Journal of Affective Disorders 135 (2011) 160–167

Contents lists available at ScienceDirect

Journal of Affective Disorders

journal homepage: www.elsevier.com/locate/jad

Research report

# Prevalence and factors associated with depressive disorders in an HIV+ rural patient population in southern Uganda

E. Nakimuli-Mpungu [a,*], S. Musisi [b], E. Katabira [c], J. Nachega [d], J. Bass [e]

[a] Makerere University College of Health Sciences, School of Medicine, Psychiatry, Butabika Hospital, P.O. Box 7017 Butabika road, Kampala, Uganda
[b] Makerere University College of Health Sciences, School of Medicine, Department of Psychiatry, Mulago Hospital, Kampala, Uganda
[c] Makerere University College of Health Sciences, School of Medicine, Department of Internal Medicine, Mulago Hospital, Kampala, Uganda
[d] Johns Hopkins School of Public Health, International Health Department 615 N. Wolfe, Baltimore, MD 21205, United States
[e] Johns Hopkins School of Public Health, Mental health, Department 624 N. Broadway, Hampton House, Baltimore, MD 21205, United States

ARTICLE INFO

*Article history:*
Received 22 June 2011
Accepted 14 July 2011
Available online 17 August 2011

*Keywords:*
Sub-clinical depression
Major depression
Bipolar depression
Anti-retroviral therapy
HIV/AIDS
Uganda

ABSTRACT

*Background:* Depressive disorders are estimated to occur in nearly half of HIV-infected individuals worldwide.
*Aim:* To examine the prevalence and cardinal demographic, psychosocial and clinical features associated with having any depressive disorder, sub-clinical depression, current and lifetime depressive disorders among patients with human immunodeficiency virus (HIV) in southern Uganda.
*Methods:* Five hundred HIV+ individuals were screened for depression using a 20 item self-reporting questionnaire (SRQ-20) and evaluated with the mini neuropsychiatric interview (MINI) that assessed current and lifetime depressive disorders.
*Results:* The prevalence estimates of any depressive disorder, subclinical depression, both current and lifetime major depression, and bipolar depression were 46.4%, 17.8%, 25% and 3.6% respectively. In comparison to non-depressed patients, those with sub-clinical depression were less likely to have high levels of self-efficacy, more likely to be using ART for less than one year, have advanced HIV disease and current alcohol use disorders (AUD's). Those with both current and lifetime depressive disorders were less likely to be 85% adherent to antiretroviral therapy (ART), have social support and high levels of self-efficacy, more likely to have tuberculosis and past manic episodes. Those with only lifetime depressive disorders were more likely to have current AUD's and past manic episodes.
*Limitations:* Information concerning exposures and outcomes was collected simultaneously, thus causal relationships are difficult to establish.
*Conclusions:* Sub-clinical depression, major depression and bipolar depression are widespread among HIV patients receiving ART. Integration of mental health services into HIV Care is desperately needed.



## 1. Introduction

Depressive disorders are estimated to occur in nearly half of HIV-infected individuals worldwide (Pence et al., 2006). Over the last two decades, a number of reviews on the prevalence of depression in HIV positive populations have been published. An early review by Lyketsos and Federman (1995) found rates of depression ranging from 1% to 48%. A meta-analysis performed by Ciesla and Roberts (2001) on 10 articles, found that prevalence rates of depression were significantly higher for the HIV positive individuals compared to HIV negative individual. Other reviews on mental health problems of HIV/AIDS all report higher prevalence rates of

* Corresponding author. Tel.: +256 715 105276.
*E-mail address:* enakimul@jhsph.edu (E. Nakimuli-Mpungu).

0165-0327/$ – see front matter © 2011 Elsevier B.V. All rights reserved.
doi:10.1016/j.jad.2011.07.009

depression in HIV positive populations compared to HIV negative populations (2001; Chander et al., 2006, Treisman et al., 1998). In developing countries, a systematic review performed by Collins et al. (2006) on thirteen studies published between 1990 and 2005 from middle or low-income countries, reported rates of depression ranging from 0 to 63.3% among HIV-positive participants (Collins et al., 2006).

In both developed and developing countries, none of the studies that have described prevalence rates of depressive disorders in HIV positive populations has included bipolar disorder (Rabkin, 2008). Differentiating bipolar depression from unipolar depression is important because treating a bipolar patient with antidepressants alone may trigger a manic episode. Further, majority of studies in sub-Saharan Africa have assessed for depression symptoms, which without further evaluation, no distinction can be made between subclinical depression (those who score above a given cut-off point of a depression measure but do not meet full criteria of a depressive disorder on further evaluation with a diagnostic interview) and other depressive disorders (Etienne et al., 2010; Kagee and Martin, 2010; Nakimuli-Mpungu et al., 2009; Peltzer et al., 2010; Weidle et al., 2006). The few studies that have evaluated study participants with a diagnostic interview have neither reported on subclinical depression nor lifetime depressive disorders (Marwick and Kaaya, 2010; Myer et al., 2008; Olley et al., 2006). Knowledge of specific depressive disorders and their unique features is important because different depressive disorders have different characteristics and pathologies that require different treatments. For example, management of current depression would focus on preventing harm by managing suicidal ideation if present, treating the depression with pharmacotherapy and psychotherapeutic interventions (Ferrando and Freyberg, 2008). On the other hand, management of subclinical depression may focus on psychotherapeutic interventions to enhance coping and problem solving skills (Bass et al., 2006; Bolton et al., 2003.) while management of lifetime depression would focus on relapse prevention using psychosocial interventions.

Previous studies have shown that untreated depressive disorders increase HIV transmission risk behaviors (Bradley et al., 2008; Kelly et al., 1993), decrease immune status (Ickovics et al., 2001; Pence et al., 2007) and decrease adherence to antiretroviral therapy (ART) (Chesney, 2003; Horberg et al., 2008; Kacanek et al., 2010) which may result in decreased clinical effectiveness and potential development of drug resistance (Bangsberg, 2008; Kozal et al., 2005) Generally, depressive disorders have been associated with female gender (Silverstein, 1999), low perceived social support (Nan and Dean, 1984) and low social economic status (Weich et al., 2001) and chronic medical conditions (Katon and Sullivan, 1990). Little is known, however, about how these various factors are associated with specific depressive disorders among HIV patients in Uganda and other developing countries. In the present report, we examine the prevalence and cardinal demographic, psychosocial and clinical features associated with having any depressive disorder, subclinical depression, current and lifetime depressive disorders among rural HIV positive patients in southern Uganda. Potential associated factors were selected based on evidence from pre-existing literature that they are important correlates of depressive disorders in HIV positive and other populations.

## 2. Methods

### 2.1. Study setting and population

Study participants were HIV positive patients receiving anti-retroviral therapy (ART) from a rural ART program at the Mitiyana hospital. This hospital is situated in Mubende district in rural southern Uganda, a region that has ethnic homogeneity and social stability. The ART program has 5700 HIV-positive patients, of whom 1500 are using ART. Five hundred HIV-positive patients were enrolled in the study.

### 2.2. Study procedure

Study data were collected over a four-month period (January–April 2011). The eligibility criteria required participants to be HIV-positive adult patients aged 18 years or older, who were using ART and who had the ability to comprehend study procedures and provide informed consent. Individuals with debilitating illnesses, hearing or visual impairment were ineligible for the study.

On a given clinic day, research assistants worked with clinic staff to obtain a register of clients who had come to the clinic on that day. The clients would be seated in the waiting area waiting for their turn to see the HIV care provider. Ten names of clients were called out at a go and they were asked to identify themselves by show of a hand. Research assistants (at the level of nursing assistant) who explained study procedures, determined eligibility and then obtained informed consent individually approached these clients. Each client who gave informed consent was referred to a psychiatric nurse interviewer who screened for depression and alcohol use problems using the Luganda version of the 20 item self-reporting questionnaire (SRQ-20)(WHO, 1994) and the Alcohol Use Disorder Identification Test (AUDIT) (Babor et al., 1989) respectively. After this interview, the client was referred to a psychiatric clinical officer (PCO) who administered other study questionnaires including the gold standard diagnostic interview-the Mini Neuropsychiatric Interview (MINI) depression, mania and alcohol use disorders modules (Sheehan et al., 1998). The PCO was blinded to the results of the SRQ-20 interview. For this study, two psychiatric nurses were available to administer the SRQ-20 and the AUDIT and 2 PCO's were available to administer the MINI. All interviewers were trained before data collection. Training included basic research ethics, the reading and discussion of the instrument and role-playing sections headed by the lead author–psychiatrist, who also reviewed and codified all records from the interviews. The diagnostic interview was aimed at detecting the current (last 30 days) and lifetime major depression or bipolar depression, current (past 12 months) and lifetime alcohol abuse and dependence. The research protocol was approved by the Makerere University College of Health Sciences Research Ethics Committee and the Johns Hopkins University Institutional Review Board as well as the Uganda National Council of Science and Technology.