

CHARACTERISTIC OF REPRODUCTIVE AGE WOMEN LIVING WITH HIV / AIDS IN VICTORY PLUS FOUNDATION, YOGYAKARTA, INDONESIA

Dwi Kartika Rukmi^{1*)}, Ike Wuri Winahyu Sari¹ & Afi Lutfiyati¹.

¹Faculty of Nursing, Achmad Yani Yogyakarta University, Yogyakarta, Indonesia

Abstract

Around 50% of people living with HIV/AIDS worldwide are women, and women of reproductive age are the group of women who are most infected by HIV/AIDS. Indonesia is a country that has increased the number of people with HIV/AIDS up to three folded since 2009-2014 and the number of women infected with HIV/AIDS also continues to increase. This study aims to look at the characteristics of women living with HIV / AIDS (WLWHA) in Victory Plus who are of reproductive age. This study is descriptive research with a cross-sectional approach that was conducted on 288 women with HIV / AIDS taken by purposive sampling who met the inclusion criteria in Victory Plus Foundation, Yogyakarta. Data were taken by questionnaire in March – June 2019 and processed by univariate analysis according to the data. The results showed that respondents 100% underwent ART, they are 35.42 ± 6.91 years old, suffered HIV for 4.06 ± 3.21 years, and have a length of ART duration for 3.74 ± 3.11 years. Most of WLWHA are Muslims (89,9%), Javanese (94,4%), married women (52,8%), senior high school educated (46,5%), housewives (68,8%), have living children (80,6%), have no child with HIV (87,5%), adherence on ART (85,4%), have steady sex partner (75,3%), disclosed their HIV status to their sexual partner (50,7%), disclosed their HIV status to others (50,7%), and having better health perception (73,3%). The conclusion that the characteristics of respondents are mostly Muslim, have a high school education background, work as a housewife, are married, have live children, have no children with HIV, are on ART, open to sexual partners, open to other than sexual partners and have improved health perception.

Keywords: HIV/AIDS; Women; Reproductive; Age

Article info: Sending on December 01, 2019; Revision on January 27, 2020; Accepted on February 26, 2020

*) Corresponding author:

Email: kartikarukmi@gmail.com

1. Introduction

HIV/AIDS cases are still considered as health problems in various countries in the world (Rukmi & Darussalam, 2018). Based on UNAIDS (Joint United Nations Program on HIV and AIDS) statement, by the end of 2017, more than 36.9 million people in the world are living with HIV/AIDS (35.1 million are adult and 1.8 million are children). In addition, 1.8 million incidents were new cases of HIV and 940,000 people in the world die of HIV/AIDS (Nurjanah & Wahyono, 2019).

From all of these HIV patients, nearly half of the infected were women and in their productive age (Oskouie, Kashefi, Rafii, & Gouya, 2017). Women were more likely to be infected by HIV than men (Fagbamigbe, Adebayo, & Idemudia, 2016). Numbers of research have reported that there are two most common ways of HIV transmission, namely sexual intercourse and blood transfusion. In both ways, the prevalence of transmission is higher in women than in men. Women's earlier exposure to HIV was due to

risky sexual behavior, coupled with physiological factors in women. These make women more vulnerable to HIV. Also, the exposure to blood transfusion done due to anemia and complication during pregnancy and childbirth, combined with the low access for information and treatment for other infections that aid the transmission of HIV and the development of AIDS, is higher in women (Girum et al., 2018). HIV also have behavioural, socioeconomic and demographic risk factors, including age at first sexual inter- course, inconsistent condom use, having multiple sexual partners, female sex, being single and the partner's sexual behaviour, location and culture (Ginindza et al., 2017). Prevention of the HIV epidemic, like other infectious diseases, depends on having a good understanding of the determinants of the spread of the infections. Monitoring trends in important determinants is crucial in explaining trends in disease magnitude and evaluation of intervention programs. There is limited information on the prevalence and characteristic of women of

reproductive age which living with HIV/AIDS in Yogyakarta especially in Victory Plus Foundation.

The prevalence of HIV/AIDS for the age of 15-49 years old in Asia, since 2015, is categorized as stable within the number $<0.3\%$. Meanwhile, for Indonesia the number increased from $<0.1\%$ in 2001 to 0.5% in 2015 (Pendse, Gupta, Yu, & Sarkar, 2016). HIV itself is still the main cause of death in women in their productive age around the world (Shiferaw et al., 2019). The number of HIV cases in Indonesia since 2010 remains unchanged. Mostly affecting those in productive age with the most transmission happened through heterosexual relationships (Depkes, 2014).

Up to the first three semesters in 2015, the number of HIV/AIDS infected in Yogyakarta was 3106 people. Victory Plus Foundation is the biggest Non-Government Organizations working in providing early treatment for HIV and AIDS infected people in Yogyakarta. This NGO also provides support for (PLWHV) through various programs. In December 2018, there were 1133 women recorded as infected with HIV/AIDS in Victory Plus. This research is intended to observe the characteristics of women who are in their reproductive age and infected with HIV/AIDS in Victory Plus Yogyakarta.

2. Method

This study is descriptive quantitative research intended to describe the characteristics of women in their productive age and is infected with HIV/AIDS in Victory Plus Foundation, Yogyakarta. This research was conducted on 288 women, aged between 15-49 years old who were in the program of Victory Plus Foundation Yogyakarta. The data was obtained using purposive technique sampling. The data taking process was conducted within the duration of four months at the beginning of 2019 (March 1st to July 1st) and conducted using questionnaires. The data were processed by utilizing the univariate analysis.

3. Results and Discussion

The result of the research is described in table I, in which the average age sample is 35.42 ± 6.91 , the length of time they suffered HIV is 4.06 ± 3.21 and the length of therapy duration ART 3.74 ± 3.11 years. Most of the HIV/AIDS infected are Muslims, senior high school educated, housewives, have living children, have no child with HIV, undergoing ART, disclosed their HIV status to their sexual partner, disclosed their HIV status to others and having better health perception.

Most of the women with HIV / AIDS in this research were 35.42 ± 6.91 years old. They are categorized within the range of fertile age or the age of a person considered eligible to reproduce (15-49 years). The prevalence of HIV / AIDS for the aged 15-49 years in the Asian region, since 2015, is relatively stable at $<0.3\%$. However, for Indonesia, that number has increased from $<0.1\%$ in 2001 to 0.5% in 2015 (Pendse et al., 2016). This statement supports the

previous research which reported that in Indonesia, the number of new people infected with HIV has increased by 48% (Phanuphak et al., 2015).

The increase in the number of women with HIV/AIDS at childbearing age caused by the fact that young age is a stage of developmental age where risky behaviors, including risky behavior for HIV transmission, are very likely to happen. For example, unprotected sex and drug abuse (Fernández et al., 2015). All respondents in this study were recorded under the Victory Plus Foundation which is the largest foundation that houses and facilitates HIV/AIDS infected patients in Yogyakarta. Based on data from the Victory Plus foundation, the riskiest behaviors carried out by women with HIV/AIDS in this study were the use of illegal drugs and unsafe sex, due to the type of company they keep or due to sexual activity for commercial purpose (commercial sex workers).

The Javanese (94.4%) is the dominant ethnicity of women infected with HIV/AIDS in Yogyakarta. Demographically, the city of Yogyakarta is located on the island of Java and the majority of the population is Javanese (Pitoyo & Triwahyudi, 2018). Yogyakarta endowed with the image of Education City. Consequently, many college students or students from various regions, both from within Indonesia and abroad, come to Yogyakarta (Zubaidah, Partiwati Hadi, & Mustadi, 2016). Besides, Yogyakarta is also known for its educational facilities, the hospitality of its people, and inexpensive living costs. These factors have encouraged people from outside the province of Yogyakarta to migrate and live in Yogyakarta. This is evidenced by the increasing distribution of the population in Yogyakarta, as many migrants have migrated to Yogyakarta in the past four decades (Zubaidah et al., 2016).

The more diverse and denser a community the higher is the consequences, good or bad, related to several things including health. These things are bound to happen. The incidence of HIV infected cases in 2014 in Yogyakarta consists of 1,118 men and 377 women. Meanwhile, AIDS cases occur in 802 men and 366 women. These figures increased in 2017, where HIV cases became 2676 in men and 1261 in women, with 985 AIDS-infected are men and 490 are women (dinas kesehatan provinsi DIY, 2017). With the high rate of migration in Yogyakarta, the risk of HIV transmission is getting higher, both in and out of Yogyakarta. This can be the reason why many people with HIV/AIDS are of Javanese ethnicity in Yogyakarta. The women with HIV/AIDS in this study were mostly Muslim (89.9%). UNAIDS data reported that Indonesia is one of the countries with the largest Muslim population in the world. At present, the spread of HIV / AIDS in countries with majority Muslims population is indeed a particular concern, namely in Malaysia, Indonesia and Iran, with an average prevalence of HIV / AIDS in adults is around 0.4% , 0.3% and 0.2% (Kamarulzaman, 2013).

Table I. Women Living with HIV/AIDS (WLWHA) in Reproductive Age in Victory Plus Foundation, Yogyakarta

Variable	Total (f)	Min	Max	Mean	SD
Age	288(100)	17.00	49.00	35.42	6.91
Ethnicity					
Javanese	272(94,4)				
Sundanese	8(2,8)				
Madurese	4(1,4)				
Buginese	4(1,4)				
Religion					
Islam	259(89,9)				
Christian	20(6,9)				
Catholic	9(3,1)				
Educational Attainment					
No Formal Education	6(2,1)				
Elementary School	38(13,2)				
Junior High School	89(30,9)				
Senior High School	134(46,5)				
College/University	21(7,3)				
Occupation					
Housewife	198(68,8)				
Government employer	2(0,7)				
Private employer	85(29,5)				
Professional	3(1)				
Marriage					
Never Married	33(11,5)				
Widow/Separated	101(35,1)				
Married	152(52,8)				
Other	2(0,7)				
Living Biological Children					
No	56(19,4)				
Yes	232 (80,6)				
Living Children With HIV					
No	252(87,5)				
Yes	36(12,5)				
Length of HIV	288(100)	0,08	19,0	4,06	3,21
Antiretroviral Therapy					
Yes	288(100)				
No	0(0)				
Length of ART(Year)	288(100)	0,00	19,0	3,74	3,11
Adherence of ART					
Yes	246(85,4)				
No	42(14,6)				
Disclosed to sexual partner					
No	142(49,3)				
Yes	146(50,7)				
Type of sexual partner					
Steady	217(75,3)				
Casual	71(24,7)				
Disclosed to nonsexual partner					
No	142(49,3)				
Yes	146(50,7)				
Current Health Perception					
Poor	14 (4,9)				
Fair	63 (21,9)				
Good	211(73,3)				

In regions that are predominantly Muslim, HIV transmission is concentrated in high-risk population groups, such as commercial sex workers, homosexuals, and drug users. All practices carried out by these high-risk population groups are prohibited by Islamic teaching and are considered as closely related to HIV transmission. Perpetrators in these groups are considered disobedient and at risk of contracting HIV. The assumption of disobedience and not following the norm, caused stigmatization and reluctance of people to deal with those considered as from the groups with risk. The stigmatization and reluctance also influence the rejection of HIV / AIDS prevention programs initiated by the Muslim community itself. For example, the use of disposable syringes at IDU and the use of condoms for unsafe sexual relations (Kamarulzaman, 2013). It is believed that adhering to religious teachings, coupled with circumcision practices is claimed to be effective in preventing HIV transmission in many Islamic countries in the Middle East and Africa (Kamarulzaman, 2013). However, stigmatization, the unwillingness of people to interact with high-risk groups, and the rejection of HIV/AIDS transmission prevention programs make the risk of transmission to others including the Muslim population also greater.

Based on the Indonesian government's concept of 9-year basic education, respondents with junior high school education level and below are included in the basic education category. Meanwhile, respondents with senior high school education level and above are categorized as higher education category.

The education level of most respondents in this study is senior high school (46.5%). Therefore, they are included in the higher education category. Education is one of the ways that can be used to reduce HIV/AIDS transmission (Kim, 2012). Some conceptual mechanisms have stated that more educated people have a lower risk of contracting HIV. Educated people are considered to have more ability in terms of socio-cognitive, ability to assimilate with information related to risk, and self-confidence to act by their knowledge compared to individuals with lower education (Harling & Bärnighausen, 2016). Educated individuals also have more income/wealth, able to control their lives, and act based on their knowledge. They can uphold their values in a higher position in the future, and they are more motivated to take preventive actions related to HIV / AIDS.

However, other consequences also emerge as the result of the prosperity and education possessed by someone with higher education. People with higher education and wealth have greater opportunities to attract and have multiple partners. They also have greater access to networks of risky sexual activities, for example, sex workers and unsafe sex behaviors (Harling & Bärnighausen, 2016). Two effects brought by education on a person are the causes that allow HIV

/ AIDS sufferers in this study to occur more in women with higher education.

Women with HIV / AIDS in this study stated that their profession is a housewife. The number is as many as 198 respondents (68.8%). This is in line with the research conducted by Rahmalia et al (Rahmalia et al., 2015) and Padyana et al (Padyana, Dinesha, Bhat, & Nawaz, 2013), which stated that women who were infected with HIV / AIDS were mostly housewives. The transmission of HIV in housewives mostly occurs due to the transmission through the husband /spouses of the women (Purwitasari, E.M; Isfandiari, 2013). The origin of HIV transmission from women with HIV in Yogyakarta is not clearly illustrated in this study.

However, based on the data from the Victory Plus Foundation, most of the women who stated that their profession is housewives in this study had a history of having unsafe sex/being commercial sex workers. Hence can be concluded that it is possible, that in addition to other risk behaviors, the history of being sex workers/having unsafe sex is also a pattern of HIV transmission in this study. This is also supported by the research conducted by Rahmalia et al (Rahmalia et al., 2015), which stated that the pattern of HIV transmission in women in Indonesia occurs in several ways, namely IDU / IDU history, sex workers / having a history of being sex workers and infected by sexual partners.

Most women with HIV / AIDS in Yogyakarta were married (52.8%). Several studies have reported that marriage is a predictor of HIV cases. Marriage is considered as something that can prevent a person from contracting HIV and minimizes the spread of HIV. This happens when women and men who are HIV negative are married and stay loyal to their partners. Conversely, if a partner is infected with positive HIV or doing something at risk of contracting HIV, then he is at risk of infecting his partner with HIV (Kimani, Ettarh, Ziraba, & Yatich, 2013). Biological factors have also been reported as making it easier for women to be infected with HIV. This is because the anatomy of a female genital organ and the woman's obligation to give birth to a child make women more susceptible to be infected by HIV than men (Fagbamigbe et al., 2016). Hence, in addition to contracting from their partners during sexual activity, married women can also be infected during the process of giving birth to a baby.

Most of the women infected by HIV in this study have children (80.6%), and their children are not infected with HIV (87.5%). Previous studies have reported that limited education, employment opportunities, economic dependence, poor sexual negotiation, sexual violence, coercion and feminization of poverty, social norms and other socio-cultural practices, such as early marriage and forced marriage, have roles in the high rate of HIV/AIDS in women compared to men (Fagbamigbe et al., 2016). Most of the women in this study were housewives. Nearly half of these women, who declared themselves

as housewives in this study, have a history of working as unsafe female sex workers. Based on research by Longo et al (Longo et al., 2017), female sex workers are closely related to economic difficulties. Women who are housewives or unemployed are vulnerable to income difficulties. Lacking or unable to find financial support from those closest to them, both from parents and partners, can force women to take risky actions, such as having sex repeatedly to gain income to meet their daily needs (Longo et al., 2017). Having children is closely related to the responsibility of raising and meeting the needs of the children. The responsibilities as mothers and lack of income, working/having a history of being female sex workers and being exposed to HIV can be the cause of women infected with HIV in this study.

The women with HIV in this study had mostly suffered from HIV for 4.06 ± 3.21 years. All of them were taking antiretroviral therapy (100%) and have been on ART for 3.74 ± 3.11 years. UNAIDS stated that for nearly the last three decades, HIV infection is still a health problem that caught the world's attention. The increase in mortality and morbidity it brought hurts life expectancy in many developing and lagging countries (Maseko & Masuku, 2017). HIV-infected people need Anti-Retroviral Therapy (ART) to reduce mortality and prevent the emergence of new HIV transmission (Sianturi, Perwitasari, Islam, & Taxis, 2019).

Anti-Retroviral (ARV) is the only drug designated as a therapy that can suppress viral replication, increase immunological outcomes, and reduce the risk of developing drug resistance in HIV patients (Kheswa, 2017). Along with the development of ART treatment and easier access for treatment of HIV/AIDS, patients also increasingly experience improved health conditions and able to live longer (Berhan & Berhan, 2013)(Finocchiaro-Kessler et al., 2010). Life expectancy is estimated to increase by approximately 35 years in people with HIV after the ART era in 2000 (Finocchiaro-Kessler et al., 2010). By taking ART, the health of the people with HIV / AIDS improved. This is proven by the large number of women with HIV / AIDS in this study who stated their health perception as improved by 73.3%.

ART is a treatment that carried out throughout life and required adherence for the treatment to make it effective (Sianturi et al., 2019). AIDS is a complex disease syndrome that happens when a person's immune system declined. In people who are not compliant with ART treatment, symptoms of AIDS such as the decrease in appetite, weight gain, fatigue, mouth ulcers, diarrhea, and/or Kaposi's sarcoma appear more quickly (Kheswa, 2017). The women with HIV / AIDS in this study were mostly compliant with antiretroviral treatment (85.4%). Hence, the perception of their health was also good.

Most women with HIV / AIDS in this study have a permanent partner (75.3%) and are open to their sexual partners regarding their HIV / AIDS status

(50.7%). The high number of women with HIV/AIDS who have permanent and married partners is because, in Indonesia, women who are late in marriage or choose not to marry are deemed as not meeting the expectations of socio-cultural demands. Hence, these women usually encounter negative experiences in social life and its impact on their psychological condition (Himawan, Bambling, & Edirippulige, 2018). The type of sexual partner is also related to the openness of seropositive HIV status. This is in line with research conducted by Vu et al (Vu et al., 2012) who found that women with steady partners were 2.7 times more open about their HIV status compared with casual partners.

The type of partner is associated with openness. This is because, in a casual partner, a person feels less responsible for the condition of his partner (Deribe, Woldemichael, Wondafrash, Haile, & Amberbir, 2008). This can be caused by the fact that a relationship with a casual partner, especially without marital status, is considered an unstable relationship. Whereas in a steady relationship, a person feels concerned about the health condition of a partner and feels responsible for protecting his partner from HIV/AIDS. One of the ways is by being honest. A steady relationship is also considered as a solid relationship where problems related to childcare, support for children's needs and earning a living become a common problem, especially when facing a situation where one partner is unable to do his job because of illness (Miller & Rubin, 2007). The finding of the high number of women with HIV / AIDS who disclosed their status to sexual partners is in line with research conducted by Rukmi & Darussalam (Rukmi & Darussalam, 2018), where around 79.4% of women with HIV / AIDS in Victory Plus, Yogyakarta are open to sexual partners.

Women with HIV / AIDS in this study also chose to disclose their status to other people besides sexual partners. The number is 50.7%. When someone is infected with HIV, he must consider several things. They are, among others, about death and the decision to tell his illness to others both friends, colleagues, family, and especially to sexual partners (Minson, 2014). Women with HIV seropositive do have the right to be open or not going to their status, but these infected patients are unable to control the reactions and behavior of others related to HIV seropositive status they have.

The disclosure of seropositive HIV status has two opposite sides. On the one hand, the openness of positive HIV status can motivate sexual partners to do Voluntary Counseling and Test (VCT), reduce risky behavior, and increase support for adherence to ART (Anti-Retroviral Therapy) treatment. On the other hand, the disclosure of HIV positive status can cause HIV seropositive women to experience some unpleasant things such as blame, discrimination, rejection, depression, loss of economic support, and the destruction of family relationships (Gultie, Genet,

& Sebsibie, 2015). Some of the positive things that emerged due to the disclosure of HIV status are the cause of women with HIV /AIDS in this study opted to be open to other people outside their sexual partners.

4. Conclusions

Women with HIV / AIDS of reproductive age at the Victory plus Yogyakarta Foundation are mostly Muslim, have a high school education background, work as a housewife, are married, have live children, have no children with HIV, are on ART, open to sexual partners, open to other than sexual partners and have improved health perception. HIV / AIDS sufferers at Victory Plus Yogyakarta have an average age of women is 35.42 ± 6.91 years, length of time suffering from HIV 4.06 ± 3.21 years, and duration of ART therapy 3.74 ± 3.11 years. The number of women with HIV / AIDS at reproductive age needs special attention, especially for matters relating to the desire to have offspring and sexual activity because it vulnerability to transmission.

5. Acknowledgments

The authors would like thank to KEMENRISTEKDIKTI, Gedung 2 BPPT Lt19-20. Jl. MH. Thamrin No. 8 Jakarta 10340. Email: djrisbang.ristekdikti@gmail.com for the research grant.

6. References

- Berhan, Y., & Berhan, A. (2013). Meta-analyses of fertility desires of people living with HIV. *BMC Public Health*, 13(1). <https://doi.org/10.1186/1471-2458-13-409>
- Depkes. (2014). Infodatin AIDS.pdf. *Situasi Dan Analisis HIV AIDS*.
- Deribe, K., Woldemichael, K., Wondafrash, M., Haile, A., & Amberbir, A. (2008). Disclosure experience and associated factors among HIV positive men and women clinical service users in southwest Ethiopia. *BMC Public Health*, 8, 1–10. <https://doi.org/10.1186/1471-2458-8-81>
- dinas kesehatan provinsi DIY. (2017). *Profil Kesehatan Dinas Kesehatan Provinsi Di Yogyakarta Tahun 2017*.
- Fagbamigbe, A. F., Adebayo, S. B., & Idemudia, E. (2016). Marital status and HIV prevalence among women in Nigeria: Ingredients for evidence-based programming. *International Journal of Infectious Diseases*, 48, 57–63. <https://doi.org/10.1016/j.ijid.2016.05.002>
- Fernández, M. I., Huszti, H. C., Wilson, P. A., Kahana, S., Nichols, S., Gonin, R., ... Kapogiannis, B. G. (2015). Profiles of Risk Among HIV-Infected Youth in Clinic Settings. *AIDS and Behavior*, 19(5), 918–930. <https://doi.org/10.1007/s10461-014-0876-y>
- Finocchiaro-Kessler, S., Sweat, M. D., Dariotis, J. K., Trent, M. E., Kerrigan, D. L., Keller, J. M., & Anderson, J. R. (2010). Understanding high fertility desires and intentions among a sample of urban women living with HIV in the united states. *AIDS and Behavior*, 14(5), 1106–1114. <https://doi.org/10.1007/s10461-009-9637-8>
- Ginindza, T. G., Stefan, C. D., Tsoka-Gwegweni, J. M., Dlamini, X., Jolly, P. E., Weiderpass, E., ... Sartorius, B. (2017). Prevalence and risk factors associated with sexually transmitted infections (STIs) among women of reproductive age in Swaziland. *Infectious Agents and Cancer*, 12(1), 1–12. <https://doi.org/10.1186/s13027-017-0140-y>
- Girum, T., Wasie, A., Lentiro, K., Muktar, E., Shumbej, T., Difer, M., ... Worku, A. (2018). Gender disparity in epidemiological trend of HIV/AIDS infection and treatment in Ethiopia. *Archives of Public Health*, 76(1), 1–10. <https://doi.org/10.1186/s13690-018-0299-8>
- Gultie, T., Genet, M., & Sebsibie, G. (2015). Disclosure of HIV-positive status to sexual partner and associated factors among ART users in Mekelle hospital. *HIV/AIDS - Research and Palliative Care*, 7, 209–214. <https://doi.org/10.2147/HIV.S84341>
- Harling, G., & Bärnighausen, T. (2016). The role of partners' educational attainment in the association between HIV and education amongst women in seven sub-Saharan African countries. *Journal of the International AIDS Society*, 19(1), 1–10. <https://doi.org/10.7448/IAS.19.1.20038>
- Himawan, K. K., Bambling, M., & Edirippulige, S. (2018). What Does It Mean to Be Single in Indonesia? Religiosity, Social Stigma, and Marital Status Among Never-Married Indonesian Adults. *SAGE Open*, 8(3). <https://doi.org/10.1177/2158244018803132>
- Kamarulzaman, A. (2013). Fighting the HIV epidemic in the Islamic world. *The Lancet*, 381(9883), 2058–2060. [https://doi.org/10.1016/S0140-6736\(13\)61033-8](https://doi.org/10.1016/S0140-6736(13)61033-8)
- Kheswa, J. G. (2017). Exploring the Factors and Effects of Non-Adherence to Antiretroviral Treatment by People Living with HIV/AIDS. *Indo-Pacific Journal of Phenomenology*, 17(1), 1–11. <https://doi.org/10.1080/20797222.2017.1280923>
- Kim, J. (2012). *Literature review on the Impact of Education Levels on HI/AIDS prevalence rates*. 1–15. Retrieved from [https://hivhealthclearinghouse.unesco.org/sites/default/files/resources/Literature Review on the Impact of Education Levels on HIV-A.pdf](https://hivhealthclearinghouse.unesco.org/sites/default/files/resources/Literature%20Review%20on%20the%20Impact%20of%20Education%20Levels%20on%20HIV-A.pdf)
- Kimani, J. K., Ettarh, R., Ziraba, A. K., & Yatich, N. (2013). Marital status and risk of HIV infection in slum settlements of Nairobi, Kenya: results from a cross-sectional survey. *African Journal of Reproductive Health*, 17(1), 103–113.

- Longo, J. D. D., Simaleko, M. M., Diemer, H. S. C., Grésenguet, G., Brücker, G., & Belec, L. (2017). Risk factors for HIV infection among female sex workers in Bangui, Central African Republic. *PLoS ONE*, 12(11), 1–21. <https://doi.org/10.1371/journal.pone.0187654>
- Maseko, T. S., & Masuku, S. K. (2017). The Effect of HIV and Art on the Development of Hypertension and Type 2 Diabetes Mellitus. *Journal of Diabetes & Metabolism*, 08(03). <https://doi.org/10.4172/2155-6156.1000732>
- Miller, A. N., & Rubin, D. L. (2007). Factors leading to self-disclosure of a positive HIV diagnosis in Nairobi, Kenya: People living with HIV/AIDS in the Sub-Sahara. *Qualitative Health Research*, 17(5), 586–598. <https://doi.org/10.1177/1049732307301498>
- Minson, J. (2014). The Influence of HIV Stigma and Disclosure on Psychosocial Behavior. *ProQuest Dissertations and Theses*, 220. Retrieved from http://search.proquest.com.ezp-prod1.hul.harvard.edu/docview/1620735754?accountid=11311%5Cnhttp://sfx.hul.harvard.edu/hvd?url_ver=Z39.88-2004&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&genre=dissertations+&+theses&sid=ProQ:ProQuest+Dissertations+&+Thes
- Nurjanah, N. A. L., & Wahyono, T. Y. M. (2019). Tantangan Pelaksanaan Program Prevention Of Mother To Child Transmission (PMTCT): Systematic Review. *Jurnal Kesehatan Vokasional*, 4(1), 55. <https://doi.org/10.22146/jkesvo.41998>
- Oskouie, F., Kashefi, F., Rafii, F., & Gouya, M. M. (2017). Barriers to self-care in women of reproductive age with HIV/AIDS in Iran: a qualitative study. *The Pan African Medical Journal*, 28, 231. <https://doi.org/10.11604/pamj.2017.28.231.12385>
- Padyana, M., Dinesha, Bhat, R., & Nawaz, A. (2013). HIV in females: A clinico-epidemiological study. *Journal of Family Medicine and Primary Care*, 2(2), 149. <https://doi.org/10.4103/2249-4863.117405>
- Pendse, R., Gupta, S., Yu, D., & Sarkar, S. (2016). HIV/AIDS in the South-East Asia region: progress and challenges. *Journal of Virus Eradication*, 2(Suppl 4), 1–6. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/28303199%0Ahttp://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=PMC5353351>
- Phanuphak, N., Lo, Y. R., Shao, Y., Solomon, S. S., O'Connell, R. J., Tovanabutra, S., ... Excler, J. L. (2015). HIV Epidemic in Asia: Implications for HIV Vaccine and Other Prevention Trials. *AIDS Research and Human Retroviruses*, 31(11), 1060–1076. <https://doi.org/10.1089/aid.2015.0049>
- Pitoyo, A. J., & Triwahyudi, H. (2018). Dinamika Perkembangan Etnis di Indonesia dalam Konteks Persatuan Negara. *Populasi*, 25(1), 64. <https://doi.org/10.22146/jp.32416>
- Purwitasari, E.M; Isfandiari, M. . (2013). *HIV Infection Background among Housewife in HOPE Community Surabaya*. 1(1), 2013.
- Rahmalia, A., Wisaksana, R., Meijerink, H., Indrati, A. R., Alisjahbana, B., Roeleveld, N., ... Van Crevel, R. (2015). Women with HIV in Indonesia: Are they bridging a concentrated epidemic to the wider community? Public Health. *BMC Research Notes*, 8(1), 1–8. <https://doi.org/10.1186/s13104-015-1748-x>
- Rukmi, D. K., & Darussalam, M. (2018). Analisis Faktor Yang Berhubungan Dengan Keterbukaan Status Hiv Seropositif Wanita Penderita Hiv/Aids Terhadap Pasangan Seksual Di Lsm Victory Yogyakarta. *Media Ilmu Kesehatan*, 7(2), 114–122. <https://doi.org/10.30989/mik.v7i2.281>
- Shiferaw, T., Kiros, G., Birhanu, Z., Gebreyesus, H., Berhe, T., & Teweldemedhin, M. (2019). Fertility desire and associated factors among women on the reproductive age group of Antiretroviral treatment users in Jimma Town, South West Ethiopia. *BMC Research Notes*, 12(1), 1–8. <https://doi.org/10.1186/s13104-019-4190-7>
- Sianturi, E. I., Perwitasari, D. A., Islam, M. A., & Taxis, K. (2019). The association between ethnicity, stigma, beliefs about medicines and adherence in people living with HIV in a rural area in Indonesia. *BMC Public Health*, 19(1), 1–8. <https://doi.org/10.1186/s12889-019-6392-2>
- Vu, L., Andrinopoulos, K., Mathews, C., Chopra, M., Kendall, C., & Eisele, T. P. (2012). Disclosure of HIV status to sex partners among HIV-infected men and women in cape town, South Africa. *AIDS and Behavior*, 16(1), 132–138. <https://doi.org/10.1007/s10461-010-9873-y>
- Zubaidah, E., Partiwi Hadi, P., & Mustadi, A. (2016). Migrasi Pelajar dan Mahasiswa Pendatang di Kota Pendidikan. *Prosiding Seminar Nasional*, 597–607.