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Original Research Article

THE PROFILE OF HIV INFECTED PREGNANT WOMAN IN TERTIARY HOSPITAL

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ABSTRACT

Introduction. In Indonesia, HIV infection is one of the main health problems. Mother or baby with HIV / AIDS have a great opportunity to contribute in maternal and infant mortality. Besides, maternal and infant mortality rates determine the public health quality of a country. This research was conducted based on the negative impact caused by HIV infection and the lack of data on infected pregnant HIV women in Surabaya. This research also expected to find out the main challenges in providing care services, both in terms of health and HIV education for health workers. **Method.** This research was a descriptive retrospective study to find out the characteristics of HIV infected pregnant women in Regional Public Hospital Dr. Soetomo Surabaya from January-December 2019. There were 36 HIV pregnant women included as a research subject. **Results & Analysis.** This study shows that the characteristics of HIV infected pregnant women who gave birth in Regional Public Hospital Dr. Soetomo Surabaya has the majority aged of 31-35 years (33.3%), who working as private employees (44.4%), with the latest education is high school (55.6%), married (97.2%), and multigravida (80.6%). Regarding their HIV, most patients (55.6%) had taken ARV for more than 6 months without viral load results (63,8%), and gave birth by C-section (88, 8%). **Discussion.** Early diagnosis and follow-up of therapy implemented by HIV infected pregnant women and their babies is important to reduce the mother-to-child transmission rate.

Keywords: HIV, New born, Pregnancy, Prevention of Mother to Child HIV Transmision.

INTRODUCTION

Human Immunodeficiency Virus (HIV) is a disease that infected the human immune system. The HIV virus infected CD4 T lymphocyte cells that resulted in decreasing the patients' immunity. This immune deficiency caused the patient become more susceptible to opportunistic infections that should be fought by immune system in a healthy condition. After being infected, most sufferers are not aware of their disease status until they

reach an advanced stage, called Acquired Immunodeficiency Syndrome (AIDS). Around 36.9 million people in the world are infected with HIV/AIDS that making this phenomenon become world health problem. HIV transmission is through bodily fluids such as blood, breast milk, semen, and vaginal secretions. HIV transmission can also occur during pregnancy, childbirth and breastfeeding.

In Indonesia, HIV infection is one of the most important health problems. Mothers or babies with HIV/AIDS have an opportunity to contribute in maternal and infant mortality. In fact, maternal and infant mortality rates greatly determine the public health status in a country. One study showed that in 2003-2010 research in eight Indonesian provinces showed that the prevalence or rate of HIV/AIDS in pregnant women was low, but this did not make HIV/AIDS in pregnant women become a small problem. On the other hand, the results of this study project a significant social and economic burden from this problem in the future.

In 2016, the general public such as housewives, private employees, and entrepreneurs contributed 40.3% to the number of AIDS cases in Indonesia. Meanwhile, the risk groups such as sex workers only contributed 3.4%. This phenomenon is in line with the data from the Ministry of Health in 2015 which showed that more than half (50.3%) of HIV transmission is through sexual intercourse with different sexes partners (heterosexual). Housewives themselves are a group that mostly will become pregnant women and transmit it to their children.

About 90% of HIV cases in children are the result of mother-to-child transmission. Although various attempts have been made over the years, the efforts are remains needed to increase the PMTCT program (Prevention of Transmission of Mothers and Children) in Indonesia usually called as PPIA program.

This is illustrated in 2016 UNAIDS data from HIV-infected pregnant women, only 13% received ARVs (anti-retrovirus). Meanwhile, for their babies, approximately 14% were given prophylactic ARVs. In developing countries, without prophylaxis, the risk of mother-to-child transmission will increase by 15-45%. As a result, in 2016 there were 1900 cases of child death due to AIDS and 1300 new cases of it. HIV-infected children are very vulnerable to malnutrition, thrive failure, even the premature death. This research was conducted considering the negative impact caused by HIV infection and the lack of data on pregnant sufferers with HIV in Surabaya. In addition, HIV transmission factors need to be studied for identifying

barriers to PPIA implementation. The studies on current cases need to be implemented to find common threads of causes and events to reduce the transmission incidence from mother to child. This research is also expected to find out the main challenges in providing care services, both in terms of health and HIV education for health workers.

METHOD AND ANALYSIS

This study was a descriptive retrospective study that collected data on the incidence of HIV transmission from mother to child in mothers who gave birth at Regional Public Hospital Dr. Soetomo with related variables. The population in this study were all maternity patients who experienced HIV during their pregnancy at Regional Public Hospital Dr. Soetomo. This study was conducted with ethical clearance from Regional Public Hospital Dr. Soetomo with ethical clearance number 1823/KEPK/11/2020.

RESULTS

In this study, there were 36 pregnant women with the majority age of 31-35 years old (33.3%), graduated from high school (55.6%), worked as private employees (44.4%), married (97.2%) and multigravida (80.6%). Marital status in pregnant patients with HIV was divided into first marriages of 22 people (61.1%) and those who had been married twice of 13 people (36.1%).

Table 1 Social and Obstetric Characteristics of Pregnant Women with HIV

Social-Obstetric Characteristic	Total	
	Amount	Percentage (%)
Age		
21 – 25	8	22.2
26 – 30	9	25
31 – 35	12	33.3
36 – 40	6	16.6
>40	1	2.7
Total	**36**	**100**
Education		
Student	1	2.7
Elementary	5	13.8
Middle	4	11.1
High school	20	55.6
Undergraduate	2	5.6
Master	1	2.7
Unknown	3	8.3
Total	**36**	**100**
Employment		
Private employee	16	44.4
Housewives	14	38.8
Entrepreneur	2	5.6
Teacher	2	5.6
Student	1	2.7
Civil servant	1	2.7
Total	**36**	**100**
Marital Status		
First marriage	22	61.1
Second marriage	13	36.1
Unmarried	1	2.7
Total	**36**	**100**
Gravid		
Primigravida	7	19.4
Multigravida	29	80.6
Total	**36**	**100**

In 36 pregnant patients with HIV, it was found that 7 (19.4%) people took ARVs for less than 6 months, 21 people (58.3%) had taken more than 6 months, and 8 people (22.2%) did not take ARVs.

Table 2 Duration distribution of taking ARVs in pregnant patients with HIV who gave birth at Regional Public Hospital Dr. Soetomo Surabaya

Duration of taking ARV	Amount	Percentage (%)
>6 months	21	58.3%
<6 months	7	19.4%
Not taking ARV	8	22.2%
Total	36	100%

Table 3 The distribution of viral load levels in pregnant patients with HIV who gave birth at Regional Public Hospital Dr. Soetomo Surabaya

Viral load level	Amount	Percentage (%)
Undetected	11	30.5
PCR-RNA HIV >1000	2	5.6
Unknown	23	63.8
Total	36	100

The results obtained in this study were that 11 patients (30.5%) had no detectable viral load in their blood and 2 patients (5.6%) had HIV PCR-RNA which was quite low, below 10,000 copies/ml, but above 1,000 copies/ml. Meanwhile, 23 people (63.8%) had no viral load results.

Table 4 The delivery type of distribution in pregnant patients with HIV at the obgyn inpatient unit at Regional Public Hospital Dr. Sutomo Surabaya

Types of Delivery	Total	Percentage (%)
spontaneous (pervaginam)	4	11.1
Sectio caesarian	32	88.8
Total	36	100

In 36 patients, two types of deliveries were found, called spontaneous delivery and sectio caesarean delivery. A total of 32 people gave birth by caesarian section and 4 people gave birth spontaneously.

DISCUSSION

Patients who are taking ARVs for less than 6 months and not taking ARVs due to low patient compliance, but also because they have not conducted massive HIV screening that they do not know whether they are infected with HIV or not. HIV screening for pregnant women in Indonesia is recommended by the

Ministry of Health of Republic Indonesia during the first trimester. Meanwhile, the screening before pregnancy or before marriage (premarital checkup) has not been widely implemented.

The research conducted by Nanik Setiyawati in Jogjakarta shows that the initiation of service providers and the availability of information are the important factors that encourage pregnant women to screen for HIV tests (Setiyawati and Meilani, 2015). In this case, the Indonesian Social Security Administrative Body (called as BPJS) has already covered screening tests for pregnant women in the first trimester, then the costs should not be a problem.

In addition, family support factors also greatly influence the ARV consumption. The research in Purwokerto showed that pregnant women with HIV who did not receive family support were mostly disobedient in taking ARVs as many as 8 people (72.7%), while pregnant women with HIV who received family support were mostly compliant in taking ARVs as many as 18 people (75 %) (Anasari, 2017).

The Combination antiretroviral (ARV) treatment is the best therapy for HIV patients. The main goal of giving ARVs is to suppress the amount of virus (viral load), increasing the immune status of HIV patients and reducing deaths from opportunistic infections. Apart from being antivirals, Antiretrovirals are also useful for preventing HIV transmission to sexual partners, as well as HIV transmission from mother to child. In the absence of intervention, mother-to-child transmission of HIV can range from 15-45%. By giving ARVs during pregnancy and choosing the right mode of delivery, the transmission rate is less than 2% (Cooper *et al.*, 2002). Therefore, it is important for pregnant women with HIV to regularly consume ARVs in order to reduce HIV transmission to their babies.

According to guidelines from the Ministry of Health of Republic Indonesia, the general management of HIV in pregnancy is checking the CD4 count and viral load to determine the immunological status and evaluate treatment response. This also determines the delivery choice in pregnant women with HIV. Therefore, viral load and CD4 counts should be conducted routinely. The limitations in time to immediately perform labour can affect it, then it is not possible to detect the viral load when the delivery approaches. As Sandbulte also said, in Kenya only 6% underwent viral load testing according to WHO standards and the most important influencing factor was health facilities (Sandbulte *et al.*, 2020). Also, the price for viral load test is more expensive than CD4 counting test then the

pregnant women with HIV and other HIV patients are more familiar with checking the CD4 count. In 2019, Regional Public Hospital Dr. Soetomo received the assistance of 3,000 kits to conduct viral load testing, but it just started to be used around June in which pregnant women with HIV who routinely control at the UPIPI Poly and give birth at Regional Public Hospital Dr. Soetomo when it is not their time to be tested. Meanwhile, pregnant women with HIV who are about to give birth but are not routinely controlled patients at UPIPI Poly, most have been asked to do viral load testing but it just doesn't work, maybe because of time constraints and the baby will be born soon. The solution from the researchers in this problem is for pregnant women with HIV who are about to give birth, at 36 weeks, must to conduct the viral load testing regardless of how long the pregnant woman has been taking ARVs.

To achieve the 2020 UNAIDS 90-90-90 target, the care needs to be based on viral load to ensure optimal adherence and clinical monitoring of HIV. In previous studies in Indonesia, the data on viral load suppression is not available in most provinces in Indonesia yet, and causing the difficulties in assessing the ARV treatment progress. This also explains why the estimated target of the third 90-90-90 Prong is very low, similar in other provinces (Ssekalembe, Isfandiari and Suprianto, 2020). The researchers provide advice to the government to increase the number of health facilities, called laboratories that can conduct viral load testing and cheaper laboratory tests in achieving the target of UNAIDS 90-90-90 in 2020, also monitoring the HIV patients are for their therapy results.

The two types of deliveries that were most commonly performed were spontaneous deliveries and deliveries by caesarean section, as many as 32 people (88.8%). While 4 other people gave birth spontaneously. From 4 people who gave birth spontaneously, two had undetectable viral load levels in their blood, 1 person had no data regarding her viral load, but had routine control and was taking ARVs since the first detection. Whereas one other person had no viral load results but came during the second stage of labour and was immediately led to push.

This is in accordance with the results of a 2020 study in Jakarta that 84.1% of deliveries used Sectio Caesarea method (Indarti *et al.*, 2020). Meanwhile, in Philadelphia study, 51.6% used the Sectio Caesarea method, with 36% of being SCs scheduled and the rest are being the emergency C-sections (Thompson *et al.*, 2015).

The proper delivery management plays an important role in preventing

mother-to-child transmission of HIV. In the pre-combined antiretroviral therapy era, elective SCs section proved superior to vaginal delivery in preventing perinatal HIV infection. Also, the guidelines from Ministry of Health of Republic Indonesia and World Health Organization stated that vaginal delivery can be implemented when the viral load has reached less than 1000 copies/ml. This study found that the guidelines were quite successful, as many as 3 out of 4 people have achieved a viral load of less than 1000 copies/ml. From the 28 people who had no information about viral load in their blood, it was possible that they could have spontaneous vaginal delivery. As described by Aebi-Popp, in a cohort study in Europe found that 22 people (35%) of 63 patients could have vaginal delivery (Aebi-Popp *et al.*, 2013). The Finnish study also emphasized that most pregnant women living with HIV in well-resourced countries are having low viremia and give birth vaginally. This can reduce the morbidity associated with caesarean section and protect the possible of childbearing in the future (Aho *et al.*, 2018). Livingston in his research found several reasons for this phenomenon, called fear of transmission from mother to baby, previous history of caesarean section, hypertension and preeclampsia, as well as requests from the patients themselves (Livingston *et al.*, 2010).

CONCLUSION

Early diagnosis and follow-up of therapy conducted by HIV infected pregnant woman and their babies is important to reduce the rate of mother-to-child transmission. The society must be educated about HIV/AIDS so that they are aware of the importance of having early checks before the complications affect to their health.

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