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The Prevalence of Oral Manifestation in Transgenders with HIV/AIDS in Surabaya, East Java, Indonesia

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ABSTRACT

Background: Transgenders do anogenital and orogenital (fellatio) sexual intercourse which high risk of HIV/AIDS transmission. HIV/AIDS decrease immune system (CD4⁺ T cells) that can easily lead to opportunistic oral infections. There are oral lesions that close related to HIV/AIDS infection such as Oral Candidiasis, Angular Cheilitis, Oral Hairy Leukoplakia, and Linear Gingival Erythema.

Aim: to describe the prevalence of HIV/AIDS Oral Lesions in HIV/AIDS transgender patient at Surabaya, East Java, Indonesia.

Material and Methods: an analytical observational research with cross-sectional and total sampling method. The samples consisted of 56 patients transgender patient at PERWAKOS in July 2014 accordance with the criteria and agreed to participate by filling the informed consent. Diagnosed of HIV/AIDS based on Rapid Test and HIV 1 and 2 Enzyme Linked Immunosorbent Assay (ELISA). The oral cavity of subjects examined by oral medicine specialist. Diagnosed for Oral Candidiasis based on mycology test direct microscopy using Potassium Hydroxide 10%. Fungal culture was done on Sabouraud Dextrose Agar (SDA). Candida species detection by sugar fermentation test. Results: There were 45 of 108 transgenders were diagnosed seropositive HIV/AIDS revealed 26 cases of Oral Candidiasis (49,06%), 18 cases of Angular Cheilitis (33,96%), 7 cases Oral Hairy Leukoplakia (13,2%), and 2 cases of Linear Gingival Erythema (3,77%).

Conclusion: Oral Candidiasis was the most common oral lesion found in HIV/AIDS transgender.

Keywords: HIV/AIDS, Oral Manifestation, Transgender, Opportunistic Infection.

INTRODUCTION

First Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS) case was discovered in the United States in 1981 with the presence of *Pneumocystis jirovecii* in pneumonia and Kaposi's Sarcoma in 26 healthy homosexuals in New York and Los Angeles.¹ HIV was originally known as

Lymphadenopathy-Associated Virus (LAV) and Human T-cell Lymphotropic Virus Type III (HTLV-III).² HIV is a retrovirus that can transmit through three ways: vertically from an infected mother to child; as a transsexual; and horizontally or contact with body fluids.³

In Indonesia, first HIV/AIDS case was discovered in Bali in 1987. Since 1999, the transmission of HIV/AIDS through sexual intercourse phenomenon shifts to the transmission through contact with body fluids, especially intravenous drug use or Intravenous Drug Users (IDUs). In 2000, the pandemic of HIV through sex workers in Indonesia increase annually.³ September 2014 until 2016, there are 150.296 HIV cases dan 55.799 AIDS cases in Indonesia (Ditjen PP and PL Kemenkes RI, 2014). HIV/AIDS included in the Emerging Infectious Disease.^{4,5}

One of highest risk group infected HIV/AIDS was transgender group, due to the high risky sexual life that

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can lead spreading of HIV/AIDS such as anogenital or orogenital (fellatio) and changing sexual partners frequently.⁵ Surabaya transgender community gathered by a Persatuan Waria Kota Surabaya (Perwakos) or Union of Shemale Surabaya. Most of Perwakos centers are spread throughout the entire Surabaya city.⁶ HIV/AIDS decreased immune system of human's body. People who at the last stage of HIV/AIDS infection, CD4⁺ T cell decrease below 200 cells/mm³.² The decreased in the immune system caused by HIV/AIDS destruct the CD4⁺ T cells and caused a decrease CD4⁺ T cells significantly. The opportunistic infection associated with HIV/AIDS increased.⁷

It has been estimated that 90% of people with HIV disease will present at least one oral manifestation, sometime during the HIV infection. Dentist has an important role in the primary health care to positively affect the well being of patients. The oral health is an important but frequently undervalued as source of diagnostic and prognostic information in patients with HIV diseases. Oral manifestations is an important biomarkers in HIV infection. OHL is one of seven oral manifestations were strongly associated with HIV/AIDS (pathognomonic lesion), such as Oral candidiasis (OC), Angular Cheilitis (AC), Oral Hairy Leukoplakia (OHL), Linear Gingival Erythema (LGE), Necrotizing Ulcerative Gingivitis (NUG), Necrotizing Ulcerative Periodontitis (NUP), Sarkoma Kaposi dan Non Hodgkin Lymphoma (NHL).⁸

The most common opportunistic infections in the oral cavity was OC. An early manifestation in the oral cavity that can indicate the progression of HIV infection in approximately 30-80% of patients.⁹ One of priority program from World Health Organization (WHO) Oral Health Program in 2003 was effective prevention of oral manifestations of HIV/AIDS through several activities, such as by identifying the most indicative of oral lesions in HIV / AIDS. Diagnosis of infection through early identification is one way to lower the risk of transmission of infection.¹⁰ The aim of this study to know the prevalence of HIV/AIDS Oral lesions in HIV / AIDS transgender patient at Surabaya.

MATERIALS AND METHOD

This study has been received approval ethical clearance letter of human subjects from Ethics Research

Committee Faculty of Dental Medicine, Universitas Airlangga Surabaya, East Java, Indonesia 40/KKEPK. FKG/VI/2014. This is an analytical observational research with cross-sectional and total sampling method. The samples consisted of 108 patients transgender patient. There were 45 HIV/AIDS seropositive patients at PERWAKOS in July 2014 accordance with the criteria and agreed to participate by filling the informed consent. Diagnosed of HIV/AIDS based on Rapid Test (VIKIA® by BioMérieux SA, Marcy-I'Etoile, France) and Enzyme Linked Immunosorbent Assay (ELISA) (Human Immunodeficiency Viruses Type 1,2 Antibody (HIV1,2) ELISA Test Kit® by Diagnostic Automation/ Cortez Diagnostics Inc, California, USA).

The oral cavity of subjects examined by oral medicine specialist. Diagnosed for Oral Candidiasis based on mycology test direct microscopy using Potassium Hydroxide (KOH) 10% (Remel BactiDrop®, by Thermoscientific™, California, USA). Fungal culture was done on Sabouraud Dextrose Agar (SDA by Acugen Manufacturers inc Neogen™, Leshler Place, Lansing). Candida species detection by sugar assimilation and fermentation test (The Candifast™ kit (International Microbio™, France). Prevalence of oral lesion was determined using Chi Square test. Statistical analysis was done using Statistical Package for the Social Sciences (SPSS) 17.0 software for windows 8.1 by SPSS Inc, Chicago, United State.

RESULTS

According this study there were 45 seropositive HIV/AIDS patients (41,67%) from 108 transgender at Perwakos. Most of them in 20-30 years old group (75,56%) age distribution of seropositive HIV/AIDS transgender can be seen in table 1.

Table 1: Age Distribution of HIV/AIDS seropositive transgender in 2014

Ages	Total	Percentage (%)
20-30 years old	34	75,56
>30 years old	11	24,44
Total	45	100

In this study, most common of oral lesion was OC with 26 cases (49,06%). Prevalence of Oral Lesion in HIV/AIDS seropositive transgender shown in table 2.

Table 2: Prevalence of Oral Lesion in HIV/AIDS seropositive transgender in 2014

No.	Oral Lesions	Number of Cases	Percentage (%)
1.	Oral Candidiasis	26	49,06 %
2.	Angular Cheilitis	18	33,96 %
3.	Oral Hairy Leukoplakia	7	13, 2%
4.	Linear Gingival Erythema	2	3,77%
	Total	14	100%

DISCUSSION

The number of people living with HIV/AIDS in the age range 20 to 30 years old as a result of a risky lifestyle such as prostitution and drug abused. HIV/AIDS infected people in productive age because high sexual libido in young age. In the previous study, libido at productive age range increased only by a little stimulation or even without stimulation. Libido combustible triggers sexual perversion.¹¹ The high HIV/AIDS cases in the 20-29 age range supported by the majority of the study subjects had a job as commercial sex workers and the existence of a community which resulted in changing sexual intercourse partners.¹²

HIV/AIDS symptoms appeared from 7 to 10 years after infection, it can be implied that at the young age seroconversion was infected which is between 13-20 years old. This age group associated with the developmental stage both body and physic maturation, that can easily affected by environmental conditions and negative lifestyle such as free sex, IDU drug abused.^{11,13}

HIV infection affects innate immunity and adaptive immunity. HIV attacks and disrupt homeostasis efforts that so the host susceptible to opportunistic infections. HIV/AIDS infections lead to a variety of clinical manifestations in the various organs such as in the oral cavity. Oral manifestations may indicate systemic conditions of person and reflect an initial clinical signs that can predict the progression of HIV into AIDS.¹⁴

The most common oral lesion in this study was OC. OC cases in this study fewer than previous study in UPIPI RSUD Dr. Soetomo 2011 with 31 cases (66%), dan study in Nigeria 2012 with 31 cases (47,77%).^{15,16} The differences occurred depend on individual immune system status at the time of inspection. OC often arised in people with HIV/AIDS due to immunodeficiency

condition that made fungal colonies in the oral cavity lead to opportunistic infection.¹⁶

The second most prevalent in this study was Angular Cheilitis. Number of AC cases in this study more than study India 2012 with 16 cases (12,8%) and Iran 2014 with 17 cases (17%).^{17,18} In previous study said that AC occurred due to HIV/AIDS infection made *Staphylococcus Aureus*, *Streptococci* and *Candida Spp.* Become opportunistic infection. Less nutrition and vitamin such as B complex and C play role as predisposition factor that can lead to AC.²⁰

The less prevalent of oral lesion in this study was OHL. Number of OHL cases in this study fewer than study in Iran 2014 with 17 cases (17%) and study in India 2012 with 16 cases (12,8%) OHL occurred only in HIV/AIDS patient with late stage of infection. Epstein Barr Virus is the etiology of OHL ends it dormant stage and pathogen stage because of immunodeficiency condition.²¹

Another less prevalent of oral lesion in this study was LGE. Number of LGE cases in this study fewer than previous study in UPIPI RSUD Dr. Soetomo Surabaya 2014 with 7 cases (5,83%). *Candida Spp.* in subgingival plaque trigger inflammation respond at free margin gingiva that involved attach gingiva.²²

CONCLUSION

Oral Candidiasis was the most common oral lesion found in seropositive HIV/AIDS transgenders patient at PERWAKOS Surabaya, East Java, Indonesia.

Conflict of Interest: The authors report no conflict of interest.

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