

Gender differences in health-related quality of life at the time of a positive HIV test – a cross-sectional study in a resource-poor, high prevalence setting in Nairobi, Kenya

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ABSTRACT

Few studies have examined gender differences in sub-Saharan Africa, where HIV disproportionately affects women. Objectives of this cross-sectional study were to determine gender differences in HRQoL at the time of a positive HIV test, and whether factors associated with HRQoL differed between men and women. Adults testing HIV-positive were recruited from two clinics located in informal settlements. HRQoL was measured with the SF-12. Multiple linear regression was used to test whether there were gender differences in physical (PCS) and mental composite summary (MCS) scores. Separate models were built for men and women to examine factors associated with HRQoL. Between April 2013 and June 2015, 775 individuals from were recruited. The mean PCS score was higher in women (adjusted mean difference 2.49, 95% CI 0.54 to 4.44, $p = 0.012$). There was no significant gender difference in MCS scores. Similar factors were associated with better physical HRQoL in men and women: secondary education, younger age, higher CD4, and employment. Employment was the only factor associated with MCS in men, while less social support and low CD4 were associated with poorer MCS scores in women. Gender differences in factors related to HRQoL should be considered in broader policy and interventions to improve the HRQoL in those diagnosed with HIV.

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References

1. Bajunirwe, F., Tisch, D. J., King, C. H., Arts, E. J., Debanne, S. M., & Sethi, A. K. (2009). Quality of life and social support among patients receiving antiretroviral therapy in Western Uganda. *AIDS Care*, *21*(3), 271–279. doi: 10.1080/09540120802241863 [[Taylor & Francis Online](#)], [[Web of Science ®](#)], [[Google Scholar](#)]
2. Breusch, T. S., & Pagan, A. R. (1979). A simple test for heteroscedasticity and random coefficient variation. *Econometrica*, *47*(5), 1287–1294. doi: 10.2307/1911963 [[Crossref](#)], [[Web of Science ®](#)], [[Google Scholar](#)]
3. Degroote, S., Vogelaers, D., & Vandijck, D. M. (2014). What determines health-related quality of life among people living with HIV: An updated review of the literature. *Archives of Public Health*, *72*(1), 1725. doi: 10.1186/2049-3258-72-40 [[Crossref](#)], [[Google Scholar](#)]
4. Elliott, M. (2001). Gender differences in causes of depression. *Women & Health*, *33*(3-4), 183–198. doi: 10.1300/J013v33n03_11 [[Taylor & Francis Online](#)], [[Web of Science ®](#)], [[Google Scholar](#)]
5. Hays, R. D., & Morales, L. S. (2001). The RAND-36 measure of health-related quality of life. *Annals of Medicine*, *33*(5), 350–357. doi: 10.3109/07853890109002089 [[Taylor & Francis Online](#)], [[Web of Science ®](#)], [[Google Scholar](#)]
6. Hughes, J., Jelsma, J., Maclean, E., Darder, M., & Tinise, X. (2004). The health-related quality of life of people living with HIV/AIDS. *Disability and Rehabilitation*, *26*(6), 371–376. doi: 10.1080/09638280410001662932 [[Taylor & Francis Online](#)], [[Web of Science ®](#)], [[Google Scholar](#)]

7. Jahoda, M. (1981). Work, employment, and unemployment: Values, theories, and approaches in social research. *American Psychologist*, 36(2), 184–191. doi: 10.1037/0003-066X.36.2.184 [\[Crossref\]](#), [\[Web of Science ®\]](#), [\[Google Scholar\]](#)
8. Jaquet, A., Garanet, F., Balestre, E., Ekouevi, D. K., Azani, J. C., Bognounou, R., ... Drabo, J. (2013). Antiretroviral treatment and quality of life in Africans living with HIV: 12-month follow-up in Burkina Faso. *Journal of the International AIDS Society*, 16, 18867. doi: 10.7448/IAS.16.1.18867 [\[Crossref\]](#), [\[PubMed\]](#), [\[Web of Science ®\]](#), [\[Google Scholar\]](#)
9. Jelsma, J., MacLean, E., Hughes, J., Tinise, X., & Darder, M. (2005). An investigation into the health-related quality of life of individuals living with HIV who are receiving HAART. *AIDS Care*, 17(5), 579–588. doi: 10.1080/09540120412331319714 [\[Taylor & Francis Online\]](#), [\[Web of Science ®\]](#), [\[Google Scholar\]](#)
10. Kirkwood, B. R., Sterne, J. A. C., & Kirkwood, B. R. (2003). *Essential medical statistics* (2nd ed.). Malden, MA: Blackwell Science. [\[Google Scholar\]](#)
11. Louwagie, G. M., Bachmann, M. O., Meyer, K., Booysen, F., Fairall, L. R., & Heunis, C. (2007). Highly active antiretroviral treatment and health related quality of life in South African adults with human immunodeficiency virus infection: A cross-sectional analytical study. *BMC Public Health*, 7, 682. doi: 10.1186/1471-2458-7-244 [\[Crossref\]](#), [\[Web of Science ®\]](#), [\[Google Scholar\]](#)
12. Oguntibeju, O. O. (2012). Quality of life of people living with HIV and AIDS and antiretroviral therapy. *HIV/AIDS (Auckland, N.Z.)*, 4, 117–124. doi: 10.2147/HIV.S32321 [\[Crossref\]](#), [\[PubMed\]](#), [\[Google Scholar\]](#)
13. O'Keefe, E. A., & Wood, R. (1996). The impact of human immunodeficiency virus (HIV) infection on quality of life in a multiracial South African population. *Quality of Life Research: An International Journal of Quality of Life Aspects of Treatment, Care and Rehabilitation*, 5(2), 275–280. doi: 10.1007/BF00434749 [\[Crossref\]](#), [\[PubMed\]](#), [\[Web of Science ®\]](#), [\[Google Scholar\]](#)
14. Patel, A., Lester, R. T., Marra, C. A., van der Kop, M. L., Ritvo, P., Engel, L., ... Lynd, L. (2017). The validity of the SF-12 and SF-6D instruments in people living with HIV/AIDS in Kenya. *Health and Quality of Life Outcomes*, 15(1), 851. doi: 10.1186/s12955-017-0708-7 [\[Crossref\]](#), [\[Google Scholar\]](#)
15. Peltzer, K., & Phaswana-Mafuya, N. (2008). Health-related quality of life in a sample of HIV-infected South Africans. *African Journal of AIDS Research*, 7(2), 209–218. doi: 10.2989/AJAR.2008.7.2.6.523 [\[Taylor & Francis Online\]](#), [\[Web of Science ®\]](#), [\[Google Scholar\]](#)
16. Phaladze, N. A., Human, S., Dlamini, S. B., Hulela, E. B., Mahlubi Hadebe, I., Sukati, N. A., ... Holzemer, W. L. (2005). Quality of life and the concept of “living well” with HIV/AIDS in sub-Saharan Africa. *Journal of Nursing Scholarship*, 37(2), 120–126. doi: 10.1111/j.1547-5069.2005.00023.x [\[Crossref\]](#), [\[PubMed\]](#), [\[Web of Science ®\]](#), [\[Google Scholar\]](#)
17. Robinson, F. P. (2004). Measurement of quality of life in HIV disease. *Journal of the Association of Nurses in AIDS Care*, 15(5), 14S–19S. doi: 10.1177/1055329004269352 [\[Crossref\]](#), [\[PubMed\]](#), [\[Web of Science ®\]](#), [\[Google Scholar\]](#)
18. Rueda, S., Raboud, J., Mustard, C., Bayoumi, A., Lavis, J. N., & Rourke, S. B. (2011). Employment status is associated with both physical and mental health quality of life in people living with HIV. *AIDS Care*, 23(4), 435–443. doi: 10.1080/09540121.2010.507952 [\[Taylor & Francis Online\]](#), [\[Web of Science ®\]](#), [\[Google Scholar\]](#)
19. Silberschmidt, M. (2001). Disempowerment of men in rural and urban East Africa: Implications for male identity and sexual behavior. *World Development*, 29(4), 657–671. doi: 10.1016/S0305-750X(00)00122-4 [\[Crossref\]](#), [\[Web of Science ®\]](#), [\[Google Scholar\]](#)
20. Stangl, A. L., Wamai, N., Mermin, J., Awor, A. C., & Bunnell, R. E. (2007). Trends and predictors of quality of life among HIV-infected adults taking highly active antiretroviral therapy in rural Uganda. *AIDS Care*, 19(5), 626–636.

doi: 10.1080/09540120701203915 [[Taylor & Francis Online](#)], [[Web of Science ®](#)], [[Google Scholar](#)]

21. UNAIDS. (2016). Global AIDS update 2016. Joint United Nations programme on HIV/AIDS. Retrieved from http://www.who.int/hiv/pub/arv/global-AIDS-update-2016_en.pdf?ua=1 [[Google Scholar](#)]
22. van der Kop, M. L., Ojaka, D. I., Patel, A., Thabane, L., Kinagwi, K., Ekstrom, A. M., ... Lester, R. T. (2013). The effect of weekly short message service communication on patient retention in care in the first year after HIV diagnosis: Study protocol for a randomised controlled trial (WeITel Retain). *BMJ Open*, 3(6), e003155. doi: 10.1136/bmjopen-2013-003155 [[Crossref](#)], [[PubMed](#)], [[Web of Science ®](#)], [[Google Scholar](#)]
23. van der Kop, M. L., Thabane, L., Awiti, P. O., Muhula, S., Kyomuhangi, L. B., Lester, R. T., & Ekström, A. M. (2016). Advanced HIV disease at presentation to care in Nairobi, Kenya: Late diagnosis or delayed linkage to care?—a cross-sectional study. *BMC Infectious Diseases*, 16, 61. doi: 10.1186/s12879-016-1500-8 [[Crossref](#)], [[PubMed](#)], [[Web of Science ®](#)], [[Google Scholar](#)]
24. Wagner, A. K., Wyss, K., Gandek, B., Kilima, P. M., Lorenz, S., & Whiting, D. (1999). A Kiswahili version of the SF-36 health survey for use in Tanzania: Translation and tests of scaling assumptions. *Quality of Life Research: An International Journal of Quality of Life Aspects of Treatment, Care and Rehabilitation*, 8(1-2), 101–110. doi: 10.1023/A:1026441415079 [[Crossref](#)], [[PubMed](#)], [[Web of Science ®](#)], [[Google Scholar](#)]
25. Ware, J., Kosinski, M., Turner-Bowker, D., & Gandek, B. (2002). *How to score version 2 of the SF-12 health survey*. Lincoln, Rhode Island: QualityMetric Inc. [[Google Scholar](#)]
26. World Bank. (2007). *Gender and economic growth in Kenya: Unleashing the power of women*. The World Bank. Retrieved from <http://elibrary.worldbank.org/doi/book/10.1596/978-0-8213-6919-7> [[Crossref](#)], [[Google Scholar](#)]
27. Wyss, K., Wagner, A. K., Whiting, D., Mtasiwa, D. M., Tanner, M., Gandek, B., & Kilima, P. M. (1999). Validation of the Kiswahili version of the SF-36 health survey in a representative sample of an urban population in Tanzania. *Quality of Life Research: An International Journal of Quality of Life Aspects of Treatment, Care and Rehabilitation*, 8(1-2), 111–120. doi: 10.1023/A:1026431727374 [[Crossref](#)], [[PubMed](#)], [[Web of Science ®](#)], [[Google Scholar](#)]