Title: Factors affecting ART adherence among HIV-positive adherence club members in Ekurhuleni, South Africa in 2016

ABSTRACT

Background

South Africa has the world's highest human immunodeficiency virus (HIV) prevalence. Free antiretroviral therapy (ART) is available to persons living with HIV/AIDS but low adherence to ART increases the burden of HIV on the public health system. ART adherence clubs were launched to improve ART adherence in communities. However, the drivers of ART adherence within these clubs have not been studied to date. This study aimed to determine the factors affecting ART adherence among HIV positive individuals attending adherence clubs in Ekurhuleni, Gauteng.

Methods

The study involved the secondary analysis of data collected in February 2016 through a cross-sectional study conducted amongst adherence club members in Ekurhuleni Metropolitan Municipality. Participants were sampled from a population of people living with HIV/AIDS (PLWHA) registered as members of adherence clubs in April 2015. Descriptive analysis was carried out by showing counts and frequencies, this was followed by bivariable analyses using a dichotomous outcome variable for ART adherence. Ordinal logistic regression was used for univariable and multivariable

analyses to determine factors significantly associated with ordinal adherence scores. Significant determinants were then applied in a geometric structural equation model (GSEM) to determine mediatory pathways between ART adherence determinants and ART adherence.

Results

There were 730 participants in this study, 96% of them were adherent to ART. The median age of the participants was 39 years (IQR = 20 - 69 years). Study participants had a median duration of adherence club membership of 3.4 years (IQR = 1.3 - 4.1 years). The odds of reporting high levels of adherence among participants with comorbidities were 0.5 times those of reporting high levels of ART adherence among participants without comorbidities (aOR: 0.5, 95% CI: 0.3 - 0.8, p = 0.005). The odds of reporting high levels of adherence among participants who were on combination ART were 1.8 times those of participants on a single tablet regimen (aOR: 1.8, 95% CI: 1.0 - 3.2, p <0.033).The odds of high ART adherence decreased by 20% for each additional year of adherence club membership (aOR: 0.8, 95% CI: 0.8 - 0.9, p < 0.001). None of the mediatory pathways hypothesised were found to be significant in GSEM analysis.

Conclusion

Increasing years spent as adherence club members, single tablet ART regimens and the presence of comorbidities were all significantly associated with nonadherence to ART among HIV positive individuals attending ART adherence clubs in Ekurhuleni. ART

adherence amongst members could be improved by having regular and sustained counselling sessions for ART adherence club members. Adherence club facilitators should have focused counselling sessions for adherence club members who have comorbidities, focusing on lifestyle modifications among PLWHA to manage concurrent illnesses. Further, screening tools for side effects and treatment fatigue should be developed and used regularly in adherence club settings.

Keywords: *models of care, antiretrovirals, medication adherence, fixed dose regimen, diabetes mellitus*