DESCRIPTION OF HIV (HUMAN IMMUNODEFICIENCY VIRUS) IN CATIN (PROSPECTIVE BRIDAL) IN GORONTALO CITY

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ABSTRACT

HIV (Human Immunodeficiency Virus) is a viral infection that attacks the human immune system. To detect HIV early, an HIV screening examination is carried out on the prospective bride and groom recommended at the health center using the rapid test method to detect early medical history of the prospective bride and groom. If a disease or abnormality is found, then medical action can be taken immediately. If the disease or disorder is not resolved, efforts will be made to ensure that the bride and groom make efforts to prevent the problem from getting worse or spreading to her partner.

This study aims to determine the results of HIV examination on catin (bride and groom) and to determine the factors of HIV transmission, namely through blood transfusions, family history of HIV, ever taking drugs, employment, and education of the prospective bride and groom. As well as knowing the characteristics of the prospective bride based on age and gender. This type of research is a descriptive study with a quantitative approach, and HIV testing using the rapid test method. This research technique uses the Cluster Random Sampling technique, which is an area sampling technique used to determine the sample if the object to be studied or the data source is very broad. The results of HIV examination showed that the catin (bride and groom) was not infected with HIV (non-reactive) with a percentage of 100%.

Keywords: HIV, Prospective Bride, Rapid Test.

INTRODUCTION

HIV/AIDS is a virus that weakens the human immune system that attacks white blood cells called CD4 so that it can damage the human immune system. After several years the number of viruses has increased so that the immune system is no longer able to fight the incoming disease. HIV attacks CD4 cells and turns them into a breeding ground for HIV and then destroys them so that they can no longer be used. White blood cells are needed for the immune system. Without immunity, when the body is attacked by a disease, the body has no protection. And the discovery of HIV cases is increasing, almost all countries in the world are not spared from this case. With the increase in the number of HIV is the biggest health problem worldwide that must be tackled.

The success of efforts to combat this cannot be separated from the guidelines of the Joint United Nations Program on HIV/AIDS (UNAIDS) and WHO and international cooperation. Likewise, a network of academics, decision makers, and the community, which jointly formulate strategies and implementations of HIV infection control, and assess the results of such control[1].

The number of people with HIV continues to increase every 1990-2016. Last data datafrom the United Nations Program on HIV / AIDS (UNAIDS) in 2017 the number of HIV sufferers in the world reached 36.7 million people[2].The most recent available data on the HIV epidemiology are as many as 36.9 million people. Meanwhile, the highest HIV countries were in Africa with 3.5 million cases and Southeast Asia with 25.6 million cases[3].

In 2017, HIV/AIDS reached 36.9 million cases. Indonesia is in the third position as the country with the largest contributor to HIV incidence in 2017 in the Asian region[4]. Since it was first reported in Indonesia in 1987 until March 2019, there were 461 (89.7%) HIV/AIDS cases in 514 districts / cities throughout Indonesia. This data shows that HIV/AIDS cases tend to be widespread in Indonesia. The latest data, until March 2019, the cumulative number of reported HIV cases was 338,363. Currently there are 5 provinces with the highest number of HIV cases, namely DKI Jakarta (60,501 cases) followed by East Java (50,060 cases), West Java (35,529 cases), Papua (33,485 cases) and Central Java (29,048 cases)[5].

Gorontalo Province in 2018 to March 2019 found 62 cases of HIV (Human Immunodeficency Virus) and 60 people with AIDS (Acquired Immunodeficiency Syndrome). The distribution of HIV-AIDS based on the mode of transmission in Gorontalo Province was recorded from 2001 to March 2019 as many as 23 bisexual people. Distribution of HIV/AIDS based on domicile in Gorontalo Province from 2001 to March 2019 the most HIV cases were in Gorontalo City, namely with 79 cases, Gorontalo Regency with 47 people, Boalemo Regency with 32 people, North Gorontalo Regency as many as 21 people and Regency of Gorontalo Regency Bone Bolango, as many as 15 people[6].

Transmission of HIV (Human Immunodeficiency Virus) can be transmitted through the exchange of human body fluids, namely through sperm and vaginal fluids. If a person living with HIV has sex with his partner and does not use protective equipment (condoms), it can put his partner at risk of contracting HIV disease. So that the prospective bride and groom must know the reproductive health of the prospective partner because if they play the role of a husband and wife, they must have good physical and mental health. Reproductive health examinations are carried out to show a person's physical and mental health related to their reproductive functions and processes, including not having diseases or disorders that affect their reproductive activities[7].

For the existence of a harmonious household is usually determined from the beginning or the beginning. Success or failure in marriage depends on the method you will take to choose your life partner. So that the initial step in navigating the household ark with the right way to choose a life partner, seeing, investigating potential partners is a factor that needs to be considered both about their medical history or personality, life and medical history[8].

Once there was a woman who had just been married for 2 weeks came to the Office of Religious Affairs for consultation and was about to sue for divorce. The cause of the divorce suit was

because the man who became her husband was not healthy or biologically disabled, so that he could not fulfill the needs and inner support for his wife. This also happened in several KUA cases where marriage cancellations were made, after the marriage requirement documents were complete, the marriage was canceled because the prospective husband was HIV positive. An equally important phenomenon is the fact that a housewife has the potential to be infected with HIV/AIDS from a husband with HIV/AIDS. Even the highest number of people with HIV / AIDS is housewives[8].

Given the large number of HIV cases that occur in housewives, the government needs to change the direction of policy to prevent HIV transmission within the family by making pre-marital HIV testing mandatory. Mandatory pre-marital HIV testing is one of the most effective ways to prevent HIV transmission in the family circle because knowing HIV status earlier means that many efforts are made to avoid HIV transmission in the family, such as the risk of transmission to partners through sexual intercourse can be prevented by using condoms and partners who have been infected with HIV can even have offspring safely through the Prevention of Mother-to-Child Transmission of HIV (PMTCT)[9].

Prenuptial screening is one of the plans and strategies that have become an important condition in order to prevent genetic disorders and congenital disorders[10]. Because this test aims to build a healthy and prosperous family by knowing the possible health conditions of the child to be born (both parties' medical history), including genetics, chronic diseases, infectious diseases that can affect the health conditions of the offspring. By carrying out a pre-marital health check, it means that we have taken care of the offspring[11].

Based on the above background, considering that HIV infection can be transmitted to husband / wife partners, efforts are made to prevent HIV disease as early as possible. Therefore, researchers are interested in conducting research on the description of HIV (Human Immunodeficiency Virus) on Catin (Bride and Groom) in Gorontalo City.

RESEARCH METHODS

This research is a research *descriptive* with a quantitative research designwhere this research takes place scientifically and systematically to obtain an explanation of a theory and the laws of reality using theories with the aim of describing HIV (Human Immunodeficiency Virus) in Catin (Candidates for Brides) in Gorontalo City. The design of this research is cross sectional, which is to see the dynamics of the correlation between factors and effects. This study used a sampling technique using cluster random sampling and obtained random resultsnamely in the working area of the West City Health Center, the Central City Health Center, the South City Health Center, and the North City Health Center. Research time is 1 month (August-September 2020). The population of prospective brides was 1,528. The sample size in this study is determined by the following formula[12]:

$$n = \frac{Z^2 1-\alpha/2\ P\ (1-P)}{(N-1)d^2 + Z^2 1\alpha/2\ P(1-P)}$$

$$= \frac{1.528 \cdot 1.64^2 \cdot 0.52(1-0,52)}{(1.528-1).0.15^2 + 1.64^2.0,52\ (1-0,52)}$$

$$= \frac{1.528\ .\ 1.64^2\ .\ 0.52(0,48)}{(1.527).0,0225 + 2,68\ .0,52\ (0,48)}$$

$$= \frac{1.022,12}{34,35 + 0,66} = \frac{1.022,12}{35,01}$$

n = 29.19 = 30 samples

So the sample used in this study was 30 samples.

Information:
N = Total Population
n = Number of samples
Z21-$\alpha/2$ = Degree of significance (90% = 1.64)
P = The proportion of a particular case to the population (52% = 0.52)
d =Degree of deviation from population (15% = 0.15)

The data collecting technique is in the form of a questionnaire which is filled directly by the respondent. The procedure for examining HIV (Human Immunodeficiency Virus) uses the Immunochromatography Rapid Test method as follows [13]:

1. Clean the area to be punctured using an alcohol swab
2. Squeeze your fingertips and prick using the lancet provided
3. Take the available 20µL capillary pipette, dip the tip in the blood and press until the blood enters the capillary pipette until the black line
4. Add 20µL of blood specimen using capillary pipette (S)
5. Apply 4 drops (approx. 120µL) of assay diluent vertically into the sample well (S)
6. When the reaction starts, a purple line will appear moving towards the results window located at the center of the test kit
7. Read / interpret results within 10-20 minutes.
8. Result reading:
   a. HIV Negative: If only Control Line (C) appears in the Results Window.
   b. Positive:
      - If 2 (two) lines appear, namely: control line (C) and test line 1 indicates a positive result of HIV-1.
      - If 2 (two) lines appear, namely: control line (C) and test line 2 indicates a positive result of HIV-2.
      - If 3 (three) lines appear, namely: control line (C), test line 1 (1) and test line 2 (2) it is positive for HIV-1 and / or HIV-2.
      - If the test stripe 1 is thicker than band 2 it means HIV type 1 positive.
      - If the test stripe 2 is thicker than band 1 it means HIV type 2 positive.
   c. Invalid: If there is no control line (C) in the result window.

The presentation of the data in this study uses a table and is accompanied by a narrative to describe the results of the HIV (Human Immunodeficiency Virus) examination on Catin (Bride and Groom).

RESEARCH FINDINGS

The following data is data that shows the results of HIV (Human Immunodeficiency Virus) examinations for respondents (Bride Candidates) in the Puskesmas Work Area Kota Barat, Puskesmas Kota Tengah, Puskesmas Kota Selatan, and Puskesmas Kota Utara.

Table 1.
Results of HIV (Human Immunodeficiency Virus) Examination on Catin (Prospective Bride)

No.	Result	Frequency (n)	Percentage (%)
1	Reactive	0	0%
2	Non Reactive	30	100%
Total		30	100%

Source: Analysed data (2020)

Based on table 1. It shows that the results of HIV examinations carried out at the Health Center of West City, South City, Central City and North City of all respondents with a percentage of 100% were non-reactive while 0% of respondents were reactive.

Table 2.
Distribution of Frequency of HIV History in Family of Catin (Bride and Groom)

No.	Variable	Frequency (n)	Percentage (%)
1	Yes	0	0%
2	Not	30	100%
Total		30	100%

Source: Analysed data (2020)

Based on table 2. the frequency distribution of the prospective bride and groom, obtained data showing that of the 30 respondents with a percentage of 100% do not have a family infected with HIV or who have a history of HIV.

Table 3.
Frequency Distribution of Catins (Prospective Brides) who have received Blood Transfusions

No.	Variable	Frequency (n)	Percentage (%)
1	Yes	1	3.3%
2	Not	29	96.7%
Total		30	100%

Source: Analysed data (2020)

Based on table 3, the frequency distribution of the prospective bride and groom shows that only 1 respondent (3.3%) had a history of having received blood transfusions and 29 respondents (9.7) did not receive blood transfusions.

Table 4.
Frequency Distribution of Catin (bride and groom) who use drugs

No.	Variable	Frequency (n)	Percentage (%)
1	Yes	0	0%
2	Not	30	100%
Total		30	100%

Source: Analysed data (2020)

Based on table 4 the frequency distribution of the prospective bride and groom shows that of the 30 respondents with a percentage of 100% never used drugs.

Table 5.

No.	Age	Frequency (n)	Percentage (%)
1	17-25 Years	14	46.7%
2	26-35 Years	13	43.3%
3	36-45 years	3	10%
Total		30	100%

Source: Analysed data (2020)

Based on table 5, the age characteristics of the highest respondents were aged 17-25 years with the number of respondents as much as 46.7%, while the lowest respondents in this study were those aged 36-45 years as many as 10%.

Table 6.
Frequency Distribution Based on Job Catin (Prospective Bride)

No.	Variable	Frequency (n)	Percentage (%)
1	entrepreneur	19	63.4%
2	Government employees	4	13.3%
3	Does not work	7	23.3%
Total		30	100%

Source: Analysed data (2020)

Based on table 6, the highest respondent's job distribution is those who have self-employed jobs with a percentage of 63.3%, while the lowest respondents are those who do not work with a percentage of 23.3%.

Table 7.
Frequency Distribution Based on Education from Catin (Prospective Bride)

No.	Variable	Frequency (n)	Percentage (%)
1	Junior High	1	3.3%
2	High school	3	10%
3	D-III	6	20%

4	S1	18	60%
5	S2	2	6.7%
Total		30	100%

Source: Analysed data (2020)

Based on table 7, the education distribution data of the respondents obtained shows that the highest education level of respondents is Strata 1 (S1), which is 60%, while the respondents with the lowest education are 3.3%.

DISCUSSIONS

Result Off

Based on this research, it shows that 100% of the bride and groom who are tested for HIV (Human Immunodeficiency Virus) use the Immunochromatography Rapid Test method which is used to detect early early in HIV testing. The principle of the rapid test examination is that the specimen is dropped on the specimen bearing reacts with the particles on the specimen bearing and will move chromatographically to react with the recombinant antigen found on the test line. If the specimen contains HIV antibodies, 2 color stripes will appear, but if it does not contain HIV antibodies, 1 color line will appear[13]. In the HIV examination of the candidate pegantin, a non-reactive result was obtained which was indicated by the appearance of a colored line on the control so that there were no HIV antibodies in the patient's blood sample. So that there is no reaction between the antigens that are on the HIV test strip. This means that the respondents (prospective brides) who are checked are healthy.

Family History of HIV

Based on the results of research that has been conducted, 100% of the prospective brides do not have family members infected with HIV. The family has a duty to maintain the health of each member, especially for couples, it should be open if it is known to be HIV / AIDS positive so as not to spread it to the family, because if it is not open, this condition will further increase the HIV / AIDS transmission rate[14]. Family is very influential because basically if there is a problem in one family member, it will have an influence on other family members. Especially health problems in the family are interrelated if the person living with HIV / AIDS affects not only one person, but the entire family in him. This is why respondents are not infected with HIV.

Drugs

The results showed that 100% of the prospective brides never used drugs, especially parenteral drugs. Drugs are substances that, when administered orally in the human body, orally / taken by mouth, alive, or injected, can create a person's thoughts, moods or feelings and behavior[16]. The sharing of needles and syringes is a high risk of blood-borne physical diseases including HIV. intravenous injections that are administered by syringe users and used interchangeably have unconsciously introduced the virus into the blood[17].

History of Blood Transfusions

Based on the history of blood transfusion, 3.3% received blood transfusions. In someone who has received a blood transfusion tainted with HIV, it will be infected. However, in a study conducted by respondents who had received blood transfusions, the results of their HIV tests showed nonreactive, which means that there were no HIV antibodies in the blood. This is due to the demands of blood services that have increasingly high standards of safety services, both equipment and technology. This can anticipate / prevent the transmission of a deadly disease known as Infectious Blood Transfusion (IMLTD) including HIV[18]. HIV infection can occur in individuals

who receive blood transfusions contaminated with HIV. It is estimated that 90-100% of people who receive blood transfusions tainted with HIV will become infected[19].

Age

Based on the characteristics, it was found that respondents aged 17-25 years were more than 46.7%. At the age of 17-25 years, including the adolescent mass, the adolescent mass is considered free. Young people are more at risk of unsafe sexual behavior so that they are less involved in taking precautions for HIV transmission than older people[(20)]. This is confirmed by WHO estimates, 30% of the 40 million people with HIV/AIDS (PLWHA) infected worldwide are in the 15-24 year age group. The factors that cause a person to be infected with HIV are due to immature way of thinking which is shown by not thinking long and following behavior towards peers. However, the results of this study are in line with data from[(21)]. that the highest cumulative percentage of HIV (1987 to June 2013) is in the age group 20-29 years 35%, age group 30-39 years 28.2%, and age group 40-49 years 10%. However, from the results of this study, it can be seen that most HIV sufferers are in the productive age group, namely 20-49 years. However, the thing that causes the bride and groom not to be infected with HIV is because they have obtained early knowledge about reproductive health. In addition, prior to marriage the respondent took a prenuptial course as stated in 2013, the Ministry of Religion issued a Dirjen Regulation No. DJ.II / 542 of 2013 concerning Guidelines for the Implementation of Prenuptial Courses, which is aimed at adolescents of marriage age, namely men at least 19 years old and Muslim women at least 16 years old as well as future brides. From the results of this study, it can be seen that most HIV sufferers are in the productive age group, namely 20-49 years. However, the thing that causes the bride and groom not to be infected with HIV is because they have obtained early knowledge about reproductive health. In addition, prior to marriage the respondent took a prenuptial course as stated in 2013, the Ministry of Religion issued a Dirjen Regulation No. DJ.II / 542 of 2013 concerning Guidelines for the Implementation of Prenuptial Courses, which is aimed at adolescents of marriage age, namely men at least 19 years old and Muslim women at least 16 years old as well as future brides. From the results of this study, it can be seen that most HIV sufferers are in the productive age group, namely 20-49 years. However, the reason that the bride and groom are not infected with HIV is because they have acquired knowledge from an early age about reproductive health. In addition, prior to marriage, respondents took a pre-marriage course as stated in 2013, the Ministry of Religion issued a Dirjen Regulation No. DJ.II / 542 of 2013 concerning Guidelines for the Implementation of Prenuptial Courses, which is aimed at adolescents of marriage age, namely men at least 19 years old and Muslim women at least 16 years old as well as future brides. However, the thing that causes the bride and groom not to be infected with HIV is because they have obtained early knowledge about reproductive health. In addition, prior to marriage the respondent took a prenuptial course as stated in 2013, the Ministry of Religion issued a Dirjen Regulation No. DJ.II / 542 of 2013 concerning Guidelines for the Implementation of Prenuptial Courses, which are aimed at adolescents of marriage age, namely men at least 19 years old and Muslim women at least 16 years old as well as future brides. However, the thing that causes the bride and groom not to be infected with HIV is because they have obtained early knowledge about reproductive health. In

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Profession

Based on the research conducted, the prospective bride and groom have a self-employed job as much as 63.3%, while respondents who do not work are 23.3%, and respondents who have a job as civil servants (PNS) are 13.3%. In accordance with the study of seniors, et al (2019) entitled Factors Affecting the Incidence of HIV Infection at Productive Age at the HKBP Balige AIDS Committee. Statistical test results obtained p value = 0.283, meaning that there is no effect of work with the incidence of HIV infection [22].

Education

Based on research conducted, 60% of the prospective bride and groom's education is (S1) which states that the higher a person's education level, the less likely he is to contract HIV / AIDS, or it can be said that education can affect one's knowledge. The results of this study are in line with the theory which states that education is an activity in the learning process to develop or improve certain abilities so that education can stand alone. So education is needed to get information, for example things that support health, so that more knowledge is owned[23].

If an educated ≥ SMA has a 1.54 times greater chance of doing HIV / AIDS prevention than those with a <SMA education background. A highly educated person has better analysis and understanding of health information, especially health information regarding efforts to prevent HIV/AIDS transmission. And also someone who has a higher level of education will have broad insight so that he can become an example[24].

Based on the results of research that has been carried out and in accordance with the theoretical theory put forward by previous researchers that of the 30 prospective brides who are not infected with HIV (Human Immnodeficiency Virus) because the respondent already knows about HIV transmission.

CONCLUSION

After conducting research on the description of HIV (Human Immnudeficiency Virus) in Catin (Bride and Groom) in Gorontalo City, it can be concluded:

1. The results of HIV testing to 30 respondents were nonreactive.
2. From the results of the study, there are no risk factors for the prospective bride and groom to be infected with HIV, seen from several factors of HIV transmission, namely based on family history of HIV, receiving blood transfusions, using drugs, and characteristics based on age, occupation and education of the prospective bride and groom.

REFERENCES

[1] Regulation of the Minister of Health of the Republic of Indonesia Number HK.01.07 Year 2019. National Guidelines for HIV Management Medical Services. Jakarta.
[2] UNAIDS 2017. Global AIDS Update 2017. Geneva: Joint United Nations Program on HIV / AIDS.
[3] World Health Organization. Global Epidemic HIV 2017. Department of HIV / AIDS
[4] UNAIDS 2018. Global HIV & AIDS statistics - 2018 factsheet. Geneva:

Joint United Nations Program on HIV/AIDS.

[5] Indonesian Ministry of Health. 2019. Basic Health Research. Jakarta: Indonesian Ministry of Health.

[6] Gorontalo Provincial Health Office. Accumulated Number of HIV-AIDS Cases in 2001-March 2019. Gorontalo: Gorontalo Provincial Health Office.

[7] Ministry RI Health. (2015). Catin Kespro Handbook. Jakarta: Ministry of Health of the Republic of Indonesia.

[8] Bariyyah, 2019. The Significance of Premarital Health Examination in Islamic Law Perspective (Study at KUA in Central Lampung Regency). Graduate program. State Islamic Institute (IAIN) Metro. http://repository.metrouniv.ac.id/id/eprint/2638/1/TESIS%20KHOIRUL%20Bariyah.pdf. Retrieved 20 June 2020

[9] BKKBN (National Population and Family Planning Board) 2018. Movement Against AIDS Seventh Edition. Jakarta: Directorate of Advocacy and IEC.

[10 Puspitaningrum, D., Nuke DI, Indri A, Purwanti, Hidayatul MA, 2020. Improved Understanding of Coordinating Midwives About Standard Operating Procedures for Premarital Screening at Puskesmas Sekota Semarang, Journal of Midwifery Community Service Volume 2 No 1, 2020, 45-49. https://jurnal.inimus.ac.id/index.php/JPMK/

[11] Munawaroh. L., 2019. Health Test as Pre-Marriage Requirement (Study of Marriage Law in Kuwait). Journal of Islamic Law and Law Thought Volume 10, Number 1, June 2019. http://journal.stainkudus.ac.id/index.php/yudisia/index

[12] Notoatmodjo, S., 2015. Health Research Methodology. Rineka Cipta.

[13] Gyeonggi-do, Yongin, Gheung, Borahagal. 2015. The 3rd Generation of ONE STEP antibodies to HIV-1 / HIV-2 Test, MANUFACTURED BY STANDARD DIAGNOSTICS, INC. KOREA (2015).

[14] Sukmo R, Agnes WS, Hadi S, 2019. Legal Protection Of The Housewives To The Risk Of HIV / AIDS in The City Of Semarang. Soepra Journal of Health Law Vol 5 (2) December 2019. http://journal.unika.ac.id/indeks.php/shk

[15] Swastika, YA, and Achmad, MM, 2017. Endure to the end of a case study of families with HIV / AIDS. Journal of Empathy, October 2017, Volume 6 (Number 4), Pages 424-432. https://ejournal3.undip.ac.id/index.php/empati/article/download/20114/18982

[16] Amanda MP, Sahadi H, Meilanny BS Drug Abuse among Adolescents (Adolescent Substance Abuse). Journal of Research & PPM Vol 4, No.2 Hal 129-389. Jurnal.unpad.ac.id/prosiding/article/download/14392/6946.

[17] Mardinah, Hariati, L., Jumakil, 2018. Risk of Sexual Orientation Factors on HIV / AIDS Incidence Based on Sexual Behavior, Parenteral Drugs, and History of STIs in Kendari City in 2017. Public Health Student Scientific Journal, Vol.3 / No .2 / April 2018. Ojs.uho.ac.id/index.php/JIMKESMAS/article/download/3994/3077.

[18] Sudaryanto, 2020. Quality of Public Services at the PMI UTD Office Pekanbaru City. Ners Journal Volume 4 Number 1 Year 2020 Pages 59-67. journal.universitaspahlawan.ac.id/index.php/ners/article/viewFile/744/668.

[19] Anwar Y, Sucahyo AN, Niken DT, 2018. Sociodemographic, Clinical

Characteristics, and Antiretroviral Patterns of HIV / AIDS Patients at RSPI Prof. Dr. Sulianti Saroso January-June 2016. Indonesian Pharmacy Journal Vol. 15 No. 01 July 2018. Jurnalnasional.ump.ac.id/index.php/PHARMACY/article/viewFile/1216/2078.

[20] Yowel Kambu, Agung Waluyo, K. (2016). Age of people living with HIV AIDS (PLWHA) related to HIV transmission prevention measures. Yuneti Journal, ON, 2014. The Relationship between Initial Medical Conditions and External Factors in HIV / AIDS Patients When Starting Therapy in 2002-2012 with CD4 Increases of More than 250 cells / mm3 at the Amertha Clinic, Kerti Praja Denpasar Foundation. Public Health And Preventive Medicine Archive, 2 (2), pp. 124-132. Indonesian Nursing, 19 (3), 200–207. Jki.ui.ac.id/index.php/jki/article/viewFile/473/574

[21] Directorate General of Disease Control and Health, Ministry of Health RI. Report on the Situation of HIV & AIDS in Indonesia, 2013.

[22] Seniors, RM, Sridama, YH, Indah, S., 2019. Factors Affecting the Incidence of HIV Infection at Productive Age in the AIDS Committee of the HKBP Balige. Indonesian Trust Health Journal Journal Volume 2, No.2 - November 2019. Jurnal.stikesmurniteguh.ac.id/index.php/ithj/article/vies/35/41.

[23] Notoatmodjo, Soekidjo. 2012. Health Promotion and Health Behavior. Jakarta: Rineka Cipta.

[24] Jayani, I., Fatma, SR, 2019. Predisposing Factors of Knowledge, Attitudes, Values and Culture of Ex-Female Sexual Workers with HIV / AIDS Incidence in Kediri Region. Scientific Journal of Health Sciences Vol. 7, No.1,2019, pp. 53-63. https://jurnal.unitri.ac.id/index.php/care.