Journal of Infection and Public Health (2013) 6, 307—315

http://www.elsevier.com/locate/jiph

Non-adherence to antiretroviral therapy in Yaounde: Prevalence, determinants and the concordance of two screening criteria

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Received 3 October 2012; received in revised form 9 February 2013; accepted 12 February 2013

KEYWORDS
Antiretroviral therapy;
Adherence;
HIV infection;
Cameroon

Summary
Purpose: To assess the prevalence and determinants of non-adherence to antiretroviral therapy (ART) as well as the concordance of two screening criteria in a major center for human immunodeficiency virus (HIV) treatment in Yaounde, Cameroon.
Methods: In 2011, we conducted a cross-sectional study involving a random sample of 889 adults (age > 18 years, 67.9% women) infected with HIV who were receiving chronic care at the Yaounde Jamot Hospital. Adherence was assessed via self-administered questionnaires using the Community Programs for Clinical Research on AIDS (CPCRA) index and the Center for Adherence Support Evaluation (CASE) index.
Results: The prevalence of non-adherence to ART was 22.5% based on the CPCRA index and 34.9% based on the CASE index, with a low agreement between the two indexes [*kappa* = 0.37 (95% confidence interval 0.31—0.44)]. Independent determinants of CPCRA-diagnosed non-adherence were as follows: being a remunerated employee [odds ratio (95% confidence interval): 1.61 (1.14—2.28)], Pentecostal Christianity [2.18 (1.25—3.80)], alcohol consumption [1.65 (1.16—2.34)] and non-adherence to cotrimoxazole prophylaxis [5.73 (3.92—8.38)]. The equivalents for CASE-diagnosed non-adherence were [1.59 (1.19—2.12)], [1.83 (1.36—2.47)], [1.70 (1.27—2.28)], respectively, in addition to association with changes to the ART regimen [1.61 (1.17—2.20)].

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http://dx.doi.org/10.1016/j.jiph.2013.02.003

Conclusions: Non-adherence to ART remains high in this population. The careful evaluation of patients for the presence of determinants of non-adherence identified in this study may aid ART optimization.
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Introduction

The advent of highly active antiretroviral therapy (HAART) was a major breakthrough in the global fight against human immunodeficiency virus (HIV) infection. The adoption of HAART is gradually changing the landscape of HIV infection from a highly fatal condition to a chronic disease, and people on HAART live longer and in relatively healthy condition. With the improving access to treatment, patients with HIV in Africa (68% of the global population with HIV infection) have begun to enjoy the benefits of HAART, although mortality from HIV is still unacceptably high. Indeed, the estimated 1.2 million Africans who died of HIV-related illnesses in 2010 represent 69% of the global 1.8 million deaths attributable to the epidemic in that year [1]. Access to care for HIV infection in Africa is still fraught with many challenges, including poor organization of healthcare infrastructures, inadequate funding and limited human capacity [2,3]. The consequences of these challenges, in the form of a discontinuous drug supply, default from HAART or non-adherence, are deterring factors to the effectiveness of antiretroviral treatment (ART) in this setting [4].

In sub-Saharan African countries where the HAART scale-up has been successful, adherence has been identified as a major challenge and an essential factor for achieving optimal HIV treatment outcomes. Adherence to HAART relates to the capacity of a patient to take the correct dose of each anti-HIV medication at the correct time and exactly as prescribed. It has been estimated that an adherence rate of at least 95% is needed to achieve the full effectiveness of HAART treatments while minimizing virologic failure and resistance to ART [5]. A meta-analysis of 27 studies from 13 African countries found that 77% of patients on ART achieved an adequate level of adherence to such treatments [6]. This analysis, however, was based on pooling studies of small size and that were largely representative of the era prior to the more organized and subsidized treatment of HIV across Africa. Reasons for poor adherence to ART likely vary globally, with some reasons being specific to the African setting [7,8]. In Africa, patient-level factors include limited purchasing power (to acquire the medications) and remoteness from the treatment centers [3,4]. However, community empowerment implemented over the last decade is possibly attenuating the impact of socio-economic factors on the adherence to ART [9]. Furthermore, the criteria for diagnosing non-adherence may vary substantially within a single population [10].

Free access to ART was introduced in Cameroon in May 2007 [11], but we are not aware of any study that has investigated the issues involving adherence in the context of widespread access to ART in this country. Thus, the aims of the present study were to determine the prevalence of non-adherence to ART and to correlate its determinants among people infected with HIV in the capital city of Cameroon (Yaounde). We also aimed to assess the concordance between two common instruments for diagnosing non-adherence.

Materials and methods

Study settings and participants

This study was conducted at the approved treatment center (ATC) for HIV infection of the Yaounde Jamot Hospital (YJH), which has been described in detail elsewhere [12,13]. Briefly, YJH is the referral center for respiratory diseases and tuberculosis for the capital city of Cameroon (Yaounde) and the surrounding areas. This hospital also hosts one of the major ATCs in the country, and as of June 2011, 2250 patients were receiving chronic care for HIV infection at the center. Patients treated for HIV infection are systematically seen once a month for drug prescription renewal. Approximately 80—120 patients treated for HIV are seen daily. ART regimens in this center are based on the recommendations of the Cameroon National AIDS Control Committee (CNAC) [14]. First-line ART regimens combine two nucleosidic reverse transcriptase inhibitors (zidovudine and lamivudine or emtricitabine and tenofovir) and one non-nucleosidic reverse transcriptase inhibitor (nevirapine or efavirenz). Second-line regimens combine two nucleosidic reverse transcriptase inhibitors not used in the first-line regimen (zidovudine and lamivudine or emtricitabine and tenofovir) with a boosted protease

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