



TOBACCO USE AND NICOTINE DEPENDENCE AMONG PEOPLE LIVING WITH HIV WHO DRINK HEAVILY IN SOUTH AFRICA: A CROSS-SECTIONAL BASELINE STUDY

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BACKGROUND

Tobacco use is associated with many health conditions including several types of cancer.^[1] The average smoker dies 10 years earlier^[2] and starts to suffer disability 12 years earlier than the general population.^[3] As of 2016, there were about 7 million people living with HIV (PLWH) in South Africa, with 56% having access to antiretroviral therapy (ART).^[4] PLWH already have a compromised immune system due to their HIV status but this is worsened by the use of tobacco products thus increasing morbidity and mortality rates among this subpopulation.^[5, 6] Tobacco use-related conditions such as lung and oropharyngeal cancers,^[7] chronic obstructive pulmonary disease, and cardiovascular disease now account for a growing proportion of morbidity and mortality in this population.^[8] PLWH who are heavy drinkers are at an increased risk of a worsened course of HIV/AIDS and are less likely to adhere to their medication.^[9, 10] This policy brief highlights tobacco use behavior among PLWH who are heavy drinkers. We also provide recommendations to promote tobacco use cessation among PLWH.

METHODS

Study participants comprised 623 PLWH from ART clinics in four district hospitals and two tertiary hospitals in the Tshwane Metropolis, Gauteng Province in South Africa who met the eligibility criteria and consented to participate in the study. These are participants who completed baseline assessments in a randomized controlled trial testing the efficacy of an alcohol-focused intervention to reduce alcohol consumption and improve HIV treatment outcomes.^[11] Participants reported on their use of tobacco products (cigarette and snuff only). Tobacco use variables were classified as: ever use (ever experimented with smoking cigarettes, even one or two puffs or ever used snuff), current use (ever smoked cigarettes, past 30 days smoking, and having smoked ≥ 100 sticks of cigarettes in their lifetime, or ever used snuff and past 30 days snuff use), dual tobacco product use (being a current smoker and current snuff user) and 'any tobacco product use' (ATPU; being a current smoker or snuff user). Nicotine dependence was assessed only for cigarette smokers using the Fagerstrom Test for Nicotine Dependence (FTND).^[12] A short version of the Center for Epidemiological Studies Depression measure with 10 questions (CES-D-10)^[13] was used to collect data on depressive symptoms. The scale scores were categorized as ≥ 10 (significant depressive symptoms) and < 10 (non-significant depressive symptoms).

RESULTS

Tobacco use among PLWH who drink heavily

The prevalence of ever smoking and ever using snuff in this study was 44.0% (n=274) and 25.5% (n=159), respectively. Of participants who had ever smoked, 68.2% (n=180) initiated smoking by the age of 20 while 88.3% (n=233) had tried smoking by the age of 25. Current smokers comprised 27.3% (n=170) and current snuff users comprised 19.1% (n=119) of all participants. One percent of the participants smoked cigarettes and used snuff (dual users) while almost half of the sample (45.4%, n=294) reported either currently smoking cigarettes or using snuff (ATPU). Among current smokers, 37.9% (n=65) were moderately/highly dependent on nicotine according to the FTND.

Relationship between tobacco use, demographic characteristics and depression among PLWH who drink heavily

In unadjusted modified Poisson regression analyses, females showed decreased risk of being ever smokers (RRR=0.33; CI: 0.27-0.40), current smokers (RRR=0.17; CI: 0.12-0.24), and ATPU (RRR=0.76; CI: 0.64-0.90) and increased risk of being ever and current snuff users (RRR=5.45; CI: 3.47-8.58 and RRR=28.62; CI: 9.19-89.14 respectively) compared to males. Participants aged between 45-54 years were two times more at risk of being ATPU (RRR=2.37; CI: 1.08-5.24) compared to those aged 18-24 years. Participants aged between 55-65 years were three times more at risk of being current smokers (RRR=3.07; CI: 1.01-9.35) and ATPU (RRR=2.76; CI: 1.23-6.22) compared to those aged 18-24 years. Compared to participants reporting low SES, participants of high SES were less likely to be current smokers (RRR=0.61; CI: 0.39-0.97). Also, participants who were never married showed less risk of being ever smokers (RRR=0.79; CI: 0.65-0.96) and more risk of being current snuff users (RRR=1.65; CI: 1.07-2.54) compared to those who were married.

Participants who were employed were more at risk of being ever smokers (RRR=1.28; CI: 1.06-1.54) but were less at risk of being current snuff users (RRR=0.75; CI: 0.57-0.97) compared to those participants who were unemployed.

Investigation of participants' highest educational attainment and their tobacco use status showed that PLWH who attained Grade 12 or a post-secondary education ($>$ Grade 12) were less at risk of being ever snuff users (RRR=0.55, CI: 0.37-0.80; RRR=0.56, CI: 0.34-0.93), current snuff users (RRR=0.50, CI: 0.32-0.80; RRR=0.47, CI: 0.25-0.89) and ATPU (RRR=0.64, CI: 0.51-0.82; RRR=0.74, CI:

0.55-0.99) compared to those who attained less than Grade 12 education. Also, participants who reported having significant depressive symptoms showed more risk of being ever snuff users (RRR=1.55; CI: 1.18-2.03), current snuff users (RRR=1.71; CI: 1.23-2.38) and ATPU (RRR=1.29; CI: 1.08-1.53) compared to those who reported insignificant depressive symptoms.

Factors associated with tobacco use among PLWH who drink heavily

Multiple Modified Poisson Regression analyses were conducted to determine the factors associated with tobacco use. Adjusted relative risk ratios are reported in this section.

Compared to males, females were less at risk of being ever smokers (RRR=0.33; CI: 0.27-0.41), current smokers (RRR=0.18; CI: 0.12-0.25) and ATPU (RRR=0.75; CI: 0.63-0.89) but more at risk of being ever snuff users (RRR=5.23; CI: 3.31-8.25) and current snuff users (RRR=26.19; CI: 8.32-82.40). Compared to participants who had not completed Grade 12, participants who attained Grade 12 or a post-secondary education were less at risk of being ever snuff users (RRR=0.61; CI: 0.42-0.88 and RRR=0.61; CI: 0.37-0.98) and current snuff users (RRR=0.57; CI: 0.37-0.89 and RRR=0.51; CI: 0.27-0.93). However, only participants who had completed Grade 12 were less at risk of using any tobacco product (RRR=0.68; CI: 0.53-0.86). Participants who reported significant depressive symptoms were more at risk of being ever and current snuff users and ATPU (RRR=1.32, CI: 1.03-1.70; RRR=1.40; CI: 1.03-1.89 and RRR=1.27, CI: 1.07-1.51 respectively). In terms of age, participants aged between 55-64 years were more at risk of reporting any tobacco product use (RRR=2.25; CI: 1.01-5.03) compared to those aged between 18-24 years.

KEY INSIGHTS

The smoking prevalence found in our study (27%) is higher than the smoking prevalence in the general population of South Africa which is about 22% (among those aged 15+ years) according to the 2016 South African Demographic and Health Survey (SADHS).^[14] Also, the prevalence of ATPU (45%) is almost twice as high as for the general population (25%),^[14] while more than half of the men in our study currently smoke.

As tobacco use carries many health risks including causing various cancers and cardiovascular diseases, the higher prevalence of its use among PLWH who already have a compromised immune system and who are heavy alcohol drinkers is worrisome. When PLWH use both alcohol and tobacco, this further compromises their immune systems and may result in even worse HIV treatment outcomes than if they only used one substance. Co-using alcohol and tobacco also has its economic implications as both are addictive substances thus straining household finances.

SUGGESTED CITATION

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RECOMMENDATIONS

The co-use of alcohol and tobacco is problematic for the general population and even more problematic for the health and wellbeing of PLWH.

1. The high prevalence of tobacco use among PLWH who are drink heavily in this study also makes it imperative that tobacco use cessation interventions combined with interventions to curb heavy drinking are urgently provided for this population. Specifically, there is need to introduce screening for tobacco and alcohol use as PLWH are initiated onto ART. This screening should be accompanied by targeted tobacco use cessation interventions (including combination therapy involving both pharmacological and psychological interventions) and education on the harms of tobacco use, including the use of snuff. Our findings show that most of the participants who smoke cigarettes were minimally dependent on nicotine, therefore, there is a high probability of tobacco use interventions being successful in this population.
2. The high prevalence of snuff use mostly among women in this study also confirms the need for targeted awareness and cessation interventions. While intervention for men who use tobacco could focus more on cigarettes and other combustible tobacco products, those for women who use tobacco should focus more on snuff use and other smokeless tobacco products.

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