activates innate immune system cells, B lymphocytes, and cytotoxic T cells. It is not immune and plays an essential role in suppressing immune reactions. When the HIV attacks CD4, the immune system will be disrupted (Putri et al., 2019). HIV, which continuously attacks CD4, causes the CD4 count to decrease to below 200 cells/mm<sup>3</sup>, which makes sufferers highly susceptible to various opportunistic diseases called Acquired Immunodeficiency Syndrome (AIDS) (Daili, 2018).

One of the groups at high risk of suffering from HIV disease is men who have sex with men (MSM) (Pratiwi & Basuki, 2014). MSM tend to have many sex partners, both male and female (Chandra et al., 2018). Sexual intercourse via anal (anal intercourse), which MSM often carries out, is the sexual intercourse technique with the most significant risk of transmitting HIV and AIDS (Brugman et al., 2019). This is because the anus is not designed for sexual intercourse, and it will cause injury during anal sex and make it easier for HIV to enter the body (Goldstone & Welton, 2004).

Indonesia has an HIV prevalence based on risk groups, namely female sex workers (FSW) 2.4%, MSM 26.3%, waria 0.9%, injecting drug users (IDUs) 0.5%, and WBP

0.7%. Pregnant women 20.9%, tuberculosis (TB) patients 11.5%, and sexually transmitted infection (STI) patients 0.8%. The five provinces with the highest number of people diagnosed with HIV (PLHIV) were DKI Jakarta 71,473, followed by East Java 65,274, West Java 46,996, Central Java 39,978, and Papua 39,419. The city of Bandung has an HIV and AIDS prevalence of 21.3% (Ministry of Health, 2021). The increasing prevalence of HIV and AIDS requires special attention from the government. Indonesian government policy in cope with The prevalence of HIV and AIDS is regulated in Permenkokesra No. 07/2007 about Strategy National HIV and AIDS Prevention 2007-2010 and Permenkokesra as Chairman of KPAN no 8/Per/Menko/Kesra/2010 concerning strategy and the national plan (SRAN) for dealing with HIV and AIDS for 2010-2014 (Rokhmah & Khoiron, 2015). One of the programs from SRAN is reducing adverse effects (harm reduction). Harm reduction is a practical strategy that aims to reduce the spread of HIV and AIDS among certain groups highly affected by HIV and AIDS, one of them is MSM (Prianggoro, 2011). One of the interventions for harm reduction is the use of condoms and the use of VCT (Ministry of Health, 2015).

Safe sexual behavior is a safe action during sexual intercourse, such as using a condom, asking about a partner's sexual relationship history, and carrying out voluntary counseling and testing (VCT) (Brugman et al., 2019). There are factors related to safe sexual behavior among men who have sex with men (MSM). The health belief model is a theory that determines the perception of accepting or not an individual's health condition. The Health Belief Model consists of perceived susceptibility, perceived severity, perceived barriers, perceived benefits, cues to action, and self-efficacy (Rosenstock, 1974). The first factor is the perceived susceptibility. The results of research regarding condom use showed that 67% of respondents admitted to using condoms inconsistently, and 78% had had anal sex without a condom in the last 3 months (Ezomoh, 2012).

The city of Bandung is proliferating, causing increased urbanization. Many people move to cities hoping their economic conditions will improve, but they often lack the qualifications to find decent work. As a result, they look for more manageable jobs. The lifestyle of this work creates many risk groups (Rokhmah, 2014).

The city of Bandung is one of the five cities with the highest number of HIV cases among MSM (Ministry of Health of the Republic of Indonesia, 2021). The Bandung City Regional General Hospital is one of the hospitals that have Voluntary Counseling and Testing (VCT) services, and all groups at risk of contracting HIV and AIDS undergo VCT at this hospital (Mr. O, personal communication, October 3 2023). Results of individual communication with counselor The VCT clinic at the Bandung City Regional General Hospital found that the prevalence of MSM from 2023 until October reached 324 people with MSM, as many as 130 people. Based on information from the counselor At the VCT clinic at the Bandung City Regional General Hospital, no previous research had been conducted regarding safe sexual behavior in the MSM group. (Mr. O, personal communication, October 3, 2023).

The low level of safe sex behavior among MSM can increase the prevalence of HIV and AIDS and increase the prevalence of venereal disease. This research analyzes the relationship between the perception of vulnerability, severity, perceived barriers, perception of benefits, and cues to action, and self-efficacy with safe sexual behavior among men with HIV at the Bandung City Regional General Hospital.

## RESEARCH METHODS

### Research Design

This research uses a Quantitative method, correlation analysis, with a cross-sectional research design. The independent variables in this research are the perception of vulnerability, severity, perceived barriers, benefits, cues to action, and self-confidence. The dependent variable is safe sexual behavior.

### Population and Sample

The population taken in this research were all men who participated in VCT at the Bandung City Regional General Hospital, totaling 130 MSM (Mr. O, personal communication, 3 October 2023).

The sampling technique used in this research was purposive sampling. Inclusion criteria in this research were MSM who could read and write, MSM who participated in VCT at the Bandung City Regional General Hospital, MSM who had active sexual relations in the last 1 year, adult MSM (18-60 years), and MSM who were willing to become respondents.

Apart from inclusion criteria, there are also exclusion criteria. The exclusion criteria in this research were adult MSM with serious illnesses (diabetes mellitus who experienced decreased consciousness and mental disorders such as schizophrenia) who were unable to take part in the research. The sample in this research used the rule of thumb formula to get a total sample of 80 people with an addition of 10% to prevent the possibility of dropping out and the total sample is 89.

### Instrument

Instrument in this research consists of 2 instruments, namely, instrument Safe Sex Behavior Questionnaires (SSBQ) and instrument factors associated with safe sexual behavior. SSBQ questionnaire, namely an instrument to measure safe sexual behavior among men who have sex with men (MSM) has been translated into Indonesian and with validity values that is alpha value Cronbach of 0.448-0.955 and a reliability value of Alpha Cronbach amounting to 0.980. Thus, that the questionnaire can be declared valid and reliable (Prilasari, 2020).

Instrument factors related to safe sexual behavior among MSM are instruments to measure factors related to safe sexual behavior created by the researchers themselves based on the health belief model theory with an average validity value of Sig. (2-tailed) is 0.000 or  $< 0.05$ , which means all variables are valid, and the average Cronbach alpha reliability value is 0.8 or  $> 0.7$ , which means all variables are reliable.

### Research Procedure

Primary data was collected using a questionnaire given by a counselor to the research sample when it underwent VCT at the Bandung City Regional General Hospital. Data collection will continue in February 2024

### Data Analysis

In this research, researchers used frequency distribution data analysis, Pearson product-moment, and linear regression tests.

## Ethics Clearance

The Padjadjaran University Health Research Ethics Committee, Ethics Number 2312031771, reviewed and approved this research. The researchers explained the aims, benefits, and procedures of the research to HIV/AIDS patients who were willing to become respondents. They also agreed to informed consent. The researcher only fulfills the right to fair treatment after completing this research.

## RESULTS AND DISCUSSION

The respondents aged 29 - 39, 38 (42.7%) were under 29 and over 39 years of age. Respondents had a self-employed work background of as many as 79 (88.8%), marital status as unmarried as many as 77 (86.5%) respondents with several permanent partners being one as many as 49 (55.1%) respondents, and had a history of HIV/AIDS as many as 74 (83.1%) respondents. 51 (57.3%) respondents had a high school education, 79 (88.8%) respondents were Sundanese, and 84 (94.4%) respondents were Muslim. All respondents underwent VCT and received ARV therapy at the Bandung City Hospital VCT Clinic. The distance traveled to carry out VCT between home and health services was >5 km for 75 (84.3%) respondents. However, the distance between home and the minimarket for providing condoms was highly effective, namely <5 km for 83 (93.3%) respondents.

The mean value of the health belief model factor is 143.14. The research respondents who had the highest perception of safe sexual behavior were perceptions of perceived barriers with a mean value of 36.69, a standard deviation of 2,289, and a range of 32-45. Respondents who had the lowest perception of safe sexual behavior had perceptions of perceived susceptibility with a mean value of 16.10, a standard deviation of 1.515, and a range of 10-20. The 89 research respondents who had the highest perception of safe sexual behavior, namely cues to action, 46 (51.7%) were respondents. Respondents who had the lowest perception of safe sexual behavior were 44 (49.4%) respondents perception of severity.

Safe sexual behavior got a mean score of 67.92, a standard deviation of 6,554, and a value range of 50-83. Respondents with low levels of safe sexual behavior were avoiding bodily fluids with a mean value of 9.11, a standard deviation of 1.675, and a range of 3-12. In the domain of sexual protection factors, respondents, on average, were able to protect themselves during sexual intercourse, such as using condoms, asking about their partner's sexual relationship history, and avoiding bodily fluids such as semen during sexual intercourse.

In line with avoiding risky behavior, the average respondent can avoid risky behavior with a mean value of 26.91, a standard deviation value of 3,878, and a range of 18-34. This domain is the domain with the highest value. Next is the interpersonal skills domain. In this domain, the average respondent is still not aware of the importance of safe sexual behavior, and this can be seen from the mean value of 11.19, standard deviation of 2.619, and range of 7-19. Safe sexual behavior from 89 respondents The best safe sexual behavior was interpersonal skills for 58 (65.2%) respondents and sexual behavior the worst, namely avoiding as many as 75 behaviors risky (84.3%) respondents. There is a strong relationship between the health belief model factor and safe sexual behavior with a strong relationship ( $r = 0.453$  &  $p = 0.000$ ) (Hastono, 2022). Four factors have a p-value < 0.05: perception of obstacles, perception of profit, signal to act, and self-confidence. The perception of profit shows the highest R-value

relationship ( $r = 0.428$  &  $p = 0.000$ ) between other variables. This shows that the higher the perception of benefits, the safer the sexual behavior of men who have sex with men (MSM). Based on the  $\beta$  value, the factor with the most significant influence is perceived benefits, and the smallest  $p$  value is perceived benefits ( $p = 0.032$ )  $< 0.05$ . Thus, the most dominant factor related to safe sexual behavior is the perceived benefits factor, which explains around 25.8%, while other factors influence the rest.

**Table 1: Demographic Characteristics of Respondents (n = 89)**

Characteristic	Frequency (f)	Percentage (%)
<b>Age Category (Year)</b>		
18 – 28	31	34,8
29 – 39	38	42,7
40 – 50	17	19,1
51 – 60	3	3,4
<b>Education</b>		
Elementary School	1	1,1
Junior high school	2	2,2
Senior High school	51	57,3
Diploma	15	16,9
Bachelor	20	22,5
<b>Occupation</b>		
Student	3	3,4
Civil servants	4	4,5
Self-employed	79	88,8
Etc	3	3,4
<b>Marital status</b>		
Not married yet	77	86,5
Marry	11	12,4
Divorce	1	1,1
<b>Number of Pairs</b>		
Number of Pairs Fixed 1	49	55,1
Number of Pairs > Fixed 1	40	44,9
<b>Tribes</b>		
Batak	3	3,4
Java	4	4,5
Minang	1	1,1
Sunda	79	88,8
Etc	2	2,2
<b>Religion</b>		
Christian	3	3,4
Catholic	2	2,2
Islam	84	94,4
<b>Disease History</b>		
Syphilis	11	12,4
HIV/AIDS	74	83,1
TB	2	2,2
Hypertension	2	2,2
<b>Distance to Health Services</b>		
<5 Km	14	15,7
>5 Km	75	84,3
<b>Distance to Condom Purchase Place</b>		
<5 Km	83	93,3
>5 Km	6	6,7

**Table 2: Components of the Health Belief Model among MSM at the Bandung City Regional General Hospital (n=89)**

<i>Health Belief Model</i>	Mean	Standard deviation (SD)	Minimum Value-Maximum Value (Min-Max)
Total HBM Components	143,14	3.383	94-152
Perception of vulnerability	16,10	1.515	10-20
Perception of severity	24,12	2,033	17-30
Perception of obstacles	36,69	2,289	32-45
Perception of profits	21,42	1,763	17-28
Cue to action	24,75	1.860	18-29
Confidence	20,06	1,343	15-25

**Table 3: Frequency Distribution and percentage Category of Each Component of the Health Belief Model**

<i>Health Belief Model</i>	Frequency		(Percentage)	
	High	Low		
Total HBM Components	219 (246.1%)	315 (353.9%)		
Perception of vulnerability	27 (30.3%)	62 (69.7%)		
Perception of severity	45 (50.6%)	44 (49.4%)		
Perception of obstacles	43 (48.3%)	46 (51.7%)		
Perception of profits	26 (29.2%)	63 (70.8%)		
Cue to action	46 (51.7%)	43 (48.3%)		
Confidence	32 (36.0%)	57 (64.0%)		

**Table 4: Components of Safe Sexual Behavior among MSM at Bandung City Regional General Hospital (n=89)**

<i>Safe Sexual Behavior</i>	Mean	Standard deviation (SD)	Minimum Value-Maximum Value (Min-Max)
Total Components of Safe Sexual Behavior	67.92	6.554	50-83
Sexual protection factors	20,71	3.156	12-28
Avoid risky behavior	26.91	3.878	18-34
Avoid body fluids	9.11	1.675	3-12
Interpersonal skills	11.19	2.619	7-19

**Table 5: Frequency Distribution and percentage Categories of Each Component of Safe Sexual Behavior (n=89)**

<i>Safe Sexual Behavior</i>	Frequency		(Percentage)	
	Good	Bad		
Total Components of Safe Sexual Behavior	102 (114.7%)	254 (285.4%)		
Sexual protection factors	15 (16.9%)	74 (83.1%)		
Avoid risky behavior	14 (15.7%)	75 (84.3%)		
Avoid body fluids	15 (16.9%)	74 (83.1%)		
Interpersonal skills	58 (65.2%)	31 (34.8%)		

**Table 6: Relationship between the Health Belief Model and Safe Sexual Behavior**

<i>Components Health Belief Model</i>	<i>Safe Sexual Behavior</i>
Total	r = 0.453 (p = 0.000)
Perception of vulnerability	r = - 0.114 (p = 0.289)
Perception of severity	r = 0.014 (p = 0.894)
Perception of obstacles	r = 0.285 (p = 0.007)
Perception of profits	r = 0.428 (p = 0.000)
Cue to action	r = 0.394 (p = 0.000)
Confidence	r = 0.304 (p = 0.004)

**Table 7: Multivariate Analysis of Health Belief Factor Variables Related to Safe Sexual Behavior**

Variable	$\beta$	$p$	$R^2$
Perception of Barriers	0.139	0.179	
Perception of Profit	0.249	0.032	0.258
Action Cue	0.200	0.084	
Confidence	0.109	0.309	

## DISCUSSION

Discussion explains the demographic characteristics of respondents, the components of the health belief model, the components of safe sexual behavior, the relationship between the components of the health belief model and safe sexual behavior, and the dominant factors of the components of the health belief model which relate to sexual behavior among MSM at the City Regional General Hospital. Bandung.

Regarding demographic characteristics, most respondents were aged 29-39. This is in line with the data showing percentages. The highest HIV rate was reported in the 25-49 year age group (71.3%), followed by the 20-24 year age group (16.3%) (Ministry of Health, 2021). In terms of work background, most of the respondents have self-employed jobs.

The higher the level of education, the better the knowledge regarding safe sexual behavior, namely the use of condoms. Thus, that it can influence MSM to use condoms when they want to have sexual relations (Indasari & Febriyanto Kresna, 2020). A high level of education also influences MSM behavior in using VCT services (Fatmala, 2015). The research results show that the majority of MSM with marital status are unmarried.

The health belief model expresses an individual's reasons for wanting or not wanting to carry out healthy behavior (Janz & Becker, 1984). The model consists of six dimensions, including perceptions of vulnerability, severity, obstacles, benefits, cues to action, and self-confidence (Rosenstock, 1974).

Perceived vulnerability refers to a person's subjective perception of the risk of their health condition. In the case of medical illness, this dimension includes acceptance of the results of the diagnosis, personal estimates of its existence are susceptible lily (sensitivity returns), and susceptibility (sensitivity) to disease in general. Perception seriousness refers to feelings about the seriousness of an illness, including evaluations of clinical and medical consequences (for example, death, disability, and illness) and possible social consequences (such as effects on work, family life, and social relationships). Many experts combine the two components above as a perceived threat (Rosenstock, 1974).

Perceived benefits are those that are felt. Acceptance of susceptibility to someone against a condition that is believed to cause seriousness (perceived threat) is to encourage the production of a supporting force in the direction of changes in behavior. This depends on a person's belief in the effectiveness of available measures in reducing the threat of disease or the perceived benefits of such health measures. When a person believes in vulnerability and seriousness, one is often not expected to accept any recommended health measures unless they are considered efficacious and appropriate (Rosenstock, 1974).

Perceived barriers are perceived obstacles to change or if the individual faces obstacles in taking that action. In addition to the four beliefs or perceptions, Potential aspects of a health endeavor (such as uncertainty and side effects) or perceived barriers (such as worry about not being suitable, unhappy, or nervous) may play a role in recommending a behavior (Janz & Becker, 1984).

A signal to act is a behavior influenced by something that becomes a signal for someone to carry out an action or behavior. Signals in the form of external and internal factors, for example, messages in the mass media, advice or recommendations from friends or other family members, aspects socio-demographic for example, education level, living environment, parental care and supervision, relationships with friends, religion, ethnicity, economic, social and cultural conditions (Norman & Conner, 2005). Self-confidence is a person's belief that he or they can carry out or display a specific behavior (Janz & Becker, 1984).

Based on the results of research conducted at Bandung City Hospital, it shows that respondents have a low perception of HIV and AIDS susceptibility (Mean = 16.10, SD = 1,515, and Min-Max value = 10-20, Percentage high 30.3% as many as 27 respondents, low 69.7% as many as 62 respondents). This perception of vulnerability consists of 6 statements and 3 aspects, namely aspects of the risk of contracting HIV, sexual behavior, and ways of transmitting HIV. The research results showed that the majority of respondents answered that they were at risk of contracting HIV, agreed that they could contract HIV during sexual intercourse, and agreed to consume alcohol, resulting in forgetting to use a condom.

Respondents also disagreed that they did not contract HIV because they were with one partner, disagreed that they did not contract HIV because they used condoms, and disagreed that sexual behavior does not pose a risk of contracting HIV even though the respondent has never had VCT. Thus, it can be concluded that in this perception of vulnerability, the majority of respondents understand that they are vulnerable to contracting HIV. However, the respondents are still in denial or have not accepted their condition.

Based on the results of personal communication with the counselor, it was found that the majority of respondents were not open about their HIV status for various reasons, such as stigma and fear of not being accepted by their families, so this influenced the respondents' perception of vulnerability.

The results of the research show that the perception of HIV vulnerability among MSM in Thailand is low because MSM are still teenagers. Thus, they still do not accept their HIV disease, and most MSM still hide their HIV status because they are afraid of family and community stigma (Khumsaen & Stephenson, 2017). The increase in HIV cases in adolescents is influenced by several factors, including economic factors, traditions, education, and knowledge about HIV (Nurwati & Rusyidi, 2019). Education aims to change a person's attitudes, behavior, and cognition. Education also has an essential role in individual health, namely to change behavior from that which is detrimental to health or not in accordance with health norms to behavior that benefits health or norms that are in accordance with health (Widodo, 2014).

The level of education can influence a person's insight and knowledge. Someone with higher education will generally have broader knowledge than someone with lower education. Individuals with much knowledge tend to act and behave according to their knowledge (Notoatmodjo, 2014).



The research results also show that MSM's perception of the risk of contracting HIV is still minimal non-risky sexual behavior (Huang et al., 2020). If the perception of susceptibility and severity of HIV is high, then behavior to protect oneself is also high. Conversely, if the perception of vulnerability is low, the behavior of protecting oneself is also low (Rosenstock, 1974).

Based on the research results show that respondents have a high perception of the severity of HIV and AIDS (Mean = 24.12, SD = 2.033, and Min-Max value = 17-30, Percentage high 50.6% as many as 45 respondents, low 49.4% as many as 44 respondents). This perception of severity consists of 9 statements and 2 aspects, namely aspects of ARV treatment and the impact of HIV. The research results showed that the majority of respondents agreed that ARVs improved physical health, strongly agreed that HIV was the worst disease because it could not be cured, agreed that HIV caused respondents to become sick frequently, agreed that HIV made the lives of respondents worse both physically and spiritually, and agreed that life respondents became disturbed because of HIV disease.

Respondents also disagreed that HIV makes social relationships better. However, some respondents agreed that HIV does not cause severe symptoms or even be fatal. This is due to a lack of knowledge about the complications of HIV. If we look at the demographic data, most of the respondents have a high school education level, which impacts the respondents' perceptions.

Modifying factors such as level of education are believed to indirectly influence behavior by influencing individual perceptions, such as perceptions of seriousness. Individuals with higher education tend to pay great attention to their health. Thus, if they experience health problems, they will immediately seek health services (Anggraeni et al., 2018). The perception of HIV severity among MSM is good because the level of education and environment influence it.

The results of the qualitative research showed that when diagnosed, all respondents said they were shocked, devastated, hopeless, and depressed, and all regretted their condition. All informants felt a period of denial, hoping they would get non-reactive test results. Moreover secondly, although on the other hand, the informants realized that their current condition (HIV infection) was the result of their actions. Almost all informants said they experienced excruciating pain with various complaints before being diagnosed with HIV. Only one informant tested for HIV because they was getting married. This severity was also supported by critical informants who said that all informants who came to the Community Health Center were, on average, at stages 1 and 2, but if the case was a referral, they entered at stages 3 and 4 (Purnamawati et al., 2022)

The research results also show that most LSL perceive severity nicely. For MSM, the HIV they suffer is quite disturbing in their daily activities. This is also influenced by their level of education and environment (Inriyana et al., 2021).

Based on the research results show that respondents have a low perception of obstacles (Mean = 36.69, SD = 2.289, and Min-Max value = 32-45, Percentage high 48.3% as many as 43 respondents, low 51.7% as many as 46 respondents). The perception of these barriers consists of 13 statements and 8 aspects, namely aspects of feelings about using condoms, support for using condoms, use of condoms, views on using condoms, accessibility of getting condoms, feelings of doing VCT, accessibility of getting VCT, and support for VCT.

The research results showed that most respondents did not agree that using condoms was insult for couples, do not agree that not using condoms because of seduction, do not agree that in religious teachings using condoms is a sin, this is because MSM still hold firmly that using condoms is a normal thing, whereas in every religious teaching it always teaches good things such as not having sexual relations before marriage.

Using a condom means you can have sexual relations without marital status, therefore using a condom in religious teachings is a sin. Most respondents agreed that providing and using condoms during sex, and agreed that condoms were not difficult to obtain (buy).

Qualitative research also shows that barriers to using condoms include partner dissatisfaction, economic factors, and lack of information. Most respondents said that they had received several educational sessions or information about HIV infection, especially the benefits of using condoms. For these respondents, images of people, friends or relatives who suffer from HIV/AIDS and sexual health conditions have an influence on their condom use behavior.

Several participants commented that seeing images of the reproductive organs of HIV/AIDS patients and other STIs displayed on power points during HIV/AIDS information sessions was a cue that triggered the action of using condoms. Likewise, knowing that a friend, relative or other person has had an STI or died of AIDS motivates some of them to change their sexual behavior and use condoms. Thus, that they can overcome barriers to using condoms, namely in terms of knowledge and information (Blew et al., 2018).

The research results showed that the majority (93.3%) of MSM were <5 km.

The results of the research show that MSM in the IMOF Community have made condoms an important item because the majority of MSM (63.5%) have bought their own condoms to use at pharmacies and supermarkets that are within reach of where they live, while 28.1% received free condoms. from friends and the community. Based on the questionnaire, it is known that the majority (63.5%) of MSM in the IMOF Community have made condoms an important item because they buy their own condoms to use at pharmacies (62.5%) and supermarkets (1%) while 28.1% get them online. free condoms from friends (8.3%) and the community (19.8%) (Polly et al., 2021). Access to condoms is one of the supporting factors for MSM in using condoms consistently.

The results of qualitative research show that the majority LSL After knowing that they is HIV positive, they still doesn't use a condom during sexual intercourse for the reason of "feeling affection" and being sure about the viral load level. This is certainly an obstacle to using condoms (Purnamawati et al., 2022). This is also in line with the health belief model theory which states that perceived obstacles may act as an obstacle to carrying out recommended behavior. The greater the perceived obstacles, the more it will prevent someone from adopting certain behavior (Rosenstock, 1974).

Based on the research results, it shows that there are obstacles to the use of VCT among MSM. The majority of respondents did not agree that it was embarrassing to start doing VCT, did not agree that they were afraid to invite their partner to seek treatment (ARV therapy), and did not agree that their partner would be abandoned when inviting their partner to do VCT. Most respondents also agreed that the distance between the hospital and their place of residence was affordable, making it easier to

do VCT, agreed that differences in working hours made it difficult to do VCT, and agreed that doing VCT according to the treatment schedule.

Respondents who perceived barriers to screening as low were more likely to have poor STI screening practices than those who perceived barriers as high. This is because the majority of respondents face more obstacles from outside than from within themselves (Carmelita et al., 2017).

The results of the qualitative research showed that three out of 5 informants explained that they experienced several obstacles in carrying out VCT routinely; two of the three informants had time constraints because their work made it difficult for them to come to the health centre. Therefore, informants prefer to carry out tests if a mobile VCT is coming to the community. Meanwhile, 1 in 3 informants explained that the obstacle they are currently experiencing is their mental readiness to do VCT again and accept the results of the VCT (Nugroho & Kusumaningrum, 2018).

The affordability of health services is related to visits to health service centres. Thus, there are more visits from people who live closer to health services when compared with communities that are far away (Prawesti et al., 2018). If VCT services do not exist, the informant cannot carry out VCT even though they have the desire. Meanwhile, access to service Health is also another factor in VCT utilization. Availability of services affects access to services (Fatmala, 2016).

Based on the research results, it shows that the perception of profit is low (Mean = 21.42, SD = 1.763, and Min-Max value = 17-28, Percentage high 29.2% as many as 26 respondents, low 70.8% as many as 63 respondents). This perceived benefit consists of 7 statements and 4 aspects: aspects of using condoms, the impact of doing VCT, commitment to doing VCT, and VCT compliance. The research results showed that respondents agreed that condoms could reduce the risk of HIV infection, agreed that MSM and their partners were safe when using condoms, and did not agree that condoms increased the risk of UTI.

Based on the research results, it was found that respondents had high cues to act (Mean = 24.75, SD = 1.860, and Min-Max value = 18-29, Percentage high 51.7% as many as 46 respondents, low 48.3% as many as 43 respondents). This signal for action consists of 8 statements and 4 aspects, namely aspects of using condoms, supplying condoms, support for using condoms, and support for carrying out VCT. The research results showed that most respondents disagreed with never discussing condoms because it was taboo, disagreed with community friends not reminding them to use condoms, and agreed to commit to using condoms when having sexual relations with their partners.

The support that MSM receive from friends in the community makes them more confident not to have risky sexual relations or pay more attention to the principle of using condoms when having risky sexual relations. Friends in the community can influence a person's intention to use condoms because friends are considered the closest person, and a sense of concern between friends becomes a driving force and reinforcement in preventing AIDS by using condoms (Polly et al., 2021). In the health belief model theory, the signal for action is a reason/impulse originating from events, individuals, or things that make someone change their behaviour (Rosenstock, 1974).

Most respondents also agreed that community friends and partners reminded them to do VCT, disagreed not to do VCT even though partners and community friends reminded them, and disagreed that they were not interested in doing VCT.

The research results show low self-confidence (Mean = 20.06, SD = 1.343, and Min-Max value = 15-25, Percentage high 36.0% as many as 32 respondents, low 64.0% as many as 57 respondents). This self-confidence consists of 7 statements and 5 aspects, namely aspects of confidence in disclosing HIV status, confidence in using condoms, confidence in buying condoms, confidence in asking about VCT history, and confidence in doing VCT. The research results showed that most respondents were confident about telling their partner about their HIV status before having sex, confident about using condoms correctly, confident when buying condoms, and neither agreed nor confident about persuading partners to use condoms during sex.

The research results also showed that the majority of respondents (91.2%) had a low perception of their ability to use condoms. This is because respondents using condoms can worsen their relationship with their partner (Barus, 2017).

The results of this research are in accordance with the HBM theory which states that perceived self-confidence in behavior will influence a person's actions in using condoms. This is based on their belief in being able to carry out this preventative behavior. The higher their self-confidence in always using condoms, the better their condom use behavior will be (Rosenstock et al., 1994).

Most respondents also agreed to be confident in asking about their partner's VCT history, and this was based on the results of communication with the counsellor, which stated that most respondents were open about their VCT history with their partners in order to find out about each other's condition and to remind them to carry out VCT according to schedule. However, some respondents also agreed they were not confident enough to ask their partner to do VCT. This was because the respondent was afraid that their partner would abandon them and that their partner would be angry with the respondent.

Respondents also disagreed that they were not confident about doing VCT because their families and society would bully them. Based on the results of communication with counsellors, most respondents are confident in doing VCT because not all respondents have open status. However, there are also respondents whose environment is highly supportive and doesn't even bully people who carry out VCT, so this makes respondents confident in carrying out VCT.

The results align with the research results, which show that all research informants said that VCT is excellent because it is a way to find out HIV status. Most informants have carried out VCT regularly every three months. However, some informants are not ready to do VCT again because they are not mentally ready. There are also informants who, until now, do not have VCT routinely every 3 months; sometimes, it takes more than 3 months before they do VCT.

In accordance with what triangulation informants expressed: not all MSM carry out VCT regularly, but many MSM still have to be reminded every time to carry out VCT. There are also MSM who only have VCT once and, after that, do not want to have VCT again for various reasons, such as MSM feel they are safe from HIV because their sexual behavior does not extend to anal sex and is limited to ice rubbing (rubbing

their genitals), they was loyal to one partner. They felt they was not mentally ready to receive the VCT results (Nugroho & Kusumaningrum, 2018).

The fear may also be exacerbated by the stigma or discrimination from society or family (Purwaningsih & Imamah, 2014). As many as 85.29% of respondents had reasonable perceived behaviour control regarding VCT, and 14.71% had poor perceived behaviour control regarding VCT. Confidence about the existence of factors that hinder or facilitate MSM from undertaking VCT is still lacking because stigma and discrimination against MSM undertaking VCT can prevent MSM from undertaking VCT. Even though many people have undertaken VCT, this does not reduce the occurrence of stigma and discrimination against people living with HIV. This shows that there is no positive attitude towards people living with HIV (Lestari et al., 2015).

The overall research results of the respondents studied showed that around 20 people had good self-efficacy, 26 people had poor self-efficacy (Zahara et al., 2021). Good self-confidence can change MSM's behaviour when carrying out VCT.

Sexual behaviour is any form of behaviour that is driven by sexual desire, both with the opposite sex and with the same sex. Forms of sexual behaviour range from holding hands (holding your partner's arm), hugging (such as grabbing your shoulder, grabbing your waist), making out (such as kissing your cheek, kissing your forehead, kissing your lips), touching sensitive body parts, rubbing your genitals to entering genitals (Afrityeni & Angraini, 2019). Safe sex behaviour is behaviour that does not result in the exchange of vaginal fluids with sperm fluids, such as holding hands, hugging, and kissing (Jannah & Khofiyah, 2017).

Safe sexual behaviour is a safe action during sexual intercourse, such as using a condom, asking about a partner's sexual history and carrying out voluntary counselling and testing (VCT) (Brugman et al., 2019). Safe sexual behaviour consists of 4 domains, namely sexual protection factors, avoiding risky behaviour, avoiding bodily fluids, and interpersonal skills.

The research results show that sexual protection factors are poor (Mean 20.71, SD 3.156, Min-Max 12-28, and lousy Percentage (83.1%) in as many as 74 respondents. This sexual protection factor consists of 7 statements. The research results showed that most respondents in the last year always insisted on using condoms during sexual intercourse, never used drugs before or during sexual intercourse, always asked their partners to be open about their HIV status, always asked their partners to tell about their history of sexual relations with homosexuals, and always do an HIV test (for example every 3 or 6 months).

The results of this research are in line with research results, which show that the majority of respondents (51.9%) do not consistently use condoms because their partners force them to use condoms during sexual intercourse (Sidjaga et al., 2017). According to respondents, open communication with their partner makes respondents not feel alone, and both can carry out safe sexual behaviour when having sex (Afriyanti et al., 2020).

The results of qualitative research show that the majority of respondents always carry out routine HIV tests at health service centres, namely at Puskesmas 2 Kuta or at the Bali Medika Clinic. They do it 1 to 2 times a year. For respondents, prevention of HIV infection and AIDS can be done by checking HIV status through voluntary counselling

and testing (VCT) services and provider-initiated testing and counselling (PITC) (Pradnyawati & newspapers, 2020).

The results of this research also showed that the majority of respondents never stopped foreplay to put on a condom. Based on the results of communication with the counsellor, this is because most respondents think that stopping foreplay will reduce their libido for sexual intercourse. Some respondents also sometimes avoid direct contact with semen/sperm. This is because respondents enjoy sexual intercourse so much that they sometimes forget to avoid their partner's bodily fluids.

The results of this research are in line with the results of research, which shows that the majority of respondents (70.1%) chose not to stop foreplay during sexual intercourse because, for respondents, foreplay is a variation in sexual intercourse to avoid boredom during sexual intercourse and can increase libido (Cahyani, 2018).

Based on the research results, it was found to avoid bad high-risk behaviour (Mean 26.91, SD 3.878, Min-Max 18-34, bad Presentation as many as 75 (84.3%) respondents. In avoiding risky behavior, it consists of 9 statements. The results show that the majority (60.7%) of respondents in the last year sometimes chose to avoid their partner if they did not know their sexual relationship history. Based on the results of communication with the counsellor, this was done because respondents were more careful before reaching the stage of sexual intercourse. Respondents always avoid sexual intercourse when they have wounds or irritation around the genitals/anus and always check the condition of their partner's genitals and anus.

The results of the research showed that oral and anal sexual behaviour was more common in the MSM group. This indicates that there is a greater risk of injury to the anus, making it easier for HIV to be transmitted through injured tissue. Moreover, the use of lubricants is also relatively low (48.6%), so when injuries occur in the genital area, respondents prefer not to have sexual intercourse (Firdaus & Agustin, 2014).

The results of this research are in line with the results of research, which shows that more than 68% of participants reported unprotected sex due to high libido with casual partners in the last 30 days, 31.2% reported unprotected sex with casual partners who were HIV positive or HIV status is unknown, and 24.8% of participants reported using condoms for anal sex with casual partners less than half the time (Golub et al., 2017).

Risky sexual behaviour among MSM has been carried out. However, sometimes, if MSM is already passionate, it will result in risky sexual behaviour. Hence, there is a need for awareness and commitment to carry out safe sexual behaviour among MSM and their partners (Falihah, 2020).

Being the perpetrator or recipient during anal sex is associated with a high risk of HIV/AIDS infection. The anus is not like the female reproductive organ (vagina), which can lubricate (lubricate) when you feel aroused. Having anal sex carries the risk of injury or abrasions to the anal tissue because the structure of the anus is tighter than the vagina, making it easy for HIV to enter the blood (Wardani et al., 2020).

The research results show avoidance of bad body fluids (Mean 9.11, SD 1.675, Min-Max 3-12, bad Presentation as many as 74 (83.1%) respondents. This sexual protection factor consists of 3 statements. The research results showed that respondents in the last 1 year always planned to have safe sex using condoms sometimes refused to have sexual intercourse without a condom, and avoided direct contact with blood coming out of the partner's body.

Based on the questionnaire, it is known that MSM in the IMOF Community have made condoms an essential item because the majority of MSM (63.5%) use their condoms, either obtained from pharmacies or supermarkets. For MSM, if their partner does not want to use a condom, sometimes MSM will refuse to have sexual relations, so communication and commitment to using condoms are needed (Polly et al., 2021).

The research found that interpersonal skills were good (Mean 11.19, SD 2.619, Min-Max 7-19), and Presentation was good in as many as 58 (65.2%) respondents. In interpersonal skills, this consists of 5 statements. The research results show that most respondents sometimes find it difficult to be faithful to their partners. Sometimes, respondents choose to have a threesome using a condom and constantly change to a new condom.

Perceived vulnerability is the respondent's level of response or opinion about whether they is vulnerable or not susceptible to HIV, including perceptions about the specific consequences of risks and conditions that will occur (easily/not easily infected) as a result of sexual acts carried out (Agustina, 2019). Based on the research results, it was found that there was no relationship between perceptions of vulnerability and safe sexual behaviour among MSM.

The theory of Rosenstock et al. (1990) in Walker (2004) is not in line with the results of this research because the majority of respondents whose HIV testing behaviour is classified as good are those who have a perception of vulnerability that is relatively low.

Based on conditions in the field, most respondents felt loyal to their partners and believed that their partners were also loyal. However, they still carried out HIV tests because of their awareness or because they were invited by friends or field outreach workers.

Based on the research results, it was found that there was no relationship between perceptions of seriousness and safe sexual behaviour among MSM. Connected with the HBM theory, a person will take treatment or prevention action against an illness because of the seriousness they feel (Teti & Mulyana, 2017).

One of the factors inhibiting the use of VCT is that the perception of the seriousness of HIV/AIDS is still low (Abebe & Mitikie, 2015).

Respondents who do not routinely carry out STI screening are mostly respondents who have a low perception of STIs and HIV, and this is because many respondents think that STIs and HIV are not dangerous diseases and are easily transmitted (Carmelita et al., 2017).

A good perception of vulnerability regarding HIV does not influence MSM to use condoms consistently (Eda, 2014). This is the opposite of the health belief model theory proposed by Rosenstock, which states that a low perception of the severity of HIV and AIDS will cause low self-protection behavior (Rosenstock et al., 1994).

Based on the research results, it was found that there was a relationship between perceptions of barriers and safe sexual behavior.

Barriers to condom use felt by MSM include feelings of discomfort for their partners, false beliefs about condoms due to education and age factors, as well as a lack of open communication and commitment with partners regarding condom use (Heijman et al., 2017). This also aligns with the health belief model theory, which states that

perceived obstacles may act as obstacles to carrying out recommended behavior. The greater the perceived obstacles, the more they will prevent someone from adopting certain behaviours (Rosenstock et al., 1994).

Fear of a positive test result could hinder service utilization. This fear may be fear of death, fear for their fate or fear of having to face more complicated problems in the future due to receiving a positive test result. This fear may also be exacerbated by the stigma or discrimination that will be received from society or family. The higher a person's barriers to utilizing VCT services are, the lower their desire to utilize them (Situmorang, 2018).

The results of other qualitative research also show that there is a significant relationship between perception of barriers to the use of VCT among MSM. According to informants, most health services provide VCT during active working hours. Health service hours that coincide with the informant's working hours hinder access to services because the informant cannot leave work. On the other hand, the availability of VCT services is one factor that influences VCT utilization. Thus, this becomes an obstacle for MSM in utilizing VCT (Fatmala, 2016).

Perceived benefits are an individual's assessment of the benefits gained by adopting recommended health behaviour (Agustina, 2019). The research results show that there is a relationship between perceptions of benefits and safe sexual behavior. Respondents also believed that they felt more comfortable using lubricants when engaging in anal sex (Chandra et al., 2018).

If someone feels that they have benefited or benefitted from something, that person will tend to apply that thing in their life. On the other hand, if you feel that something has no benefit or advantage for someone, that person will not apply it (Rosenstock et al., 1994).

Something that is considered profitable will stimulate individuals to take action to gain profits (Notoatmodjo, 2007). The greater the profit or benefit obtained from a preventive action, the greater the individual's opportunity to carry out disease prevention action, however, if the perceived benefit is small from a disease prevention action, the possibility of action being taken to prevent it is smaller (Hall, 2012).

Based on the research results, it was found that there is a relationship between cues to act and safe sexual behavior. This is proven by the majority of respondents who have high cues to action (stimulus). Service VCT. Conversely, the lower the signal for action (stimulus), the less likely MSM are to utilize VCT services (Prawesti et al., 2018).

A person's behavior depends on the information received during continuous social interactions. If the information received is correct, a person will live it correctly as well vice versa. Thus, encouragement from the social environment has a fairly high role in changing behavior (Notoatmodjo, 2007). Most respondents received strong support from both community friends and their partners to carry out VCT. Thus, this encouraged respondents to always carry out VCT regularly according to the schedule that had been determined at the hospital where the respondent had VCT.

The research results also show that there is a relationship between action cues and condom use among MSM. MSM in the USA are aware of and use condoms when listening to the experiences of their closest friends and community friends regarding the symptoms and perceived dangers of HIV. Thus, this influences MSM to use condoms when having sexual relations with their partners (McGarrity et al., 2018). In



the health belief model theory, reasons/impulses are events, individuals, or things that make someone change their behavior (Rosenstock et al., 1994).

Based on the research results, it was found that there is a relationship between self-confidence and safe sexual behavior.

Perception of self-ability influences a person's actions in using condoms. This is based on their belief in being able to carry out this preventative behavior, the higher their self-confidence in always using condoms, the better their condom use behavior will be (Sirait & Sarumpaet, 2014).

Self-efficacy in using condoms is one of the factors that can influence the role and use of condoms in same-sex relationships in men. Consistent condom use can influence the incidence of new HIV infections and, in the long term, can curb the progress of the HIV epidemic. This ability will influence the way individuals think and act to protect themselves by communicating and negotiating regarding condom use with partners (Rahim et al., 2021).

Based on the results of consultations with counselors It was found that all respondents in this research routinely carried out VCT because the respondents felt confident in taking VCT. For the majority of respondents, taking VCT is not something embarrassing or a sin but rather something that has a good impact on the respondents' health.

The health belief model (HBM) is a theory used to research behavior (Jones and Bartlett, 2008) and to evaluate and explain individual differences in preventive behavior (Janz, et al, 2012). Safe sexual behavior, namely the use of condoms and the use of VCT by MSM in the Bandung City Regional Hospital, apart from being influenced by these variables, is also influenced by demographic factors which include age, education level, gender. Work, marital status, number of partners, ethnicity, religion, history of illness, distance to health services, and distance to minimarkets.

This research states that perceived barriers, perceived benefits, cues to action, and self-confidence have a relationship with safe sexual behavior in MSM. These four factors together determine the formation of safe sexual behavior, namely the use of condoms and the use of VCT among MSM. Based on the analysis of research results, the most dominant factor related to safe sexual behavior is the perceived benefit factor. This is because the majority of respondents agree with the perceived benefits of using condoms and using VCT.

Respondents have the perception that by using condoms, respondents and their partners are safer when having sexual relations. According to respondents, using condoms can reduce the risk of sexually transmitted diseases. Apart from that, respondents also thought that taking part in VCT could help respondents and their partners to know about their reproductive health. Apart from that, by using VCT respondents can consult about the disease or condition they are facing and respondents can also ask for input and direction from the counselor who provides VCT services.

The results of this research are strengthened by the results of previous research which shows that positive perceptions of condom use are the dominant factor. It was found that 75.8% of MSM had a high positive perception and 24.2% of respondents had a low positive perception. Statistical tests show that there is a significant relationship between positive perceptions and condom use behavior. Positive perceptions of

condoms (perceived benefits) are an individual's assessment of the benefits gained by adopting the recommended health behavior. The better a person's positive perception of HIV transmission prevention behavior, the more likely they will take that action (Barus, 2017). The impact of using condoms includes preventing pregnancy and providing protection against sexually transmitted diseases. The disadvantages of condoms are that they are extremely thin, making them prone to tearing if not used or stored according to the rules. They require practice to use properly and are not efficient, and condoms made from latex can cause allergies for some people (Handayani, 2010). The impact of condom use among MSM includes preventing and reducing the spread of HIV and AIDS and preventing the occurrence of sexually transmitted infections (STIs) in MSM (Costa et al., 2022).

The impact of VCT is to encourage healthy people and healthy people without HIV symptoms (asymptomatic) to know their HIV status so they can reduce the level of HIV transmission, encourage someone to change behavior, provide information about HIV AIDS, testing, prevention and treatment for people with HIV AIDS (PLWHA) (Fajarini, 2020). Research conducted by Fonner, et al adds evidence that VCT can change risky sexual behavior related to HIV thereby reducing HIV-related risk (OR=3.24) (Fonner et al., 2014). Research results have found that in the last three decades HIV prevention has depended on counseling, HIV testing, and distribution of condoms (Velloza et al., 2019).

## CONCLUSION

Based on the results of the research and discussion, it can be concluded that from the health belief component of the model, the factor that is most strongly related to safe sexual behaviour is the perception of barriers. Meanwhile, the lowest factor is the perception of vulnerability. Of the components of safe sexual behaviour, the highest component is the avoidance behaviour factor risk. Meanwhile, the lowest factor is avoiding body fluids. There is a significant relationship between perceived barriers, perceived benefits, cues to action, and self-confidence with safe sexual behaviour.

Meanwhile, perceived vulnerability and perceived severity do not have a significant relationship with safe sexual behavior. The dominant factor related to safe sexual behavior among MSM with HIV is perceived benefits. Health practitioners, in this case, nurses and counsellors, are expected to be able to provide support and motivation and remind MSM to carry out safe sexual behaviour, namely using condoms and doing VCT, so that MSM are expected to be aware and able to carry out safe sexual behaviour which can help prevent MSM from various types of diseases. Other sexually transmitted infections. For further research, it is recommended that research be conducted in several locations to see differences in the results of safe sexual behavior in various regions in Bandung and Indonesia. Apart from that, future researchers are also advised to conduct research on other variables or add variables such as economic factors and motivation for engaging in safe sexual behavior.

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## Conflict of Interest

The authors declare that they have no conflicts of interest in this research.

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