

## DAFTAR PUSTAKA

- Abram, M. E., Ferris, A. L., Das, K., Quinoñes, O., Shao, W., Tuske, S., Alvord, W. G., Arnold, E., & Hughes, S. H. (2014). Mutations in HIV-1 Reverse Transcriptase Affect the Errors Made in a Single Cycle of Viral Replication. *Journal of Virology*, 88(13). <https://doi.org/10.1128/jvi.00302-14>
- Aguiar, A., Piñeiro, C., Serrão, R., & Duarte, R. (2020). The 8-item Morisky medication adherence scale: validation of a Portuguese version in HIV patients. *European Journal of Public Health*, 30(Supplement\_5), ckaa165-669.
- Ahoua, L., Guenther, G., Pinoges, L., Anguzu, P., Chaix, M.-L., Le Tiec, C., Balkan, S., Olson, D., Olaro, C., & Pujades-Rodríguez, M. (2009). Risk factors for virological failure and subtherapeutic antiretroviral drug concentrations in HIV-positive adults treated in rural northwestern Uganda. *BMC Infectious Diseases*, 9(1), 1-11.
- Aiuti, F., & Mezzaroma, I. (2006). Failure to reconstitute CD4+ T-cells despite suppression of HIV replication under HAART. *AIDS Rev*, 8(2), 88-97.
- Anand, D., Puri, S., & Mathew, M. (2012). Assessment of quality of life of HIV-positive people receiving art: An Indian perspective. In *Indian Journal of Community Medicine* (Vol. 37, Issue 3). <https://doi.org/10.4103/0970-0218.99918>
- Andrzejczyk, A., Clyne, W., De Geest, S., Demonceau, J., Dobbels, F., Fargher, E., Hughes, D., Kardas, P., Lewek, P., & Matyjaszczyk, M. (2012). *Ascertaining barriers to compliance: Policies for safe, effective and cost-effective use of medicines in Europe*.
- Arimide, D. A., Abebe, A., Kebede, Y., Adugna, F., Tilahun, T., Kassa, D., Assefa, Y., Balcha, T. T., Björkman, P., & Medstrand, P. (2018). HIV-genetic diversity and drug resistance transmission clusters in Gondar, Northern Ethiopia, 2003-2013. *PloS One*, 13(10), e0205446.
- Arnsten, J. H., Demas, P. A., Farzadegan, H., Grant, R. W., Gourevitch, M. N., Chang, C.-J., Buono, D., Eckholdt, H., Howard, A. A., & Schoenbaum, E. E. (2001). Antiretroviral therapy adherence and viral suppression in HIV-infected drug users: comparison of self-report and electronic monitoring. *Clinical Infectious Diseases*, 33(8), 1417-1423.
- Arts, F. J., & Hazuda, D. J. (2012). HIV-1 antiretroviral drug therapy. *Cold Spring Harbor Perspectives in Medicine*, 2(4), a007161.
- dos, S., García-Morales, C., Matías-Florentino, M., Romero-Mora, M., Tapia-Trejo, D., Quiroz-Morales, V. S., Reyes-Gopar, H., Ji, H., Strom, P., Casillas-Rodríguez, J., Sierra-Madero, J., León-



Juárez, E. A., Valenzuela-Lara, M., Magis-Rodríguez, C., Uribe-Zuñiga, P., & Reyes-Terán, G. (2016). Pretreatment HIV-drug resistance in Mexico and its impact on the effectiveness of first-line antiretroviral therapy: a nationally representative 2015 WHO survey. *The Lancet HIV*, 3(12). [https://doi.org/10.1016/S2352-3018\(16\)30119-9](https://doi.org/10.1016/S2352-3018(16)30119-9)

Benveniste, O., Flahault, A., Rollot, F., Elbim, C., Estaquier, J., Pédrón, B., Duval, X., Dereuddre-Bosquet, N., Clayette, P., & Sterkers, G. (2005). Mechanisms involved in the low-level regeneration of CD4+ cells in HIV-1–infected patients receiving highly active antiretroviral therapy who have prolonged undetectable plasma viral loads. *Journal of Infectious Diseases*, 191(10), 1670-1679.

Blassel, L., Zhukova, A., Villabona-Arenas, C. J., Atkins, K. E., Hué, S., & Gascuel, O. (2021). Drug resistance mutations in HIV: new bioinformatics approaches and challenges. *Current Opinion in Virology*, 51, 56-64.

Boyd, M. A. (2010). Current and future management of treatment failure in low-and middle-income countries. *Current Opinion in HIV and AIDS*, 5(1), 83-89.

Budayanti, N. S., Merati, T. P., Bela, B., & Mahardika, G. N. (2019). Molecular Antiretroviral Resistance Markers of Human Immunodeficiency Virus-1 of CRF01\_AE Subtype in Bali, Indonesia. *Current HIV Research*, 16(5). <https://doi.org/10.2174/1570162x17666190204101154>

Chauhan, C. K., Lakshmi, P. V. M., Sagar, V., Sharma, A., Arora, S. K., & Kumar, R. (2019). Primary HIV Drug Resistance among Recently Infected Cases of HIV in North-West India. *AIDS Research and Treatment*, 2019. <https://doi.org/10.1155/2019/1525646>

Chen, M., Wu, M., Zeng, L., Zhang, Y., Huobu-mo, M., Li, J., Li, C., & Xiao, H. (2023). Virologic status and pattern of drug resistance mutation among ART-experienced HIV-infected patients in Butuo County, China. *Journal of Global Antimicrobial Resistance*, 32, 98-103. <https://doi.org/10.1016/J.JGAR.2023.01.002>

Clutter, D. S., Jordan, M. R., Bertagnolio, S., & Shafer, R. W. (2016). HIV-1 drug resistance and resistance testing. *Infection, Genetics and Evolution*, 46, 292-307.



Cohen. J., Beaubrun, A., Bashyal, R., Huang, A., Li, J., & Baser, O. (2020). Real-world adherence and persistence for newly-prescribed treatment: single versus multiple tablet regimen comparison among US medicaid beneficiaries. *AIDS Research and Therapy*, 17(1), 12. <https://doi.org/10.1186/s12981-020-00268-1>

- Colby, D. J., Crowell, T. A., Sirivichayakul, S., Pinyakorn, S., Kroon, E., Benjapornpong, K., Intasan, J., Trichavaraj, R., Tovanabutra, S., Robb, M., Phanuphak, P., Ananworanich, J., & Phanuphak, N. (2016). Declining trend in transmitted drug resistance detected in a prospective cohort study of acute HIV infection in Bangkok, Thailand. *Journal of the International AIDS Society*, 19(1). <https://doi.org/10.7448/IAS.19.1.20966>
- Conn, V. S., & Ruppert, T. M. (2017). Medication adherence outcomes of 771 intervention trials: systematic review and meta-analysis. *Preventive Medicine*, 99, 269-276.
- Costa, J. de M., Torres, T. S., Coelho, L. E., & Luz, P. M. (2018). Adherence to antiretroviral therapy for HIV/AIDS in Latin America and the Caribbean: Systematic review and meta-analysis. *Journal of the International Aids Society*, 21(1), e25066.
- Dahlan, S. M. (2017). *Statistik untuk kedokteran dan kesehatan: Deskripsi bivariate dan multivariate dilengkapi aplikasi penggunaan SPSS* (E. Indonesia, Ed.). Seri 1 edisi 6.
- Deeks, S. G., Barbour, J. D., Grant, R. M., & Martin, J. N. (2002). Duration and predictors of CD4 T-cell gains in patients who continue combination therapy despite detectable plasma viremia. *Aids*, 16(2), 201-207.
- Dennis, A. M., Volz, E., Frost, A. S. M. S. D. W., Hossain, M., Poon, A. F. Y., Rebeiro, P. F., Vermund, S. H., Sterling, T. R., & Kalish, M. L. (2018). HIV-1 transmission clustering and phylodynamics highlight the important role of young men who have sex with men. *AIDS Research and Human Retroviruses*, 34(10). <https://doi.org/10.1089/aid.2018.0039>
- Doravirine, M. & C. Inc. (2018). *Whitehouse NJ, Merck*.
- Dybul, M., Fauci, A. S., Bartlett, J. G., Kaplan, J. E., & Pau, A. K. (2002). Guidelines for using antiretroviral agents among HIV-infected adults and adolescents. Recommendations of the Panel on Clinical Practices for Treatment of HIV. *MMWR. Recommendations and Reports: Morbidity and Mortality Weekly Report. Recommendations and Reports*, 51(RR-7), 1-55.
- Eggena, M. P., Barugahare, B., Okello, M., Mutyala, S., Jones, N., Ma, Y., Kityo, C., Mugenyi, P., & Cao, H. (2005). T cell activation in HIV-seropositive Ugandans: differential associations with viral load, CD4+ cell depletion, and coinfection. *The Journal of Infectious Diseases*, 191(5), 694-701.
- Li, J., Petoumenos, K., Kamarulzaman, A., Hoy, J., Sungkanuparph, Chuah, J., Falster, K., Zhou, J., & Law, M. G. (2009). Long-term



patterns in CD4 response is determined by an interaction between baseline CD4 cell count, viral load and time: the Asia Pacific HIV Observational Database (APHOD). *Journal of Acquired Immune Deficiency Syndromes* (1999), 50(5), 513.

Etta, E. M., Mavhandu, L., Manhaeve, C., McGonigle, K., Jackson, P., Rekosh, D., Hammarskjold, M.-L., Bessong, P. O., & Tebit, D. M. (2017). High level of HIV-1 drug resistance mutations in patients with unsuppressed viral loads in rural northern South Africa. *AIDS Research and Therapy*, 14(1), 1-12.

Ferradini, L., Laureillard, D., Prak, N., Ngeth, C., Fernandez, M., Pinoges, L., Puertas, G., Taburet, A.-M., Ly, N., & Rouzioux, C. (2007). Positive outcomes of HAART at 24 months in HIV-infected patients in Cambodia. *Aids*, 21(17), 2293-2301.

Flandre, P., & Costagliola, D. (2006). On the comparison of artificial network and interpretation systems based on genotype resistance mutations in HIV-1-infected patients. *AIDS*, 20(16), 2118-2120.

Fleury, S., Rizzardì, G. P., Chapuis, A., Tambussi, G., Knabenhans, C., Simeoni, E., Meuwly, J.-Y., Corpataux, J.-M., Lazzarin, A., & Miedema, F. (2000). Long-term kinetics of T cell production in HIV-infected subjects treated with highly active antiretroviral therapy. *Proceedings of the National Academy of Sciences*, 97(10), 5393-5398.

Fogel, J. M., Sivay, M. V., Cummings, V., Wilson, E. A., Hart, S., Gamble, T., Laeyendecker, O., Fernandez, R. E., Del Rio, C., Batey, D. S., Mayer, K. H., Farley, J. E., McKinstry, L., Hughes, J. P., Remien, R. H., Beyrer, C., & Eshleman, S. H. (2020). HIV drug resistance in a cohort of HIV-infected MSM in the United States. *AIDS*, 34(1). <https://doi.org/10.1097/QAD.0000000000002394>

Gallant, J. E., DeJesus, E., Arribas, J. R., Pozniak, A. L., Gazzard, B., Campo, R. E., Lu, B., McColl, D., Chuck, S., Enejosa, J., Toole, J. J., & Cheng, A. K. (2006). Tenofovir DF, Emtricitabine, and Efavirenz vs. Zidovudine, Lamivudine, and Efavirenz for HIV. *New England Journal of Medicine*, 354(3). <https://doi.org/10.1056/nejmoa051871>

Gartner, M. J., Roche, M., Churchill, M. J., Gorry, P. R., & Flynn, J. K. (2020). Understanding the mechanisms driving the spread of subtype C HIV-1. In *EBioMedicine* (Vol. 53). <https://doi.org/10.1016/j.ebiom.2020.102682>



, L., Tincati, C., Bellistré, G. M., d'Arminio Monforte, A., & chetti, G. (2009). The absence of CD4+ T cell count recovery pite receipt of virologically suppressive highly active antiretroviral

therapy: clinical risk, immunological gaps, and therapeutic options. *Clinical Infectious Diseases*, 48(3), 328-337.

Geretti, A. M., & Ben, K. (2006). *Case study 1: Development of resistance on first-line therapy*. <https://www.ncbi.nlm.nih.gov/books/NBK2248/>

Geretti, A. M., Smith, C., Haberl, A., Garcia-Diaz, A., Nebbia, G., Johnson, M., Phillips, A., & Staszewski, S. (2008). Determinants of virological failure after successful viral load suppression in first-line highly active antiretroviral therapy. *Antiviral Therapy*, 13(7), 927-936.

Gianotti, N., Mondino, V., Rossi, M. C., Chiesa, E., Mezzaroma, I., Ladisa, N., Guaraldi, G., Torti, C., Tarquini, P., & Castelli, P. (2006). Comparison of a rule-based algorithm with a phenotype-based algorithm for the interpretation of HIV genotypes in guiding salvage regimens in HIV-infected patients by a randomized clinical trial: the mutations and salvage study. *Clinical Infectious Diseases*, 42(10), 1470-1480.

Gokarn, A., Narkhede, M. G., Pardeshi, G. S., & Doibale, M. K. (2012). Adherence to antiretroviral therapy. *Japi*, 60, 17.

Gorbach, P. M., Javanbakht, M., Bornfleth, L., Bolan, R. K., & Blum, M. L. (2017). Drug resistant HIV: Behaviors and characteristics among Los Angeles men who have sex with men with new HIV diagnosis. *PLoS ONE*, 12(3). <https://doi.org/10.1371/journal.pone.0173892>

Grossberg, R., & Gross, R. (2007). Use of pharmacy refill data as a measure of antiretroviral adherence. *Current HIV/AIDS Reports*, 4(4), 187-191.

Gulick, R. M., Ribaud, H. J., Shikuma, C. M., Lustgarten, S., Squires, K. E., Meyer, W. A., Acosta, E. P., Schackman, B. R., Pilcher, C. D., Murphy, R. L., Maher, W. E., Witt, M. D., Reichman, R. C., Snyder, S., Klingman, K. L., & Kuritzkes, D. R. (2004). Triple-Nucleoside Regimens versus Efavirenz-Containing Regimens for the Initial Treatment of HIV-1 Infection. *New England Journal of Medicine*, 350(18). <https://doi.org/10.1056/nejmoa031772>

Gupta, R. K., Gregson, J., Parkin, N., Haile-Selassie, H., Tanuri, A., Andrade Forero, L., Kaleebu, P., Watera, C., Aghokeng, A., Mutenda, N., Dzangare, J., Hone, S., Hang, Z. Z., Garcia, J., Garcia, Z., Marchorro, P., Beteta, E., Giron, A., Hamers, R., ... Bertagnolio, S. (2018). HIV-1 drug resistance before initiation or re-initiation of first-line antiretroviral therapy in low-income and middle-income countries: systematic review and meta-regression analysis. *The Lancet Infectious Diseases*, 18(3). [https://doi.org/10.1016/S1473-9\(17\)30702-8](https://doi.org/10.1016/S1473-9(17)30702-8)



- Gupta, R. K., Jordan, M. R., Sultan, B. J., Hill, A., Davis, D. H. J., Gregson, J., Sawyer, A. W., Hamers, R. L., Ndembu, N., Pillay, D., & Bertagnolio, S. (2012). Global trends in antiretroviral resistance in treatment-naïve individuals with HIV after rollout of antiretroviral treatment in resource-limited settings: A global collaborative study and meta-regression analysis. *The Lancet*, 380(9849). [https://doi.org/10.1016/S0140-6736\(12\)61038-1](https://doi.org/10.1016/S0140-6736(12)61038-1)
- Gupta, S., Vingerhoets, J., Fransen, S., Tambuyzer, L., Azijn, H., Frantzell, A., Paredes, R., Coakley, E., Nijs, S., & Clotet, B. (2011). Connection domain mutations in HIV-1 reverse transcriptase do not impact etravirine susceptibility and virologic responses to etravirine-containing regimens. *Antimicrobial Agents and Chemotherapy*, 55(6), 2872-2879.
- Haberer, J. E., Kahane, J., Kigozi, I., Emenyonu, N., Hunt, P., Martin, J., & Bangsberg, D. R. (2010). Real-time adherence monitoring for HIV antiretroviral therapy. *AIDS and Behavior*, 14(6), 1340-1346.
- Haberer, J. E., Sabin, L., Amico, K. R., Orrell, C., Galárraga, O., Tsai, A. C., Vreeman, R. C., Wilson, I., Sam-Agudu, N. A., & Blaschke, T. F. (2017). Improving antiretroviral therapy adherence in resource-limited settings at scale: a discussion of interventions and recommendations. *Journal of the International AIDS Society*, 20(1), 21371.
- Hariastuti, N. I., Wibowo, H. A., Adam, K., & Kipuw, N. L. (2016). Potensi resistensi virus HIV-1 terhadap terapi anti retroviral (ART) pada pasien voluntary counseling and testing (VCT) di beberapa kota di Indonesia. *Media Penelitian Dan Pengembangan Kesehatan*, 26(3), 151-156.
- Hebberecht, L., Vancoillie, L., Schauvliege, M., Staelens, D., Demecheleer, E., Hardy, J., Mortier, V., & Verhofstede, C. (2019). Single genome sequencing of near full-length HIV-1 RNA using a limiting dilution approach. *Journal of Virological Methods*, 274. <https://doi.org/10.1016/j.jviromet.2019.113737>
- Hermans, L. E., Steegen, K., ter Heine, R., Schuurman, R., Tempelman, H., Moraba, R., van Maarseveen, E., Pillay, T., Legg-Esilva, D., & Schapiro, J. M. (2019). PI drug-level testing as screening tool for drug resistance in 2nd-line ART failure. *Top Antivir Med*, 27(1s), 169s.
- Horne, R., & Weinman, J. (1999). Patients' beliefs about prescribed medicines and their role in adherence to treatment in chronic physical illness. *Journal of Psychosomatic Research*, 47(6), 555-567.



ipour, M. C., Van Oosterhout, J. J. G., Weigel, R., Phiri, S., Mwendu, D., Parkin, N., Fiscus, S. A., Nelson, J. A. E., Eron, J. J., & Gumwenda, J. (2009). The public health approach to identify

antiretroviral therapy failure: High-level nucleoside reverse transcriptase inhibitor resistance among Malawians failing first-line antiretroviral therapy. *AIDS*, 23(9).  
<https://doi.org/10.1097/QAD.0b013e32832ac34e>

Hué, S., Gifford, R. J., Dunn, D., Fernhill, E., & Pillay, D. (2009). Demonstration of sustained drug-resistant human immunodeficiency virus type 1 lineages circulating among treatment-naive individuals. *Journal of Virology*, 83(6), 2645-2654.

Hutapea, H. (2018). Gambaran kasus mutasi terkait resistensi antiretroviral pada orang dengan HIV-AIDS (ODHA) di tiga Kabupaten/Kota di Provinsi Papua. *Buletin Penelitian Kesehatan*, 46(3), 199-206.

Huttner, A. C., Kaufmann, G. R., Battegay, M., Weber, R., & Opravil, M. (2007). Treatment initiation with zidovudine-containing potent antiretroviral therapy impairs CD4 cell count recovery but not clinical efficacy. *Aids*, 21(8), 939-946.

Iacob, S. A., Iacob, D. G., & Jugulete, G. (2017). Improving the adherence to antiretroviral therapy, a difficult but essential task for a successful hiv treatment—clinical points of view and practical considerations. *Frontiers in Pharmacology*, 8, 831.

Infection, P. on C. P. for T. of H. I. V. (2004). *Department of Health and Human Services (DHHS). Guidelines for the Use of Antiretroviral Agents in HIV-1-Infected Adults and Adolescents. November 10, 2003.*

Jevtović, D., Salemović, D., Ranin, J., Pešić, I., Žerjav, S., & Djurković-Djaković, O. (2005). The dissociation between virological and immunological responses to HAART. *Biomedicine & Pharmacotherapy*, 59(8), 446-451.

Joshi, A., Cox, E. K., Sedano, M. J., Punke, E. B., Lee, R. T., Maurer-Stroh, S., Kaur, P., Ng, O. T., & Garg, H. (2017). HIV-1 subtype CRF01\_AE and B differ in utilization of low levels of CCR5, Maraviroc susceptibility and potential N-glycosylation sites. *Virology*, 512.  
<https://doi.org/10.1016/j.virol.2017.09.026>

Kaiser, J. D., Campa, A. M., Ondercin, J. P., Leoung, G. S., Pless, R. F., & Baum, M. K. (2006). Micronutrient supplementation increases CD4 count in HIV-infected individuals on highly active antiretroviral therapy: A prospective, double-blinded, placebo-controlled trial. *Journal of Acquired Immune Deficiency Syndromes*, 42(5).  
[s://doi.org/10.1097/01.qai.0000230529.25083.42](https://doi.org/10.1097/01.qai.0000230529.25083.42)

R., Smeaton, L., Vardhanabhuti, S., Hudelson, S. E., Wallis, C. L., Pathy, S., Morgado, M. G., Saravanan, S., Balakrishnan, P., &



- Reitsma, M. (2015). Pretreatment HIV drug resistance and HIV-1 subtype C are independently associated with virologic failure: results from the multinational PEARLS (ACTG A5175) clinical trial. *Clinical Infectious Diseases*, 60(10), 1541-1549.
- Karyadi, T. H. (2017). Keberhasilan Pengobatan Terapi Antiretroviral. *Jurnal Penyakit Dalam Indonesia*, 4(1), 1-3.
- Kaufmann, G. R., Furrer, H., Ledergerber, B., Perrin, L., Opravil, M., Vernazza, P., Cavassini, M., Bernasconi, E., Rickenbach, M., & Hirschel, B. (2005). Characteristics, Determinants, and clinical relevance of CD4 T cell recovery to < 500 cells/ $\mu$ L in HIV type 1–infected individuals receiving potent antiretroviral therapy. *Clinical Infectious Diseases*, 41(3), 361-372.
- Kay, E. S., Batey, D. S., & Mugavero, M. J. (2016). The HIV treatment cascade and care continuum: updates, goals, and recommendations for the future. *AIDS Research and Therapy*, 13(1), 1-7.
- Kemenkes. (2013). *Surat Edaran Kementerian Kesehatan No 129 tahun 2013*.
- Kemenkes, R. (2012). *Pedoman Nasional Tatalaksana Klinis Infeksi HIV dan Terapi Antiretroviral pada orang Dewasa dan Remaja*.
- Kemenkes, R. (2015). *Pedoman pengobatan antiretroviral*.
- Kemenkes RI. (2020). *Rencana Aksi Nasional Pencegahan Dan Pengendalian Hiv Aids Dan Pims Di Indonesia Tahun 2020-2024. In Kementerian Kesehat Republik Indones*.
- Kemenkes RI. (2022). *Laporan Survei Resistensi Pra-pengobatan HIV (PDR) di Indonesia, 2016*.
- Kityo, C., Boerma, R. S., Sigaloff, K. C. E., Kaudha, E., Calis, J. C. J., Musiime, V., Balinda, S., Nakanjako, R., Boender, T. S., & Mugenyi, P. N. (2017). Pretreatment HIV drug resistance results in virological failure and accumulation of additional resistance mutations in Ugandan children. *Journal of Antimicrobial Chemotherapy*, 72(9), 2587-2595.
- Koethe, J. R., & Heimbürger, D. C. (2010). Nutritional aspects of HIV-associated wasting in sub-Saharan Africa. In *American Journal of Clinical Nutrition* (Vol. 91, Issue 4). <https://doi.org/10.3945/ajcn.2010.28608D>



K., Houben, R. M. G. J., Glynn, J. R., Bekker, L.-G., Wood, R., & van S. D. (2010). Yield of HIV-associated tuberculosis during intensified case finding in resource-limited settings: a systematic review and meta-analysis. *The Lancet Infectious Diseases*, 10(2), 93-



- Kusnan, A., Asad, S., Bukhari, A., Jidhe, N., Natsir, R., Islamf, A. A., Prihantono, P., Massi, N., & Ode, L. (2017). Effects of Counseling in CVT Clinic and Black Tea (*Camelia sinensis* varietas Assamika) Supplements in the Improvement of CD4 Profile in HIV Patients Receiving ARV Treatment. *International Journal of Sciences: Basic and Applied Research (IJSBAR)*.
- Kusumaningrum, A., Ibrahim, F., Yuniastuti, E., & Bela, B. (2019). HIV Drug Resistance after Failure of 6 Month First-line Therapy in a Hospital: A Case Series. *Acta Medica Indonesiana*, 51(3).
- Kyaw, N. T. T., Kumar, A. M. V., Harries, A. D., Satyanarayana, S., Oo, N. L., Hayat, M. J., Castro, K. G., & Magee, M. J. (2022). Synergy between low body mass index and hyperglycemia at baseline increases tuberculosis incidence among people living with HIV. *AIDS (London, England)*, 36(1), 117. <https://doi.org/10.1097/QAD.0000000000003090>
- Kyaw, N. T. T., Kumar, A. M. V., Harries, A. D., Satyanarayana, S., Oo, N. L., Hayat, M. J., Castro, K. G., & Magee, M. J. (2021). Synergy between low body mass index and hyperglycemia at baseline increases tuberculosis incidence among people living with HIV. *AIDS*.
- Lam, E., & Parkin, N. T. (2003). Amprenavir resistance imparted by the I50V mutation in HIV-1 protease can be suppressed by the N88S mutation. *Clinical Infectious Diseases*, 37(9), 1273-1274.
- Malincarne, L., Sgrelli, A., Camanni, G., Papili, R., Francisci, D., & Baldelli, F. (2008). Immune restoration during HAART: 8-year follow-up in HIV-positive patients with sustained virological suppression. *Journal of the International AIDS Society*, 11(1), 1.
- Mansky, L. M. (2002). HIV mutagenesis and the evolution of antiretroviral drug resistance. *Drug Resistance Updates*, 5(6), 219-223.
- Mansky, L. M., Pearl, D. K., & Gajary, L. C. (2002). Combination of drugs and drug-resistant reverse transcriptase results in a multiplicative increase of human immunodeficiency virus type 1 mutant frequencies. *Journal of Virology*, 76(18), 9253-9259.
- Marconi, V. C., Sunpath, H., Lu, Z., Gordon, M., Koranteng-Apeageyi, K., Hampton, J., Carpenter, S., Giddy, J., Ross, D., Holst, H., Losina, E., Walker, B. D., & Kuritzkes, D. R. (2008). Prevalence of HIV-1 drug resistance after failure of a first highly active antiretroviral therapy regimen in KwaZulu Natal, South Africa. *Clinical Infectious Diseases*, 46(10). <https://doi.org/10.1086/587109>
- ..., D. A., Gonzalez-Garcia, J., Stellbrink, H.-J., Eron, J. J., danpanah, Y., Podzamczar, D., Lutz, T., Angel, J. B., Richmond, I., & Clotet, B. (2017). Long-acting intramuscular cabotegravir and



rilpivirine in adults with HIV-1 infection (LATTE-2): 96-week results of a randomised, open-label, phase 2b, non-inferiority trial. *The Lancet*, 390(10101), 1499-1510.

- Maria Ingrid, B., Agussalim, B., R Sutrisno, & A. Yasmin, S. (2018). Perbaikan Anemia pada Pasien HIV Stadium III dan Status Gizi Kurang dengan Pemberian Asupan Tinggi Protein dan Multiple Micronutrient Supplement. *IJCNP (INDONESIAN JOURNAL OF CLINICAL NUTRITION PHYSICIAN)*, 1(1). <https://doi.org/10.54773/ijcnp.v1i1.33>
- Marziali, M., De Santis, W., Carello, R., Leti, W., Esposito, A., Isgrò, A., Fimiani, C., Sirianni, M. C., Mezzaroma, I., & Aiuti, F. (2006). T-cell homeostasis alteration in HIV-1 infected subjects with low CD4 T-cell count despite undetectable virus load during HAART. *Aids*, 20(16), 2033-2041.
- Merati, Ryan, Turnbull, Wirawan, Otto, Barta, & Crowe. (2008). Subtipe HIV-1 di beberapa daerah di Indonesia dan perannya sebagai petunjuk dinamika epidemi HIV. *Indonesian Journal of Biomedical Sciences*. <https://ojs.unud.ac.id/index.php/ijbs/article/view/3736>
- Miller, M. D. (2004). K65R, TAMs and tenofovir. In *AIDS Reviews* (Vol. 6, Issue 1).
- Miller, M. D., Haddad, M., Su, C., Gibbs, C., McColl, D. J., & Guyer, B. (2012). Trends in HIV-1 reverse transcriptase resistance-associated mutations and antiretroviral prescription data from 2003-2010. *Antiviral Therapy*, 17(6). <https://doi.org/10.3851/IMP2266>
- Mills, E. J., Nachega, J. B., Buchan, I., Orbinski, J., Attaran, A., Singh, S., Rachlis, B., Wu, P., Cooper, C., & Thabane, L. (2006). Adherence to antiretroviral therapy in sub-Saharan Africa and North America: a meta-analysis. *Jama*, 296(6), 679-690.
- Misgena, D. K. (2011). The pattern of immunologic and virologic responses to Highly Active Antiretroviral Treatment (HAART): Does success bring further challenges? *Ethiopian Journal of Health Development*, 25(1), 61-70.
- Miti, S., Handema, R., Mulenga, L., Mwansa, J. K., Abrams, E., Frimpong, C., Burke, V. M., Zulu, M., Siwingwa, M., & Mwakazanga, D. (2020). Prevalence and characteristics of HIV drug resistance among antiretroviral treatment (ART) experienced adolescents and young adults living with HIV in Ndola, Zambia. *PloS One*, 15(8), e0236156.



Pinelo, S., Leal, M., Soriano-Sarabia, N., Gutiérrez, S., Fernandez, Munoz-Fernández, M. A., Lissen, E., & Vallejo, A. (2005). Prevalence and factors involved in discordant responses to highly active antiretroviral treatment in a closely followed cohort of treatment-

- naive HIV-infected patients. *Journal of Clinical Virology*, 33(2), 110-115.
- Mourad, R., Chevenet, F., Dunn, D. T., Fearnhill, E., Delpech, V., Asboe, D., Gascuel, O., & Hue, S. (2015). A phylotype-based analysis highlights the role of drug-naive HIV-positive individuals in the transmission of antiretroviral resistance in the UK. *Aids*, 29(15), 1917-1925.
- Ndekha, M. J., Van Oosterhout, J. J. G., Zijlstra, E. E., Manary, M., Saloojee, H., & Manary, M. J. (2009). Supplementary feeding with either ready-to-use fortified spread or corn-soy blend in wasted adults starting antiretroviral therapy in Malawi: Randomised, investigator blinded, controlled trial. *BMJ (Online)*, 338(7706). <https://doi.org/10.1136/bmj.b1867>
- Ng, O. T., Lin, L., Laeyendecker, O., Quinn, T. C., Sun, Y. J., Lee, C. C., & Leo, Y. S. (2011). Increased rate of CD4+ T-Cell decline and faster time to antiretroviral therapy in HIV-1 subtype CRF01\_AE infected seroconverters in Singapore. *PLoS ONE*, 6(1). <https://doi.org/10.1371/journal.pone.0015738>
- Nicastri, E., Chiesi, A., Angeletti, C., Sarmati, L., Palmisano, L., Geraci, A., Andreoni, M., & Vella, S. (2005). Clinical outcome after 4 years follow-up of HIV-seropositive subjects with incomplete virologic or immunologic response to HAART. *Journal of Medical Virology*, 76(2), 153-160.
- Nih.gov. (2021). *HIV Treatment Adherence*. <https://Hivinfo.Nih.Gov/Understanding-Hiv/Fact-Sheets/Hiv-Treatment-Adherence>. <https://hivinfo.nih.gov/understanding-hiv/fact-sheets/hiv-treatment-adherence>
- Orrell, C., Cohen, K., Leisegang, R., Bangsberg, D. R., Wood, R., & Maartens, G. (2017). Comparison of six methods to estimate adherence in an ART-naïve cohort in a resource-poor setting: which best predicts virological and resistance outcomes? *AIDS Research and Therapy*, 14(1), 1-11.
- Paredes, R., Tzou, P. L., Van Zyl, G., Barrow, G., Camacho, R., Carmona, S., Grant, P. M., Gupta, R. K., Hamers, R. L., & Harrigan, P. R. (2017). Collaborative update of a rule-based expert system for HIV-1 genotypic resistance test interpretation. *PLoS One*, 12(7), e0181357.
- Paterson, D. L., Swindells, S., Mohr, J., Brester, M., Vergis, E. N., Squier, W., Wagener, M. M., Singh, N., & Hudson, B. (2000). Adherence to zidovudine therapy and outcomes in patients with HIV infection. *Annals of Internal Medicine*, 133(1). <https://doi.org/10.7326/0003-9133-1-200007040-00004>



- Pedoman Nasional Pelayanan Kedokteran Tatalaksana HIV (2019).  
Permenkes RI. (2022). *Peraturan Menteri Kesehatan Republik Indonesia Nomor 23 Tahun 2022 Tentang Penanggulangan Human Immunodeficiency Virus, Acquired Immunodeficiency Syndrome, Dan Infeksi Menular Seksual* (23).
- Pham, Q., Huynh, T., Luong, T., Tran, T., Vu, T., & Truong, L. (2013). HIV-1 drug resistance and associated factors among adults failing first-line highly active antiretroviral therapy in Ho Chi Minh City, Vietnam. *HIV Clinical Trials*, 14(1). <https://doi.org/10.1310/hct1401-34>
- Picchio, G., Vingerhoets, J., Parkin, N., Azijn, H., & de Bethune, M.-P. (2008). Nucleoside-associated mutations cause hypersusceptibility to etravirine (ETR). *Antivir. Ther*, 13(Suppl 3), A25.
- Pingen, M., Nijhuis, M., de Bruijn, J. A., Boucher, C. A. B., & Wensing, A. M. J. (2011). Evolutionary pathways of transmitted drug-resistant HIV-1. *Journal of Antimicrobial Chemotherapy*, 66(7), 1467-1480.
- Pourhoseingholi, M. A., Vahedi, M., & Rahimzadeh, M. (2013). Sample size calculation in medical studies. *Gastroenterology and Hepatology from Bed to Bench*, 6(1), 14.
- Quashie, P. K., Mesplède, T., Han, Y.-S., Veres, T., Osman, N., Hassounah, S., Sloan, R. D., Xu, H.-T., & Wainberg, M. A. (2013). Biochemical analysis of the role of G118R-linked dolutegravir drug resistance substitutions in HIV-1 integrase. *Antimicrobial Agents and Chemotherapy*, 57(12), 6223-6235.
- Rhee, S.-Y., Taylor, J., Fessel, W. J., Kaufman, D., Towner, W., Troia, P., Ruane, P., Hellinger, J., Shirvani, V., & Zolopa, A. (2010). HIV-1 protease mutations and protease inhibitor cross-resistance. *Antimicrobial Agents and Chemotherapy*, 54(10), 4253-4261.
- Rodger, A. J., Cambiano, V., Bruun, T., Vernazza, P., Collins, S., Van Lunzen, J., Corbelli, G. M., Estrada, V., Geretti, A. M., & Beloukas, A. (2016). Sexual activity without condoms and risk of HIV transmission in serodifferent couples when the HIV-positive partner is using suppressive antiretroviral therapy. *Jama*, 316(2), 171-181.
- Rodrigo, A. G., Goracke, P. C., Rowhanian, K., & Mullins, J. I. (1997). Quantitation of target molecules from polymerase chain reaction-based limiting dilution assays. *AIDS Research and Human Retroviruses*, 13(9). <https://doi.org/10.1089/aid.1997.13.737>



ont, M., Stoll, B. E., Elia, N., & Ngang, P. (2009). Antiretroviral treatment adherence and its determinants in Sub-Saharan Africa: a prospective study at Yaounde Central Hospital, Cameroon. *AIDS Research and Therapy*, 6(1), 1-12.

- Sabin, L. L., DeSilva, M. B., Hamer, D. H., Keyi, X., Yue, Y., Wen, F., Tao, L., Heggenhougen, H. K., Seton, L., Wilson, I. B., & Gill, C. J. (2008). Barriers to adherence to antiretroviral medications among patients living with HIV in southern China: A qualitative study. *AIDS Care - Psychological and Socio-Medical Aspects of AIDS/HIV*, 20(10). <https://doi.org/10.1080/09540120801918651>
- Scherrer, A. U., Hasse, B., Von Wyl, V., Yerly, S., Böni, J., Bürgisser, P., Klimkait, T., Bucher, H. C., Ledergerber, B., & Günthard, H. F. (2009). Prevalence of etravirine mutations and impact on response to treatment in routine clinical care: the Swiss HIV Cohort Study (SHCS). *HIV Medicine*, 10(10), 647-656.
- Setia, M. S. (2016). Methodology series module 1: Cohort studies. *Indian Journal of Dermatology*, 61(1). <https://doi.org/10.4103/0019-5154.174011>
- Shi, L., Liu, J., Koleva, Y., Fonseca, V., Kalsekar, A., & Pawaskar, M. (2010). Concordance of adherence measurement using self-reported adherence questionnaires and medication monitoring devices. *Pharmacoeconomics*, 28(12), 1097-1107.
- Smith, S. J., Zhao, X. Z., Burke, T. R., & Hughes, S. H. (2018). Efficacies of cabotegravir and bictegravir against drug-resistant HIV-1 integrase mutants. *Retrovirology*, 15(1), 1-18.
- Stanford. (2022). *Hiv Drug Resistance Database - Major HIV-1 Drug Resistance Mutations*. <https://doi.org/10.1093/jac/dkz417>
- Steiner, T. S., Lima, A. A. M., Nataro, J. P., & Guerrant, R. L. (1998). Enteroaggregative *Escherichia coli* produce intestinal inflammation and growth impairment and cause interleukin-8 release from intestinal epithelial cells. *Journal of Infectious Diseases*, 177(1), 88-96.
- Stirratt, M. J., Dunbar-Jacob, J., Crane, H. M., Simoni, J. M., Czajkowski, S., Hilliard, M. E., Aikens, J. E., Hunter, C. M., Velligan, D. I., & Huntley, K. (2015). Self-report measures of medication adherence behavior: recommendations on optimal use. *Translational Behavioral Medicine*, 5(4), 470-482.
- Sung, H., Jung, Y. S., Kang, M. W., Bae, I. G., Chang, H. H., Woo, J. H., & Cho, Y. K. (2007). High frequency of drug resistance mutations in human immunodeficiency virus type 1-infected Korean patients treated with HAART. *AIDS Research and Human Retroviruses*, 23(10). <https://doi.org/10.1089/aid.2007.0008>



ruparph, S., Manosuthi, W., Kiertiburanakul, S., Piyavong, B., Ampathat, N., & Chantratita, W. (2007). Options for a second-line retroviral regimen for HIV type 1-infected patients whose initial men of a fixed-dose combination of stavudine, lamivudine, and

nevirapine fails. *Clinical Infectious Diseases*, 44(3).  
<https://doi.org/10.1086/510745>

Taiwo, B. O., Li, X., Palella, F., Jacobson, L. P., Margolick, J. B., Detels, R., Rinaldo, C. R., & Phair, J. P. (2009a). Higher risk of AIDS or death in patients with lower CD4 cell counts after virally suppressive HAART. *HIV Medicine*, 10(10), 657-660.

Taiwo, B. O., Li, X., Palella, F., Jacobson, L. P., Margolick, J. B., Detels, R., Rinaldo, C. R., & Phair, J. P. (2009b). Higher risk of AIDS or death in patients with lower CD4 cell counts after virally suppressive HAART. *HIV Medicine*, 10(10), 657-660.

Tang, M. W., & Shafer, R. W. (2012). HIV-1 antiretroviral resistance. *Drugs*, 72(9), e1-e25.

Tirivayi, N., Koethe, J. R., & Groot, W. (2012). Clinic-based food assistance is associated with increased medication adherence among HIV-infected adults on long-term antiretroviral therapy in Zambia. *Journal of AIDS and Clinical Research*, 3(7).  
<https://doi.org/10.4172/2155-6113.1000171>

Tuboi, S. H., Brinkhof, M. W. G., Egger, M., Stone, R. A., Braitstein, P., Nash, D., Sprinz, E., Dabis, F., Harrison, L. H., & Schechter, M. (2007). Discordant responses to potent antiretroviral treatment in previously naive HIV-1-infected adults initiating treatment in resource-constrained countries: the antiretroviral therapy in low-income countries (ART-LINC) collaboration. *JAIDS Journal of Acquired Immune Deficiency Syndromes*, 45(1), 52-59.

Turner, D., Brenner, B., & Wainberg, M. A. (2003). Multiple Effects of the M184V Resistance Mutation in the Reverse Transcriptase of Human Immunodeficiency Virus Type 1. In *Clinical and Diagnostic Laboratory Immunology* (Vol. 10, Issue 6). <https://doi.org/10.1128/CDLI.10.6.979-981.2003>

UNAIDS. (2009). Report on Food and Nutrition for People Living with HIV/AIDS. *AIDS Epidemic Update*, May.

UNAIDS. (2019). UNAIDS 2019 Data. *Joint United Nations Programme on HIV/AIDS (UNAIDS)*.

UNAIDS. (2020). *AIDS statistics-2020 fact sheet. UNAIDS (2020)*.

Vercauteren, J., & Vandamme, A.-M. (2006). Algorithms for the interpretation of HIV-1 genotypic drug resistance information. *Antiviral Research*, 71(2-3), 335-342.



B., De Geest, S., Hughes, D. A., Przemyslaw, K., Demonceau, J., Par, T., Dobbels, F., Fargher, E., Morrison, V., & Lewek, P. (2012). A new taxonomy for describing and defining adherence to

medications. *British Journal of Clinical Pharmacology*, 73(5), 691-705.

Wagner, G. J., & Rabkin, J. G. (2000). Measuring medication adherence: are missed doses reported more accurately than perfect adherence? *AIDS Care*, 12(4), 405-408.

Wensing, A. M., Calvez, V., Ceccherini-Silberstein, F., Charpentier, C., Günthard, H. F., Paredes, R., Shafer, R. W., & Richman, D. D. (2019). 2019 update of the drug resistance mutations in HIV-1. *Topics in Antiviral Medicine*, 27(3), 111.

Wensing, A. M., Calvez, V., Ceccherini-Silberstein, F., Charpentier, C., Günthard, H. F., Paredes, R., Shafer, R. W., & Richman, D. D. (2022). 2022 update of the drug resistance mutations in HIV-1. *Topics in Antiviral Medicine*, 30(4).

WHO. (2001). *Adherence to long-term therapies: policy for action: meeting report, 4-5 June 2001*. World Health Organization.

WHO. (2003). Nutrient requirements for people living with HIV / AIDS: a report of a technical consultation. *WHO Technical Consultation on Nutrient Requirements for People Living with HIV/AIDS*.

WHO. (2009). *WHO HIV/AIDS Programme: Antiretroviral therapy for HIV infection in adults and adolescents: recommendations for a public health approach. 2006 revision*. PubMed.

WHO. (2010). *Antiretroviral therapy of HIV infection in infants and children: towards universal access: recommendations for a public health approach-2010 revision*. World Health Organization.

WHO. (2016). *Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection: recommendations for a public health approach*. World Health Organization.

WHO. (2019). HIV Drug Resistance Report 2019. In *Who*.

WHO. (2020a). *HIV Drug Resistance Report 2020*.

WHO. (2020b). People living with HIV who have suppressed viral loads. *WHO Consolidated HIV Strategic Information Guidelines*.

WHO. (2020c). The Public Health Response To Pretreatment HIV Drug Resistance. In *WHO* (Issue July).

WHO. (2021). *WHO HIV drug resistance network steering group meeting report, June 2021*.

Wagner, G. J., Montaner, J. S. G., Yip, B., Tyndall, M. W., Schechter, M. T., Hogg, R. S., & Hogg, R. S. (2003). Adherence and plasma



HIV RNA responses to highly active antiretroviral therapy among HIV-1 infected injection drug users. *Cmaj*, 169(7), 656-661.

Workowski, K. A., & Bolan, G. A. (2015). Sexually transmitted diseases treatment guidelines, 2015. *MMWR Recommendations and Reports*, 64(3). <https://doi.org/10.1097/00019048-200206000-00012>

Zhao, B., Han, X., Xu, J., Hu, Q., Chu, Z., Zhang, J., Lu, L., Wang, Z., Fu, J., Chen, X., Yan, H., Zhuang, M., Wang, L., Sun, A., Zhang, C. M., & Shang, H. (2015). Increase of RT-related transmitted drug resistance in non-CRF01-AE among HIV type 1 infected men who have sex with men in the 7 cities of China. *Journal of Acquired Immune Deficiency Syndromes*, 68(3). <https://doi.org/10.1097/QAI.0000000000000467>

Zhukova, A., Cutino-Moguel, T., Gascuel, O., & Pillay, D. (2017). The role of phylogenetics as a tool to predict the spread of resistance. *The Journal of Infectious Diseases*, 216(suppl\_9), S820-S823.





# LAMPIRAN



Lampiran 1. Naskah penjelasan

## NASKAH PENJELASAN

Selamat (pagi/siang/sore) Bapak/Ibu, kami hendak memberitahukan bahwa HIV merupakan virus yang menyebabkan penurunan kekebalan tubuh. Saat ini Indonesia khususnya Makassar, khususnya Kota Makassar merupakan kota dengan kejadian HIV tinggi. Pada tahun ini 2022, Peneliti akan melakukan penelitian berjudul **“Korelasi Respon Pengobatan Antiretroviral Terhadap Terjadinya Resistensi ARV Lini-1 pada Orang dengan HIV”** Penelitian ini bertujuan Mengetahui korelasi respon pengobatan ARV terhadap terjadinya resistensi ARV Lini-1 pada orang dengan HIV dalam pengobatan  $\leq 12$  dan  $> 12$  bulan di Kota Makassar. Selain itu, mengetahui kekerabatan jenis virus yang ditemukan pada Bapak/Ibu. Pengetahuan tentang kekerabatan jenis virus dapat digunakan untuk menelusur asal virus penyebab HIV/AIDS. Jika terlihat adanya kecenderungan gagal terapi, perubahan susunan pembawa sifat virus penyebab HIV/AIDS pada Bapak/Ibu juga akan diperiksa. Selain itu akan dilakukan pemeriksaan bahan pembawa sifat kekebalan tubuh pada Bapak/Ibu terhadap sakit HIV/AIDS dan juga mengetahui kepatuhan Bapak/Ibu minum obat antiretroviral. Kegiatan ini akan dilaksanakan pada bulan Juni-Desember 2023. Dalam penelitian ini akan dilakukan pemeriksaan terhadap minimal 35 orang penderita HIV/AIDS dalam pengobatan ARV. Kami mengharapkan keikutsertaan Bapak/Ibu dalam penelitian ini dengan sukarela, dengan cara menjawab pertanyaan kuisisioner mengenai tentang kepatuhan pengobatan Bapak/Ibu. Juga akan dilakukan pemeriksaan di laboratorium. Untuk pemeriksaan laboratorium akan diambil darah sebanyak kira-kira 1 sendok teh. Pengambilan darah akan dilakukan di pembuluh darah balik daerah lipatan siku dalam lengan kiri atau kanan jarum steril (suci hama). Pada saat pengambilan darah, Bapak/Ibu akan merasa nyeri seperti digigit semut dan kadangkala akan sedikit memar kebiruan di sekitar bekas jarum suntik dan akan



sembuh sendiri, namun itu dapat dihindari karena pengambilan darah akan dilakukan dengan penanganan hati-hati oleh tenaga medis yang berpengalaman. Selain itu pada luka bekas suntikan jarum steril akan ditutup dengan plester luka steril. Bapak/Ibu akan memerlukan waktu paling lama sekitar 30 menit untuk prosedur pengambilan darah, pengukuran tinggi dan berat badan hingga wawancara. Bapak/Ibu berhak untuk mengetahui hasil pemeriksaan laboratorium dan hasil kepatuhan pengobatan. Setiap informasi yang diberikan oleh Bapak/Ibu akan dirahasiakan oleh tim peneliti, dan akan digunakan untuk penelitian ini, juga untuk kepentingan program pengendalian dan layanan pengobatan HIV serta pengembangan penelitian HIV lebih lanjut di Indonesia. Manfaat penelitian ini untuk Bapak/Ibu yaitu tersedia data jumlah virus yang masih berada dalam tubuh dan kondisi kekebalan tubuh berdasarkan jumlah CD4 dan Viral Load dalam darah Bapak/Ibu. Selain itu informasi tentang klinis dan kondisi pembawa sifat kekebalan tubuh Bapak/Ibu terhadap HIV/AIDS. Manfaat penelitian ini bagi ilmu pengetahuan dan program penanggulangan HIV/AIDS adalah untuk menyediakan data tentang korelasi kondisi klinis yang berobat  $\leq 12$  dan  $> 12$  bulan terhadap terjadinya resistensi ARV seperti kondisi pengobatan terkait kondisi klinis, respon imunologis dan serologis yang paling signifikan dalam terjadinya resistensi. Sebagai kompensasi keikutsertaan setelah pengambilan darah Bapak/Ibu akan mendapat bahan kontak berupa susu untuk penambah nutrisi. Keikutsertaan Bapak/Ibu dalam penelitian bermanfaat bagi program peningkatan penanganan HIV/AIDS. Namun bila Bapak/Ibu memutuskan untuk tidak berpartisipasi dalam penelitian, hal ini tidak akan berpengaruh terhadap layanan pengobatan dan kesehatan yang sedang Bapak/Ibu jalani saat ini dan selanjutnya. Bila Bapak/Ibu memerlukan penjelasan lebih lanjut mengenai penelitian ini, dapat menghubungi penanggungjawab penelitian: Nurjannah dengan alamat Kemenkes  
Telepon: 08111311211. Terima kasih atas waktu yang Bapak/Ibu gunakan untuk membaca/mendengarkan lembar informasi ini.



## Lampiran 2. Informed Consent

**FORMULIR PERSETUJUAN (INFORMED CONSENT)**

Yang bertanda tangan dibawah ini :

Nama :

Umur :

Alamat :

Menyatakan bahwa:

1. Saya telah mendapat penjelasan segala sesuatu mengenai penelitian :  
 Korelasi Respon Pengobatan Antiretroviral Terhadap Terjadinya Resistensi ARV Lini-1 pada Orang dengan HIV
2. Setelah saya memahami penjelasan tersebut, dengan penuh kesadaran dan tanpa paksaan dari siapapun bersedia ikut serta dalam penelitian ini dengan kondisi:
  - a. Data yang diperoleh dari penelitian ini akan dijaga kerahasiaannya dan hanya dipergunakan untuk kepentingan ilmiah.
  - b. Sampel yang diperoleh saat ini boleh digunakan untuk kepentingan pengembangan penelitian HIV lebih lanjut
  - c. Apabila saya inginkan, saya boleh memutuskan untuk keluar/tidak berpartisipasi lagi dalam penelitian ini tanpa harus menyampaikan alasan apapun.

Makassar, 2022

Saksi

Yang membuat pernyataan

(.....)

(.....)

Ketua Survei

(.....)



## Lampiran 3. Instrumen penelitian

**INSTRUMEN PENELITIAN****Petunjuk pengisian**

1. Jawablah pertanyaan di bawah ini dengan jujur sesuai dengan keadaan yang sebenarnya. Pada bagian isian, isilah dengan huruf cetak atau angka jelas. Pada bagian pilihan, pilih salah satu jawaban yang paling sesuai dengan kondisi Anda.
2. Jawaban akan dijaga kerahasiannya dan hanya dipergunakan untuk penelitian.

**A. Identitas Responden**

1. ID (*Inisial 2 huruf pertama*) : .....  
(*Nama Anda pada KTP dan Tanggal Lahir*) contoh: SA300180
2. Tanggal Lahir/Umur..... (..... tahun)
3. Berat badan awal (saat pertama kali minum ARV): ..... kg
4. Tinggi badan awal (saat pertama kali minum ARV): .....cm
5. Jenis Kelamin
  - Laki-laki
  - Perempuan
6. Pendidikan terakhir
  - Tidak sekolah / Tidak tamat SD / Tamat SD/ sederajat
  - Tamat SMP
  - Tamat SMA
  - Tamat Perguruan Tinggi (Diploma/Sarjana/Pascasarjana)
7. Status bekerja
  - Bekerja/wirausaha
  - Tidak Bekerja
8. Status tempat tinggal
  - Rumah sendiri/keluarga
  - Kontrak/sewa
9. Status menikah
  - Menikah
  - Tidak Menikah
- memiliki anak
  - Memiliki anak
  - Tidak memiliki anak



## 11. Faktor risiko tertular HIV:

- LSL
- WPS
- Pengguna narkoba suntik
- Waria
- Lainnya (sebutkan.....)

12. Tahun mulai pengobatan : .....

## 13. Lama pengobatan

- ≤12 bulan
- >12 bulan

12. Berat Badan..... kg (diukur langsung)

13. Tinggi Badan ..... cm (diukur langsung)

14. Apakah Anda mengalami infeksi oportunistik dibawah ini? (boleh centang lebih dari 1 sesuai kondisi yang dialami).

- Tuberkolosis
- Pneumonia
- Infeksi jamur berulang di kulit, mulut dan tenggorokan
- Infeksi gastrointestinal
- Infeksi pada system pernafasan
- Lainnya (sebutkan.....)

**B. Kuesioner kepatuhan minum obat**

No	Pertanyaan	Jawaban	
		Ya	Tidak
1	Apakah Anda kadang-kadang lupa minum obat untuk penyakit HIV Anda?		
2	Orang kadang-kadang tidak sempat minum obat karena lupa. Pernahkah Anda dengan sengaja tidak minum obat selama dua pekan terakhir?		
	Pernahkah Anda mengurangi atau berhenti minum obat tanpa memberitahu dokter karena Anda merasa kondisi Anda tambah parah		



No	Pertanyaan	Jawaban	
		Ya	Tidak
	ketika minum obat tersebut?		
4	Ketika Anda bepergian atau meninggalkan rumah, apakah kadang-kadang lupa membawa obat?		
5	Apakah Anda minum obat kemarin?		
6	Ketika Anda merasa agak sehat, apakah juga kadang berhenti minum obat?		
7	Minum obat setiap hari merupakan hal yang tidak menyenangkan bagi sebagian orang. Apakah Anda pernah merasa terganggu dengan kewajiban Anda terhadap pengobatan HIV yang harus dijalani?		
8	<p><u>Petunjuk: Lingkari salah satu pilihan di bawah ini</u></p> <p>Seberapa sering Anda mengalami kesulitan dalam menghabiskan semua obat Anda?</p> <p>a. Tidak b. Sekali-kali c. Kadang-kadang d. Biasanya e. Selalu</p>		

### C. Lembar isian

Kriteria	Jawaban
Indeks massa tubuh	
Kadar CD4	
Hasil Viral load	
Hasil genotyping HIVDR	
I resistensi ARV	





Optimized using  
trial version  
[www.balesio.com](http://www.balesio.com)