



POLICY BRIEF

Integrating depression screening at Care and Treatment Centers in Tanzania

Key Messages

- Depression is the commonest mental health disorders for People Living with HIV (PLHIV) in sub-Saharan Africa.
- Depression in PLHIV is associated with; poor Highly Active Antiretroviral Therapy (HAART) adherence, low weight gain, low CD4 progression, suicide events, increased progression to AIDS, and increased mortality.
- The validated Patient Health Questionnaire-9 (PHQ-9) when used at outpatient primary care population provides opportunity to identify people with depression.
- Implementing a policy to integrate the utilization of PHQ-9 depression screening tool at Care and Treatment Centers (CTCs) by the Ministry of Health in Tanzania will help to early identification and properly manage depression in PLHIV.
- Early depression screening and proper management may have the potential of improving HIV care and reducing mortality in PLHIV.
- Introducing health care delivery models at CTC coupled with training of relevant health care providers on depression screening and management is proposed for addressing this gap.

Executive Summary

Depression is the commonest mental health disorders among People Living with HIV (PLHIV) in Sub-Saharan Africa (SSA). Depression is 2 to 3 times more prevalent in PLHIV than in the general population with prevalence ranging between 14-32% in PLHIV attending Care and Treatment Centers (CTCs). In Tanzania the prevalence of moderate to severe depression among PLHIV attending CTCs; assessed using the Patient

Health Questionnaire-9 (PHQ-9) was estimated at 10%.

Depression in PLHIV is possibly a direct effect of HIV on the brain but may also be due to the psychological effects of living with a chronic disease. Depression in PLHIV is associated with poor health status such as poor adherence to Highly Active Antiretroviral Therapy (HAART), low weight gain and CD4 count, suicide, increased progression to AIDS and mortality. Identification and effective

treatment of depression in PLHIV is required for the improvement of HIV and AIDS care. Under routine services, the management of clients at CTCs level is provided by HIV trained Health Care Providers (HCPs), however the lack of mental health training and locally validated screening tools at their disposal has impacted on proper management of depression in PLHIV. The recently validated PHQ-9 in an outpatient primary care population provides an opportunity to identify patients with depression.

Introducing health care delivery models at CTC coupled with training of relevant health care providers on depression screening and management is proposed for addressing this gap. Therefore, this policy strongly recommends the integrating and utilization of PHQ-9 depression screening tool at CTCs by the MoH in Tanzania.

Background

Depression is among the commonest mental health disorders in PLHIV in Sub-Saharan Africa (SSA) (Melanie *et al.*, 2014). In SSA, depression is 2 to 3 times more prevalent in PLHIV than in the general population with prevalence ranging between 14-32% in PLHIV on HAART (Bernard, Dabis and Rekeneire, 2017) one of the most common psychiatric disorders, is two- to three-times more prevalent in people living with HIV (PLHIV). In Tanzania, it is estimated

that, 10% of PLHIV attending CTCs have moderate to severe depression assessed using the PHQ-9 (Marwick and Kaaya, 2010; Belenky *et al.*, 2014) and depression associated with HIV/AIDS has been linked with faster disease progression and reduced drug adherence. However, research on mental health is scarce in sub-Saharan Africa where infection levels are ... , "container-title": "AIDS care", "DOI": "10.1080/09540120903253981", "ISSN": "1360-0451", "issue": "4", "language": "en", "note": "publisher: AIDS Care\nPMID: 20131127", "source": "pubmed.ncbi.nlm.nih.gov", "title": "Prevalence of depression and anxiety disorders in HIV-positive outpatients in rural Tanzania", "URL": "https://pubmed.ncbi.nlm.nih.gov/20131127/", "volume": "22", "author": [{"family": "Marwick", "given": "Katherine"}, {"family": "Kaaya", "given": "Sylvia"}], "accessed": {"date-parts": [{"-2022", "6", "28"}]}, "issued": {"date-parts": [{"2010", "4"}]}, "label": "page", {"id": "277", "uris": [{"http://zotero.org/users/6449679/items/I959KVNK"}], "itemData": {"id": "277", "type": "article-journal"}, "abstract": "Depressive symptoms have been shown to independently affect both antiretroviral therapy (ART).

Depression in PLHIV is possibly a direct effect of HIV on the brain, but may also be due to the psychological effects of living with a chronic disease (Treisman and Kaplin, 2002). Poor social support, stress and stigma increase the

possibility of depression or depressive symptoms (Simbayi *et al.*, 2007).

Studies in SSA indicated that depression in PLHIV is associated with poor health status such as; low weight gain, low CD4 progression (Kingori, Haile and Ngatia, 2015), suicide (Kinyanda *et al.*, 2012) increased progression to AIDS and mortality (Melanie *et al.*, 2014) as well as poor HAART adherence (Belenky *et al.*, 2014) virologic failure, and suppressed immune function in people living with HIV/AIDS in Tanzania. Data from 403 study participants who were on stable ART and engaged in HIV clinical care were analyzed. We assessed crude and adjusted associations of depressive symptoms and ART adherence, both at baseline and at 12 months, using logistic regression. We used logistic generalized estimating equations to assess the association and 95% confidence intervals (CI). HAART non-adherent among PLHIV had a three times higher chance of manifesting moderate to severe depressive symptoms compared to adherent clients (Nel and Kagee, 2013).

Pre-existing Policy

Identification and effective treatment of depression in PLHIV is required for the improvement of HIV and AIDS care. Under routine services, the management of clients at CTCs level is provided by

HIV trained Health Care Providers (HCPs); however, the lack of mental health training and locally validated screening tools at their disposal has impacted on proper management of depression in PLHIV.

The absence of mental health care training and Continuous Medical Education (CME) for HCPs at CTCs in this area has further complicated the identification and management of depression in PLHIV.

Policy Options

The recently validated PHQ-9 (Smith Fawzi *et al.*, 2019) in an outpatient primary care population provides an opportunity for identification and management of depression in PLHIV. Implementing a policy to integrate the utilization of PHQ-9 depression screening tool at CTCs by the Ministry of Health (MoH) in Tanzania; will have great benefits on patient care and clinical outcomes for PLHIV.

Preliminary findings from pilot implementation research on the utilization of PHQ-9 depression screening tool at CTC conducted to CTC health care providers, coordinators, CTC in-charge as well as health facility in-charge in Mbeya has shown that.

i. PHQ-9 depression screening has a positive clinical impact on patient care as it promotes good adherence to ART that facilitates raising of CD4 counts and viral

load suppression. It also reduces stigma through increased personal acceptance of HIV positive status due to proper and timely management of depression.

ii. Moreover, mental health training and continuous medical education to CTC health care providers help increase their knowledge on mental health hence improved quality of service offered at CTC such as good interpersonal relationship, proper diagnosis and management of depression and decreased turn-around-time to diagnose depression.

iii. Raised awareness and knowledge about mental health to patients and improved patients to health care provider interaction.

Implementation Considerations

It is proposed that, to address this gap, there is a need to introduce health care delivery models at CTC and train the appropriate health care providers in depression screening and management.

i) Implementation will involve the integration of depression screening using PHQ-9 tool by HCPs attending PLHIV at CTCs. PLHIV will be seen by HCPs at CTCs who will be knowledgeable and possess skills on screening and management of depression. Clinical information on depression will be integrated with other systems for tracking and follow-up of patients, recording

of clinical notes, counseling, management, appointments, and registrations.

Readiness of the health care systems at CTC for proposed change.

- In most CTCs the services are well established. Therefore, integration of HIV and depression screening will be easier to incorporate into the HIV levels of management. Updating the existing guidelines to suit the integration should be considered.

- A recent study found that both patients and care providers have affirmed the development of a positive attitude and strong levels of acceptability to the integrated 'one stop' model (Shayo *et al.*, 2022). Most patients were free to enter the clinic, move from one service point to another and fix clinic appointments. They acknowledged the cost and time saving benefits. Further, integration reduce HIV related stigma.

- A previous socio-economic study reported that integrated one-stop management of HIV and Non Communicable Diseases (NCDs) could reduce costs per patient between 34-50%, compared to managing each condition independently, being a highly cost-saving approach in African settings (Shiri *et al.*, 2021) considering the scope of treatments and synergies in service delivery. Proven to promote compliance,

integration may lead to increased economies-of-scale. However, evidence on the socio-economic consequences of integration for providers and patients is lacking.”,“container-title”:”BMC Medicine”,“DOI”:”10.1186/s12916-021-02094-2”,“ISSN”:”1741-7015”,“issue”:”1”,“journalAbbreviation”:”BMC Medicine”,“page”:”230”,“source”:”BioMed Central”,“title”:”Patient and health provider costs of integrated HIV, diabetes and hypertension ambulatory health services in low-income settings — an empirical socio-economic cohort study in Tanzania and Uganda”,“volume”:”19”,“author”:[{“family”:”Shiri”,“given”:”Tinevimbo”},{“family”:”Birungi”,“given”:”Josephine”},{“family”:”Garrib”,“given”:”Anupam V.”},{“family”:”Kivuyo”,“given”:”Sokoine L.”},{“family”:”Namakoola”,“given”:”Ivan”},{“family”:”Mghamba”,“given”:”Janneth”},{“family”:”Musunguzi”,“given”:”Joshua”},{“family”:”Kimaro”,“given”:”Godfather”},{“family”:”Mutungi”,“given”:”Gerald”},{“family”:”Nyirenda”,“given”:”Moffat J.”},{“family”:”Okebe”,“given”:”Joseph”},{“family”:”Ramaiya”,“given”:”Kaushik”},{“family”:”Bachmann”,“given”:”M.”},{“family”:”Sewankambo”,“given”:”Nelson K.”},{“family”:”Mfinanga”,“given”:”Sayoki”},{“family”:”Jaffar”,“given”:”Shabbar”},{“family”:”Niesen”,“given”:”LouisW.”}],“issued”:{“date-parts”:[[“2021”,9,10]]}},“schema”:”https://github.com/cita-

tion-style-language/schema/raw/master/csl-citation.json”} . Also, integration lowered the mean health service cost per visit through a one-time use of both personnel and capital resources. This results in huge out-of-pocket savings for and reduced duplication of clinical management activities at the health service.

Anticipated challenges for the proposed change.

· Challenges of the integrated clinic include limited physical space as clients wait to access care and unavailability of medical resources. Integrated clinics could be more acceptable if overcrowding will be reduced, and privacy observed. Integrating NCDs and HIV care had benefits for all users; and patients were comfortable with the waiting room sitting arrangement (Bukonya *et al.*, 2022)but in parts of Africa robust evidence on effectiveness is limited. We assessed the integration of vertical health services for HIV, diabetes and hypertension provided in a feasibility study within five health facilities in Uganda. From November 2018 to January 2020, we conducted a series of three in-depth interviews with 31, 29 and 24 service users attending the integrated clinics within Kampala and Wakiso districts. Ten healthcare workers were interviewed twice during the same period. Interviews were conducted in Luganda, translated into English, and analysed thematically

using the concepts of availability, affordability and acceptability. All participants reported shortages of diabetes and hypertension drugs and diagnostic equipment prior to the establishment of the integrated clinics. These shortages were mostly addressed in the integrated clinics through a drugs buffer. Integration did not affect the already good provision of anti-retroviral therapy. The cost of transport reduced because of fewer clinic visits after integration. Healthcare workers reported that the main cause of non-adherence among users with diabetes and hypertension was poverty. Participants with diabetes and hypertension reported they could not afford private clinical investigations or purchase drugs prior to the establishment of the integrated clinics. The strengthening of drug supply for non-communicable conditions in the integrated clinics was welcomed. Most participants observed that the integrated clinic reduced feelings of stigma for those living with HIV. Sharing the clinic afforded privacy about an individual's condition, and users were comfortable with the waiting room sitting arrangement. We found that integrating non-communicable disease and HIV care had benefits for all users. Integrated care could be an effective model of care if service users have access to a reliable supply of basic medicines for both HIV and non-communicable disease conditions.", "container-title": "PLOS Global Public Health", "DOI": "10.1371/

journal.pgph.0000084", "ISSN": "2767-3375", "issue": "2", "journal-abbreviation": "PLOS Global Public Health", "language": "en", "note": "publisher: Public Library of Science", "page": "e0000084", "source": "PLOS Journals", "title": "Integrated health-care services for HIV, diabetes mellitus and hypertension in selected health facilities in Kampala and Wakiso districts, Uganda: A qualitative methods study", "title-short": "Integrated healthcare services for HIV, diabetes mellitus and hypertension in selected health facilities in Kampala and Wakiso districts, Uganda", "volume": "2", "author": [{"family": "Bukonya", "given": "Dominic"}, {"family": "Hout", "given": "Marie-Claire Van"}, {"family": "Shayo", "given": "Elizabeth H."}, {"family": "Kitabye", "given": "Isaac"}, {"family": "Junior", "given": "Brian Musenze"}, {"family": "Kasidi", "given": "Joan Ritar"}, {"family": "Birungi", "given": "Josephine"}, {"family": "Jaffar", "given": "Shabbar"}, {"family": "Seeley", "given": "Janet"}], "issued": {"date-parts": ["2022", "2", "3"]}], "schema": "https://github.com/citation-style-language/schema/raw/master/csl-citation.json" .

ii) Continuous medical education to HCPs and allocating focal person for mental health at CTCs.

· It is proposed to use the following communication strategies for

increasing awareness and knowledge on depression among PLHIV: printed information, education and communication (IECs) approaches (including use of: posters, fliers, newsletters, and magazines, media platforms (radio, television, social media and websites), entertainment (songs, dramas, games, poems), and inter-personal communication. Awareness campaigns should focus on social support.

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Competing Interest

All authors declare no conflict of interest

References

Akena, D., Stein, D.J. and Joska, J. (2013) 'Does Screening HIV-Positive Individuals in Uganda for Major Depressive Disorder Improve Case Detection Rates and Antidepressant Prescription?', *AIDS and Behavior*, 17(8), pp. 2802–2807. Available at: <https://doi.org/10.1007/s10461-012-0383-y>.

Akena, D.H., Musisi, S. and Kinyanda, E. (2010) 'A comparison of the clinical features of depression in HIV-positive and HIV-negative patients in Uganda', *African Journal of Psychiatry*, 13(1), pp. 43–51. Available at: <https://doi.org/10.4314/ajpsy.v13i1.53429>.

Belenky, N.M. et al. (2014) 'Depressive symptoms, HIV medication adherence, and HIV clinical outcomes in Tanzania: a prospective, observational study', *PloS One*, 9(5), p. e95469. Available at: <https://doi.org/10.1371/journal.pone.0095469>.

Bernard, C., Dabis, F. and Rekeneire, N. de (2017) 'Prevalence and factors associated with depression in people living with HIV in sub-Saharan Africa: A systematic review and meta-analysis', *PLOS ONE*, 12(8), p. e0181960. Available at: <https://doi.org/10.1371/journal.pone.0181960>.

Bukenya, D. et al. (2022) 'Integrated healthcare services for HIV, diabetes mellitus and hypertension in selected health facilities in Kampala and Wakiso districts, Uganda: A qualitative methods study', *PLOS Global Public Health*, 2(2), p. e0000084. Available at: <https://doi.org/10.1371/journal.pgph.0000084>.

- org/10.1371/journal.pgph.0000084.
- Kingori, C., Haile, Z.T. and Ngatia, P. (2015) 'Depression symptoms, social support and overall health among HIV-positive individuals in Kenya', *International Journal of STD & AIDS*, 26(3), pp. 165–172. Available at: <https://doi.org/10.1177/0956462414531933>.
- Kinyanda, E. et al. (2012) 'The prevalence and characteristics of suicidality in HIV/AIDS as seen in an African population in Entebbe district, Uganda', *BMC psychiatry*, 12, p. 63. Available at: <https://doi.org/10.1186/1471-244X-12-63>.
- Marwick, K. and Kaaya, S. (2010) 'Prevalence of depression and anxiety disorders in HIV-positive outpatients in rural Tanzania', *AIDS care*, 22(4). Available at: <https://doi.org/10.1080/09540120903253981>.
- Melanie, A. et al. (2014) 'Depression in people living with HIV in sub-Saharan Africa: time to act', *Tropical medicine & international health: TM & IH*, 19(12). Available at: <https://doi.org/10.1111/tmi.12382>.
- Nel, A. and Kagee, A. (2013) 'The relationship between depression, anxiety and medication adherence among patients receiving antiretroviral treatment in South Africa', *AIDS care*, 25(8), pp. 948–955. Available at: <https://doi.org/10.1080/09540121.2012.748867>.
- Shayo, E.H. et al. (2022) 'The acceptability of integrated healthcare services for HIV and non-communicable diseases: experiences from patients and healthcare workers in Tanzania', *BMC Health Services Research*, 22(1), p. 655. Available at: <https://doi.org/10.1186/s12913-022-08065-4>.
- Shiri, T. et al. (2021) 'Patient and health provider costs of integrated HIV, diabetes and hypertension ambulatory health services in low-income settings — an empirical socio-economic cohort study in Tanzania and Uganda', *BMC Medicine*, 19(1), p. 230. Available at: <https://doi.org/10.1186/s12916-021-02094-2>.
- Simbayi, L.C. et al. (2007) 'Internalized stigma, discrimination, and depression among men and women living with HIV/AIDS in Cape Town, South Africa', *Social Science & Medicine* (1982), 64(9), pp. 1823–1831. Available at: <https://doi.org/10.1016/j.socscimed.2007.01.006>.
- Smith Fawzi, M.C. et al. (2019) 'Validating the Patient Health Questionnaire-9 (PHQ-9) for screening of depression in Tanzania', *Neurology, Psychiatry and Brain Research*, 31, pp. 9–14. Available at: <https://doi.org/10.1016/j.npbr.2018.11.002>.
- Treisman, G.J. and Kaplin, A.I. (2002) 'Neurologic and psychiatric complications of antiretroviral agents', *AIDS (London, England)*, 16(9), pp. 1201–1215. Available at: <https://doi.org/10.1097/00002030-200206140-00002>.