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Whoonga and the Abuse and Diversion of Antiretrovirals in Soweto, South Africa

Kathryn Rough,

Department of Epidemiology, Harvard School of Public Health, Boston, MA, USA

Division of Women's Health, Brigham and Women's Hospital, 1620 Tremont Street, 3rd Floor
BWH, Boston, MA, USA

Janan Dietrich,

Perinatal HIV Research Unit, Soweto, South Africa

Thandekile Essien,

Perinatal HIV Research Unit, Soweto, South Africa

David J. Grelotti,

Department of Epidemiology, Harvard School of Public Health, Boston, MA, USA

David R. Bansberg,

Harvard Medical School, Boston, MA, USA

Massachusetts General Hospital Center for Global Health, Boston, MA, USA

Ragon Institute of Massachusetts General Hospital, Boston, MA, USA

Glenda Gray, and

Perinatal HIV Research Unit, Soweto, South Africa

Ingrid T. Katz

Division of Women's Health, Brigham and Women's Hospital, 1620 Tremont Street, 3rd Floor
BWH, Boston, MA, USA, ikatz2@partners.org

Harvard Medical School, Boston, MA, USA

Massachusetts General Hospital Center for Global Health, Boston, MA, USA

Abstract

Media reports have described recreational use of HIV antiretroviral medication in South Africa, but little has been written about this phenomenon in the scientific literature. We present original, qualitative data from eight semi-structured interviews that characterize recreational antiretroviral use in Soweto, South Africa. Participants reported that antiretrovirals, likely efavirenz, are crushed, mixed with illicit drugs (in a mixture known as whoonga), and smoked. They described medications being stolen from patients and expressed concern that antiretroviral abuse jeopardized

the safety of both patients and users. Further studies are needed to understand the prevalence, patterns, and consequences of antiretroviral abuse and diversion.

Keywords

Antiretroviral diversion; Recreational antiretroviral abuse; Whoonga; Efavirenz; South Africa

Introduction

Since 2008, scattered media reports have described a multidrug cocktail known as “whoonga” being smoked by individuals in South Africa. Whoonga is suspected to contain illicit substances (marijuana, methamphetamine, and/or heroin), household products (detergent or rat poison), and antiretroviral medications [1–4]. Several news articles mention efavirenz, in particular, is being used recreationally [1, 5], and there are reports of HIV-positive patients being robbed or selling their drugs on the black market [1].

However, the phenomena of recreational antiretroviral use has not been well documented in the scientific literature [6]. Grelotti and colleagues’ recent findings from a qualitative study in Durban, South Africa provide important insights into the use of whoonga and its potential consequences [7]. This brief report complements their findings, presenting original qualitative data that further documents recreational antiretroviral use in Soweto, South Africa.

Methods

Between March 2012 and February 2013, semi-structured interviews with 43 purposively sampled, HIV-positive, treatment-eligible adults in Soweto, South Africa were conducted to better understand decision-making regarding treatment refusal. Participants were asked general questions about their perceptions of antiretroviral treatment; no scripted questions were asked about drug or antiretroviral abuse. The 43 interviews were conducted, transcribed, and (when necessary) translated by trained, multilingual interviewers. Interview transcripts were coded according to inductively identified themes and analyzed using N-Vivo software (Version 10). All references to whoonga, antiretroviral diversion, or antiretroviral abuse were reviewed for this analysis. The University of Witwatersrand Human Research Ethics Committee in Johannesburg and the Partners Institutional Review Board in Boston provided ethical approval for this study.

Results

Of the 43 participants interviewed, eight participants spontaneously discussed recreational antiretroviral abuse and diversion without probing from the interviewer. These eight participants were all South African nationals who ranged in age from 24 to 50. Four were male, seven had a high school education or less, and six reported being unemployed. Four interviewees reported being of Zulu ethnicity, two were Sotho, one was Tsonga, and one was Xhosa.

Participants reported that antiretrovirals were being crushed, mixed with illicit drugs, and smoked for their psychoactive effects:

Other people smoke [antiretrovirals] within our community. It's a drug. They crush it, crush until it's fine, then they mix it with something called "skets." Skets [are] the crumps of dagga [marijuana]. And then they smoke that thing like dagga. This is a drug. They become paranoid and high.

One participant acknowledged that only certain antiretrovirals were being diverted, saying, "They are not taking them all [...] but I don't know which tablets they take and which ones they don't." Another participant identified Stocrin—the brand name for efavirenz—as the antiretroviral people were abusing.

Participants reported that antiretrovirals were being stolen from HIV-infected patients on treatment and then sold for recreational use:

People who take [antiretrovirals] have the problem of drug dealers. They rob people because they know about their appointments and take their treatment. [...] Older men send youngsters to steal the pills, even in the house. They sell the pills. So we had a meeting in the past three weeks as a community, and discussed a way to approach the government, a way to protect these people because they should not default on medication.

Furthermore, abuse of antiretrovirals was perceived as putting both abusers and patients at risk:

They are misusing tablets for the sick people. People are sick and running short of tablets and they are taking the [antiretrovirals] and making the whoonga and smoking it. The minute they smoke these drugs, many people die. People are dying.

Discussion

This report provides the first qualitative evidence of recreational antiretroviral use in Soweto, South Africa. Multiple study participants spontaneously described the phenomenon of antiretroviral abuse, though these responses were completely unprompted by the interviewer. This independent report of recreational antiretroviral use in Soweto—350 miles from where Grelotti and colleagues collected data [5]—further substantiates the phenomenon of recreational antiretroviral use in South Africa.

Consistent with the findings of Grelotti and colleagues, our data suggest that recreational abuse of efavirenz may be occurring in South Africa [5]. Efavirenz is known to have neurological and psychiatric side effects and has activity at 5-HT_{2A} receptors of the brain, similar to LSD [8]. Further, case reports of intentional efavirenz overdose describe visual hallucinations, impaired motor ability, manic episodes, and "feeling high" [9, 10]. Reports of efavirenz abuse from interviews with HIV-positive patients in the Western Cape [11] and club-drug users in Miami [12] provide additional evidence for the plausibility of efavirenz's abuse liability.

To the best of our knowledge, this is also the first scientific report to document that the source of antiretrovirals used to make whoonga may be from medications distributed to HIV-infected persons. South Africa has the largest antiretroviral therapy program in the world, with approximately 1.7 million people receiving treatment [13]. The abuse of antiretroviral medications could have implications for the health and safety of these patients, as well as for those who abuse antiretroviral medications. Additional research and monitoring of the country's recently introduced a single-pill fixed-dose combination of efavirenz, emtricitabine/lamivudine, and tenofovir may be warranted, to ensure diversion and abuse do not occur.

This study's small sample size and qualitative design limit the inferences that can be drawn from this data. However, alongside the findings of Grelotti and colleagues [5], these findings highlight the need for larger, epidemiologic studies to quantify the prevalence, patterns, and consequences of antiretroviral abuse and diversion, as well as its effects on both patients and abusers.

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