The role of Community-Based Non-Communicable Diseases services in the quality of life of people with HIV in Wakiso District, Uganda: a cluster-randomized controlled trial

by

Christopher Ddamulira

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Introduction

The National Health Policy by the Uganda Ministry of Health (2010) recognizes that Non-Communicable Diseases (NCDs) and their risk factors are increasing in Uganda among patients with HIV on Anti-Retroviral Therapy (ART). The policy mandated the Ministry of Health to establish a programme for the prevention and control of Non-Communicable Diseases in all public health facilities, but NCDs services are lacking at community drug distribution points (CDDPs) where patients on ART receive services at. The programme fitted strategies to address the Sustainable Development Goals (SDGs) to reduce co-morbidities related to NCDs (Maher *et al*., 2010). The Community-Based Non-Communicable Diseases (NCDs) services strategy is in tandem with SDG 3, indicator 3.4, which aims to reduce by one-third premature mortality from non-communicable diseases

through prevention and treatment and promote mental health and well-being by 2030 (Sachs, 2015).

As a response to address SDG 3, the Ministry of Health (2016) contrived a strategic objective and designed a policy to implement appropriate HIV and NCDs health interventions at all public, not-for-profit, and for-profit private health facilities, targeting the entire population of Uganda to reduce NCDs and improve the Quality of Life (QoL) of all Ugandans. The gaps in the strategy for the WHO (2005), the SDGs (2015), and the MOH (2016) were that community-based NCDs services were not being offered to HIV patients receiving Anti-Retroviral Drugs (ARVs) at Community Drug Distribution Points (CDDPs).

Hypertension and diabetes mellitus, both have direct and indirect relationships with HIV and ART (Lozano *et al*., 2013). The deaths related to hypertension and diabetes mellitus among HIV patients on Antiretroviral Therapy (ART) increased (Peck *et al*., 2014). The prevalence of hypertension and diabetes among adult people living with HIV (PLHIV) in Uganda is increasing with an estimated 20.9% prevalence of hypertension and 10.4% for diabetes mellitus (Kalyesubula *et al*., 2016 & Bahendeka *et al*., 2016). Thus, understanding the strategies for early detection and treatment would be important for improving health services.

As patients enrolled on ART to improve their survival, the risks of NCDs were reported to have increased with their duration on antiretroviral therapy and chronological age

(Peck *et al*., 2014). Therefore, PLHIV on ART represents a group in which prevention, screening, and treatment strategies using a community-based approach offer substantial benefits to reduce diabetes mellitus and hypertension co-morbidities among patients on ART (Hyle *et al*., 2014).

According to the MOH (2016), 70% of the patients on ART in Wakiso district receive ARVs from the community. Wakiso District is among the high HIV burdened districts in Uganda (10.4%), with the highest number of HIV patients (47,779) on ART (MoH, 2017; Uganda Population HIV Impact Assessment Report, 2017). However, the patients have an overall poor quality of life of 56.4% resulting from inadequate NCDs services in communities (Mutabazi-Mwesigire *et al*., 2014). Therefore, the prevalence of poor QoL results in concurrent morbidity and mortality; and in a malfunction of the physical, environmental, and social health statuses.

Study objectives

The study was based on the following objectives;

1. to analyse the effect of community-based NCDs services on the quality of life of people with HIV living with NCDs,
2. to assess the influence of patient factors on the utilization of the community-based NCDs services among people with HIV living NCDs,
3. to examine the effect of patient factors on the quality of life of people with HIV living NCDs.

Methodology

A Clustered Randomized Controlled Trial (RCT) was conducted to determine the efficacy of the community-based NCDs services on the QoL of People Living with HIV. The intervention group received the NCD services from expert clients and the control group received the usual HIV services in communities as per the national HIV policy guidelines. The researcher randomly allocated participants to receive intervention sessions by HIV expert clients and community volunteers (standard care) at ARV drug distribution points in communities.

The study conducted the community-based cluster-randomized controlled Trial in Wakiso District. It divided the district into eight clusters. Randomization was conducted for the eight clusters in the ratio of 1:1 for the intervention arm and the control arm. Based on the sample size proportions, 219 participants for the intervention arm and 219 participants for the control arm were recruited for the study. Linear mixed-effects models that included the linear regressions and structural equation model (SEM) were performed to compare changes in the QoL scores at the baseline and the end line.

Key findings

The study findings revealed that the community-based NCDs services were effective and improved the Quality of Life (QoL). The community-based NCDs services contributed 31.9% to improvement in the quality of life of PLHIV with NCDs.

The level of education (p=.000<0.05) and marital status (p=.000<0.05) had a significant positive effect on community-based NCDs services utilization and improved QoL. This meant that marital status and education are important determinants in the utilization of the NCDs services and improved QoL.

The overall indicators for the goodness of fit revealed that the model fitted perfectly well: Root Mean Squared Error of Approximation (RMSEA) = 0.000, Comparative Fit Index (CFI) =1.000, Tucker-Lewis Index (TFI) =1.000). A key contribution of the study to scientific knowledge is tested and validated Integrated Community Analysis Transformation (ICAT) model. This implies that if the ICAT model is implemented, the patients' QoL will improve.

Key recommendations

The study recommended that the Ministry of Health (MOH) should adopt the community-based NCDs services as part of the primary activities for the Village Health Teams (VHT) and community volunteers.

The study recommended that the Ministry of Health (MOH) should develop training manuals concerning family and community NCDs prevention and management for health workers.

The study recommended that the Ministry of Health (MOH) should review and adopt the transformed community-based HIV and NCDs services integration in

the national guidelines for the management of HIV in the communities using the differentiated models.

The study recommended that the World Health Organization(WHO), the Ministry of Health (MOH), and District Health Officers(DHOs) should implement the Integrated Community Analysis Transformation Model (ICAT Model) through health care workers and all community health workers for the prevention and management of NCDs in the communities.

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