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Introduction

The availability of effective antiretroviral therapy (ART) has shown promise to extend the lives of people living with HIV (PLHIV). The number of older people living with HIV (OPLHIV; age ≥50 years) globally was 7.9 million in 2019 (UNAIDS, 2019). In higher-income countries, life expectancy among PLHIV is approaching that of the general population (Nakagawa et al., 2013; Samji et al., 2013; May et al., 2014; Wandeler et al., 2016; Antiretroviral Therapy Cohort Collaboration, 2017; Hogg et al., 2017; Teeraananchai et al., 2017), and in parts of sub-Saharan Africa dramatic increases in life expectancy are also seen among PLHIV, resulting in increased life expectancy of the population as a whole (Mills et al., 2011; GBD 2013 Mortality and Causes of Death Collaborators, 2015; Asiki et al., 2016; Wandeler et al., 2016; Price et al., 2017; Reniers et al., 2017; Teeraananchai et al., 2017). Although there is a growing body of research on HIV and aging, most research has been conducted in high-income countries (Harris et al., 2018). Little is known about the intersection of HIV and aging in lower-income countries, especially in sub-Saharan Africa, which accounted for 56% of the 7.9 million OPLHIV and 46% of the 120 000 older persons newly diagnosed with HIV in 2019 (UNAIDS, 2019).

Studies in higher-income settings have found that HIV is associated with increased frailty, osteoporotic bone fractures, diabetes, and myocardial infarction (Brown et al., 2005; Desquilbet et al., 2007; Justice & Braithwaite, 2012; Van Epps & Kalayjian, 2017). Additionally, there is evidence that HIV can accelerate aging. Multi-morbidity and conditions such as diabetes, cardiovascular disease, bone fractures,
non-AIDS-defining malignancies, liver disease, and renal failure have also been identified at younger ages in PLHIV compared to HIV-uninfected adults (Goulet et al., 2007; Guaraldi et al., 2011). However, not all studies have found consistent associations between age and non-communicable disease (NCD) conditions. These mixed findings may be explained by PLHIV having higher rates of chronic disease risk factors such as substance use (e.g., smoking, alcohol, drug use), co-infection with other viruses (cytomegalovirus, hepatitis B and C viruses), and adverse social conditions (e.g., homelessness and social isolation) that hinder access to health-related services (High et al., 2012; Justice et al., 2013; Pathai et al., 2014). Findings from research conducted in higher-income settings may not apply to resource-constrained settings as exposure to acute and other chronic infections, as well as access to NCD risk-reduction and care differ. Furthermore, prevailing HIV-related stigma in resource-constrained settings may lead to delayed diagnosis and initiation of ART at an older age.

Eswatini has the highest adult HIV prevalence in the world, with 27.2% of those aged 15–49 HIV-infected (Government of the Kingdom of Eswatini, 2019). Prevalence decreases with an older age but remains above 31% for males and 22% for females aged 50–64 years (Government of the Kingdom of Eswatini, 2019). As access to ART has increased in Eswatini, AIDS-related deaths have declined by over 50%, and overall population life expectancy at birth has risen from a low of 44.2 years in 2004 to 57.7 years in 2016 (Jourdy et al., 2015). With continued expansion of ART coverage and PLHIV on treatment, as well as an increase in people being diagnosed with HIV at an older age, HIV prevalence among Eswatini’s 50 years and older population is predicted to increase. In response to the dearth of data about OPLHIV in sub-Saharan Africa, we conducted an exploratory descriptive study in Eswatini to begin to understand the health and well-being of OPLHIV and assess the feasibility of conducting research in this population.

Methods
Setting, participants, and procedures
This mixed-methods cross-sectional exploratory descriptive study was conducted at Mankayane Government Hospital, a 200-bed regional hospital in the Manzini region of Eswatini, that had been participating in a pilot programme evaluating the feasibility of screening HIV patients on ART for NCDs, including hypertension, diabetes, depression, alcohol use disorder, dyslipidaemia, and cervical cancer. In this study, tablet-based structured quantitative interviews were conducted with 50 outpatients living with HIV on ART aged ≥50 years who had received NCD screening as part of routine HIV services. Information from paper and electronic-based medical records (participant HIV chronic care file, ART patient monitoring and reporting system, HIV clinic registers, and encounter refill form) was also abstracted for all 50 participants.

Participants were enrolled from late October 2016 to early January 2017. ART clinic nurses informed eligible patients about the study and those who indicated interest in participating were escorted by the nurse to study staff who provided further information regarding the study and its procedures, obtained written informed consent from those who agreed to participate, and conducted the approximately 45–60-minute interview. Participants could choose whether to be interviewed in English or siSwati and all chose siSwati. Participants were compensated for their time and transportation with 80 Emalangeni (~US$5). Twelve eligible OPLHIV declined participation — 11 declined due to time constraints and one for a non-time related reason. Participants were enrolled in order of consenting until the sample size of 50 was reached.

In addition to the structured interview, every fifth person was asked to complete an approximately 30-minute semi-structured in-depth interview (IDI) in English or siSwati that was administered by an interviewer trained in qualitative interviewing. All interviews were completed in siSwati. The IDIs were audio-recorded, transcribed and translated verbatim into English.

Measures
The structured interview assessed demographics, health history, HIV status (including date of HIV diagnosis, treatment history, and current clinical status), alcohol use, depressive symptoms, condom use, chronic disease risk factors and conditions, injuries, violence, physical activity and diet, social support, and health-related quality of life.

The presence of depressive symptoms was assessed with the Patient Health Questionnaire 8 (PHQ-8) in accordance with Eswatini’s depression assessment protocol, a self-reported measure that generates a diagnosis in line with the main criteria for major depressive disorder in the DSM-IV (Kroenke et al., 2009). We defined presence of depressive symptoms as a PHQ-8 score ≥10, which fits the DSM-IV diagnosis of having current depression. Alcohol use disorder was assessed with the Alcohol Use Disorder Identification Test (AUDIT), a 10-item measure (Saunders et al., 1993) used in Eswatini to screen for alcohol consumption, drinking behaviour, and alcohol-related problems. A score of 8 or more indicates hazardous or harmful alcohol use. All participants were screened for depressive symptoms and alcohol disorders, even if they were also screened as part of their routine clinic care. Acute quality of life was determined using the Short Form Health Survey (SF-36), which assesses physical functioning, bodily pain, role limitations due to physical health, as well as personal or emotional problems, emotional well-being, social functioning, energy/fatigue, and general health perceptions (Hinkin et al., 2004). The SF-36 generates a score on a scale from 0–100, with 100 reflecting optimal quality of life. Physical activity and diet were assessed using the CORE Physical Activity and Diet questions from the World Health Organization’s (WHO) STEPwise approach to surveillance (STEPS). WHO guidelines recommend ≥150 minutes of exercise per week, and five servings of fruits and vegetables per day. Abstracted medical record data provided HIV-related information on date of diagnosis, WHO stage, CD4 count, HIV viral load, TB status, and ART regimen.

The IDI complemented the quantitative assessment. Questions elicited the participants’ experiences being diagnosed with HIV and living with HIV as an older adult, including quality of life, physical health, and mental health, and other issues related to HIV and aging that participants felt were important. The IDI questions were followed by...
probes to elicit more detailed information from participants. Examples of questions and probes are: “Many people find it difficult to tell a partner, family, or friends they are HIV+, while others feel comfortable disclosing their HIV status to a partner, family or friends. What has been your experience?” Probe for: comfort, trust, concerns about confidentiality, stigma and discrimination, abandonment, physical violence”; “When you think about your friends of the same age that do not have HIV, how are their lives different from or the same as your life? Probe: What things can they do or not do compared to you?”; “Living with HIV can be difficult for some people, and everyone deals with it in a different way: (a) What types of coping strategies do you use to deal with living with HIV?; (b) What are some physical challenges that you experience because of your HIV+ status?; and (c) What are some mental or emotional challenges that you have faced because of your HIV+ status?”. The study was approved by the Eswatini Directorate of Health Services/Public Health, the Eswatini Ethics Committee, and the Columbia University Irving Medical Center Institutional Review Board.

Data analysis
Quantitative analyses were performed using SAS to obtain both descriptive statistics and cross-tabulations. Shapiro-Wilk tests were conducted to check for normality. Median values are presented for non-normally distributed data.

Results
Socio-demographic characteristics
Of the 50 participants who completed the structured interview, 26 (52%) were female, and the median age was 60 years (range: 50–75 years) (Table 1). Most participants were married (61%; n = 28), had only a primary school education (54%; n = 27), and were employed (60%; n = 30). The median monthly income was about 834 emalangeni (US$59), 32% (n = 16) received monthly nutritional support, and 30% (n = 30) received financial support. Only a little more than one-third (38%; n = 19) had electricity in the home and almost all (98%; n = 49) did not have a flushing toilet. Almost half of participants (48%; n = 24) reported their travel time to clinic was one to two hours, and most (78%; n = 39) travelled via minibus (kombi). In the in-depth interview sample of ten participants, the proportion of women was slightly higher (70%; n = 7) and the median age slightly lower (56; range: 54–60) than that in the total sample.

HIV-related factors
The mean age at HIV diagnosis was 53 years (range: 35–69) and the mean age at ART initiation was 54 years (range: 41–70) (Table 2). Participants had been diagnosed with HIV for a median of seven years (range: 1–20 years) at the time of study enrolment and had been on ART for a median of six years (range: 1–16 years). More than four-fifths (84%, n = 42) started ART within a year of diagnosis; the median time between HIV diagnosis and ART initiation was zero years (range: 0–7). Participants reported missing between zero to three ARV pills in the last 30 days (median: 0). Among IDI participants, the median time they had been diagnosed with HIV was seven years (range: 2–13), and they had been on ART for a median of seven years (interquartile range: 2–10), similar to these characteristics in the total sample.

Participants reported a median of six sex partners (range: 1–95) in their lifetime and a median of one sex partner in the last 12 months (range: 0–5). Among those who had sex in the last 12 months (62%; n = 31), 84% (n = 26) reported that a condom was used during their last sexual intercourse.

The median CD4+ count at the time of study enrolment was 621 (range: 201–1319) and all participants were virally suppressed (<1000 copies/ml) (Table 3). At the time of study enrolment, 98% of participants (49/50) were on a first-line

Table 1: Self-reported sociodemographic characteristics among adults aged ≥50 years receiving ART at an outpatient HIV clinic in Eswatini (N = 50)

| Category                          | n (%)          |
|----------------------------------|----------------|
| **Gender**                       |                |
| Male                             | 24 (48%)       |
| Female                           | 26 (52%)       |
| **Current age in years (median, range)** | 60 (50–75) |  |
| **Marital status**               |                |
| Married or living with a partner  | 28 (56%)       |
| Widowed                          | 18 (36%)       |
| Separated or divorced            | 0 (0%)         |
| Single                           | 4 (8%)         |
| **Education**                    |                |
| None                             | 5 (10%)        |
| Primary school grades 1–7        | 27 (54%)       |
| Secondary school form 1–3        | 14 (28%)       |
| High school form 4 and 5         | 4 (8%)         |
| Above high school                | 0 (0%)         |
| **Employment status**            |                |
| Retired or disabled              |                |
| Employed (includes those employed full-time, part-time and those self-employed) | 30 (60%) |
| Unemployed and looking for work  | 8 (16%)        |
| Unemployed and not looking for work | 12 (24%) |  |
| **Average monthly income (emalangeni) (median, range)** | E834 (~USD559) |
| **Receive nutritional/food support** | 16 (32%)     |
| **Receive financial support**    | 15 (30%)       |
| **Has electricity inside home**  | 19 (38%)       |
| **Type of toilet facilities that members of household mainly use** | 1 (2%) |
| **Type of accommodation**        |                |
| House                            | 43 (86%)       |
| Shack                            | 7 (14%)        |
| **Travel time to clinic**        |                |
| Less than one hour               | 18 (36%)       |
| One to two hours                 | 24 (48%)       |
| More than two hours              | 8 (16%)        |
| **Type of transportation to clinic** |              |
| Walk                             | 8 (16%)        |
| Car or truck                     | 2 (4%)         |
| Minibus (kombi)                  | 39 (78%)       |
| Lift from someone else           | 1 (2%)         |
Table 2: Self-reported characteristics among adults aged ≥50 years receiving ART at an outpatient HIV clinic in Eswatini (N = 50)

| Characteristic                                                                 | N (%)          |
|-------------------------------------------------------------------------------|----------------|
| Age at HIV diagnosis (mean, range)                                            | 53 (35–69)    |
| Years since HIV diagnosis (median, range)                                     | 7 (1–20)      |
| Age at ART initiation (mean, range)                                           | 54 (41–70)    |
| Years on ART (median, range)                                                  | 6 (1–16)      |
| Time between HIV diagnosis and ART initiation in years (median, range)        | 0 (0–7)       |
| ART pills missed in last 30 days (median, range)                              | 0 (0–3)       |
| Number of sex partners in lifetime (median, range)                            | 6 (1–95)      |
| Number of sex partners in last 12 months (median, range)                      | 1 (0–5)       |
| Condom used during last sexual intercoursea                                   | 26 (84%)      |
| Self-reported taking prescribed drugs for hypertension in the past two weeks  | 44 (88%)      |
| Alcohol use disorder                                                          | 3 (6%)        |
| Depressive symptomsb                                                          | 3 (6%)        |
| Smoking status                                                                |                |
| Current                                                                       | 3 (6%)        |
| Former                                                                        | 17 (34%)      |
| Never                                                                         | 30 (60%)      |
| Meets WHO physical activity recommendations                                   | 3 (6%)        |
| Diet                                                                          |                |
| Fruit servings consumed per day (median, range)                               | 0.3 (0–2.1)   |
| Vegetable servings consumed per day (median, range)                           | 1.3 (0–3.4)   |
| Meets WHO recommendations of 5 servings a day                                  | 0 (0%)        |
| Frequency of eating processed food high in salt                               |                |
| Always                                                                        | 4 (8%)        |
| Often                                                                         | 19 (38%)      |
| Sometimes                                                                     | 13 (26%)      |
| Rarely                                                                        | 9 (18%)       |
| Never                                                                         | 5 (10%)       |
| Self-reported high blood pressure or hypertensionc                             | 28 (57%)      |
| Self-reported taking drugs prescribed by healthcare worker for hypertension in the last two weeks | 23 (82%) |
| Self-reported raised blood sugar or diabetesc                                  | 5 (11%)       |
| Self-reported taking any prescribed drugs for diabetes in the past two weeks  | 5 (100%)      |
| Self-reported currently taking insulin for diabetes                           | 5 (100%)      |
| Self-reported hypercholesterolemiaa                                            | 2 (5%)        |
| Self-reported taking drugs prescribed by healthcare worker for hypercholesterolemia in past two weeks | 0 (0%) |
| Dietary intake                                                                |                |
| Meets WHO recommendations of 5 servings a day                                  | 44 (88%)      |
| Diet                                                                          |                |
| Fruit servings consumed per day (median, range)                               | 0.3 (0–2.1)   |
| Vegetable servings consumed per day (median, range)                           | 1.3 (0–3.4)   |
| Meets WHO recommendations of 5 servings a day                                  | 0 (0%)        |
| Frequency of eating processed food high in salt                               |                |
| Always                                                                        | 4 (8%)        |
| Often                                                                         | 19 (38%)      |
| Sometimes                                                                     | 13 (26%)      |
| Rarely                                                                        | 9 (18%)       |
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| Self-reported currently taking insulin for diabetes                           | 5 (100%)      |
| Self-reported hypercholesterolemiaa                                            | 2 (5%)        |
| Self-reported taking drugs prescribed by healthcare worker for hypercholesterolemia in past two weeks | 0 (0%) |

regimen and among those, most (55%, n = 27) were on TDF+3TC+EFV.

Non-communicable diseases

Based on PHQ-8 criteria, 6% (n = 3) of participants had depressive symptoms and 6% (n = 3) had alcohol use disorder using the AUDIT (Table 2). Self-reported NCD risk factors varied. Among the 50 participants, 6% (n = 3) were current smokers, 34% (n = 17) former smokers, and 60% (n = 30) had never smoked. A large percentage of participants (88%; n = 44) reported sufficient physical activity per WHO guidelines (median = 960 minutes of moderate activity/week). Most physical activity was in the work domain, which included household chores and other unpaid work (median of 900 minutes a week versus 60 minutes per week of travel-related activity and 0 minutes of recreational activity). IDI data indicated that all but one of the ten participants believed they could perform the same activities as HIV-negative age mates: There are no differences, my son. There is nothing that they can do that I cannot. Even our facial appearances are the same. Some proudly boasted they could outperform those without HIV: We are just the same; some of them [HIV-negatives] cannot even work. One participant believed that she could no longer function as she did pre-HIV and complained of being unable to lift heavy objects, stand up easily and that her energy level had waned.

None met the WHO recommendation of five servings of fruits and/or vegetables per day. The median amount of fruit servings consumed per day was 0.3 (range: 0–2.1), and the median amount of vegetable servings consumed was 1.3 (range: 0–3.4) (Table 2). Almost half (46%; n = 23) of the participants reported always or often eating processed food high in salt. The issue of food insecurity and scarcity emerged as an unmet need in the IDIs. Participants noted the importance of ingesting food prior to taking their ART and
some complained that they and other PLHIV did not have access to enough food. In the words of two participants:

- Taking ARVs can be very difficult if you are unemployed and have no food. They are very corrosive inside hence it is not recommended to take them without food. That is what was giving me challenges in the beginning, but we eventually got assistance from the hospital in this regard. They [hospital] were giving us thin porridge. (Male, age 52)
- Please give us food as people living with HIV because we are starving...the ARVs are painful if they feed nothing in the stomach. (Female, age 57)

The most common self-reported NCD diagnosis was hypertension at 57% (28 of the 49 who reported being screened); most (82%; n = 23) of those reported currently taking prescribed medication for the condition (Table 2). In the last 12 months, 10% (n = 5) of participants reported having had an injury; 2% (n = 1) reported being in a traffic accident, and 8% (n = 4) a serious accidental injury. Overall, 62% of participants (n = 31) had ever experienced physical violence [67% (16/24) of males, 57% (n = 15/26) of females], of which 16% (n = 6) had experienced physical violence in the past 12 months.

At the same clinic visit at which participants enrolled in the study, 38% (13 of 34 with a test result) had a high random blood sugar level (range: 6.1–22.2 mmol/l); none had critically high (>22.2 mmol/l) levels. Aspartate aminotransferase (AST) and alanine aminotransferase (ALT) were above the upper limit of normal among 28% (14 of 45 with a result) and 17% (7 of 41 with a result), respectively, and creatinine was above the upper limit of normal for 5% (2 of 42 with a result), with a mean creatinine clearance of 37 millilitres per minute.

### Barriers to medical care

Of the 50 participants, 28% (n = 14) reported one or more barriers (range: 0–6 barriers) to receiving medical care (question was not specific to HIV-related care). As a barrier to medical care, eight participants reported lack of transportation to the medical facility, seven participants noted inability to pay for medical care, and three were uncertain about where to receive medical care in the last 30 days. Inconvenient clinic hours and lack of babysitter were each reported as a barrier by two participants, and being treated poorly at the clinic, being too drunk/high, and lack of trust in doctors/nurses were reported by one participant each. None reported lack of personal motivation or lack of self-care as a barrier. Some of these barriers as well as structural barriers to HIV care and treatment, including inability to access the clinic (due to cost, distance, compromised roads) and unemployment were articulated in the IDIs. Several suggested the need for clinics to be built in their community.

### HIV testing, reactions to HIV diagnosis and disclosure of HIV status

Lack of HIV testing and linkage strategies targeted to OPLHIV hindered participants' early access to HIV services as most were tested only after seeking care for unexplained symptoms, which included weight loss, coughing, blisters, changed skin colour, loss of strength, and feeling unwell or different in physical well-being. Other drivers of HIV testing reported by IDI participants included their partner being symptomatic, finding out their partner was HIV-positive, having TB, or being exposed to a person with TB. Most participants reported that disclosure of HIV status to partner, parents and children was not problematic and family members accepted their status, reminding them about their follow-up clinic appointments and encouraging them to take their antiretroviral drugs. However, one participant described how her mother abused her emotionally and blamed her for getting HIV because she had multiple partners. This participant attributed the non-acceptance to her parents not being well-informed about HIV and showed resilience in self-acceptance of her HIV status:

- In the community, people are different; some will insult you because of your HIV status, and some make fun out of it. But all you need to tell yourself is that you have chosen life since you are smarter than them and now know about your HIV status. (Female, age 53)

### Quality of life and coping with HIV

The median acute quality of life score was 79 (range: 43–98) according to the SF-36 (Table 2). Slightly more than one-fifth of participants (22%; n = 11) reported having ever participated in a support group for PLHIV, slightly more than two-fifths (44%; n = 22) indicated the need for more emotional support from family, and participants had

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**Table 3:** HIV-related information among adults aged ≥50 receiving ART at an outpatient HIV clinic in Eswatini (N = 50)*

| Available data | N (%) |
|---------------|-------|
| CD4+ count (median, range) | 47/50 (94%) |
| <500 | 19 (38%) |
| ≥500 | 31 (62%) |
| WHO stage | 49/50 (98%) |
| Stage 1 | 46 (94%) |
| Stage 2 | 2 (4%) |
| Stage 3 | 1 (2%) |
| Stage 4 | 0 (0%) |
| Viral load | 45/50 (90%) |
| Suppressed (<1000 copies/mL) | 45 (100%) |
| Positive TB screen | 44/50 (88%) |
| Yes | 0 (0%) |
| No | 44 (100%) |
| Current ART regimen | 49/50 (98%) |
| First line | TDF+3TC+EFV 27 (55%) |
| TDF+3TC+NVP | 4 (8%) |
| AZT+3TC+EFV | 3 (6%) |
| AZT+3TC+NVP | 11 (23%) |
| ABC+3TC+EFV | 2 (4%) |
| ABC+3TC+NVP | 0 (0%) |
| d4T+3TC+EFV | 0 (0%) |
| d4T+3TC+NVP | 0 (0%) |
| Second line | TDF+3TC+Kaletra 0 (0%) |
| AZT+3TC+Kaletra | 1 (2%) |
| Other | 1 (2%) |

*Information from date of study enrolment was abstracted from medical records
a median of one close friend (range: 0–5). In the IDIs, participants reported that social support and acceptance from family, community, and clinic counsellors facilitated their HIV care and treatment. This support also helped them accept their status. Counselling, especially support groups with other PLHIV, helped them cope with their new status, understand that PLHIV can lead a normal life even with HIV, and that we all need to accept as this was now part of my life. One participant described how support groups provided an anchor to life, helping her to see life going on:

I felt so down and ashamed of myself, also feeling it’s the end of the world. That’s what I can say. I coped with it by getting more counselling, also hearing other people talking about [it] made me see that I was not the only one. There are other people who [are] in the same situation. In the support group, we are mainly people who are taking ARVs, especially a majority of us. So, we [are] able to assist one another with counselling and always visit and comfort those who are sickly… (Female, age 54)

Normalisation was also facilitated by knowing that others close to them were living with HIV or had died from the disease. This may be a contributing factor in why eight of the ten IDI participants reported that they had never experienced stigma or discrimination from others.

I had some personal fears but only to discover that there were people who were freely talking about their HIV status in my workplace, so I realised it is not necessarily something that is that much of a secret. (Female, age 54)

I found it easy. The problem is that most people live with HIV these days so there is no need to hide as you may eventually find that the person you are afraid of is also taking ARVs. (Male, age 52)

Participants reported they were not currently experiencing mental health issues, and all reported they had no challenges taking their ARV medication and rarely missed a dose.

Several participants reported changes in their sexual practices, such as consistent condom use, no longer having multiple sexual partners, and diminished sexual libido. One participant attributed the latter to a combination of aging, HIV and ARV drugs.

I know there is HIV in the blood, but I know my age has affected my sexual appetite. I do have a partner at home, but he is more of a companion because my sexual appetite is no longer there. So, I think the age and the ARVs that I take every day affect my body. (Female, age 53)

Discussion

Our study demonstrated it was feasible to conduct research among OPLHIV in a low-resource setting and that more research should be focused on OPLHIV in sub-Saharan Africa as their challenges are unique and should not be overlooked. OPLHIV in this study showed high levels of HIV viral suppression, which is consistent with a 2016–2017 population-based survey in Eswatini (Government of the Kingdom of Eswatini, 2019). Other chronic disease risk factors and markers were common, including indications of poor liver and kidney function, which can also be due to HIV treatment side effects (World Health Organization, 2016). Additionally, reported diet quality was poor and over one-third of participants had an elevated blood sugar result. Low consumption of fruits and vegetables was also found in a nationwide survey of adults (Swaziland Government Ministry of Health, 2014). Despite these markers of poorer health, participants reported feeling as or more capable than their HIV-negative peers.

The main barriers to HIV care were lack of transportation to the facility and inability to pay for medical care, which was confirmed in our IDIs and has also been found in other studies in sun-Saharan Africa (Kagge et al., 2011; Lankowski et al., 2014). A large portion of our participants also reported long travel times to the clinic. As HIV care and treatment is free in Eswatini, the inability to pay for medical care may be for medical conditions other than HIV. A recent study in South Africa found that due to the bifurcated system of NCD and HIV treatment, older adults frequently experienced multiple barriers related to appointment scheduling, time and costs involved in travelling to receive care (Knight et al., 2018). Our IDIs also found food insecurity and scarcity to be a challenge. Before programmes can have their desired impact on OPLHIV, improved access to basic needs such as healthy food, employment, transportation, and health care need to be addressed.

The IDIs in our study also showed that self-acceptance and psychosocial support at family, community, and clinic levels facilitate HIV care and treatment. The focus of HIV testing and linkage to treatment needs to include access to necessary psychosocial support services. Almost all of our participants reported that they felt comfortable disclosing their HIV status, were accepted by friends and family, and had not experienced stigma or discrimination.

Older adults continue to be at risk for HIV acquisition, with evidence of ongoing sexual activity and low condom use (Freeman & Anglewicz, 2012; Negin et al., 2014; UNAIDS, 2014; Mojola et al., 2015; Negin et al., 2016; Rosenberg et al., 2017). In our study we found that more than half of participants were sexually active in the last year, though some reported a decrease in sexual activity. However, condom use was high (84%). Both older adults’ own and health care providers’ lack of awareness about the risk of HIV often limits their access to HIV testing and prevention interventions and increases the probability of unrecognised HIV infection (El-Sadr & Gettler, 1995; Brooks et al., 2012; Negin et al., 2012). A recent qualitative study among older South Africans found that they usually are tested only if symptomatic or as a result of a partner being diagnosed with HIV (Schatz & Knight, 2018). Our study also found that OPLHIV were not tested for HIV until they presented for unexplained symptoms, had a symptomatic or HIV-positive partner, had TB, or were exposed to TB. With the increasing implementation of targeted HIV testing, it will be important to not overlook older adults.

The study had several limitations. First, it was a study of only 50 participants at one facility in Eswatini and our participants may not be representative of all OPLHIV in Eswatini. There was also no comparison group of younger PLHIV or older adults without HIV. Additionally, our participants were all on ART and all were virally suppressed,
and findings may not be generalisable to undiagnosed OPLHIV or those who are not on treatment. In addition, a survivor bias may be present in our sample. People who have lived with HIV into old age might have specific characteristics, such as better access to care and resilience, that enabled them to survive. Moreover, this study relied on self-reporting and medical records for most NCDs. Increasing the number of direct measurements in future studies (e.g. grip strength, STIs, cholesterol, diabetes) could reduce potential errors due to recall, social desirability, or missing information.

Future studies should aim to reach a larger sample size that will allow for meaningful age- and gender-disaggregated data along with examination of other factors such as social determinants of health, as well as a comparison group. They should also include participants who were diagnosed with HIV as an older adult and who recently initiated ART as they may have different physical and mental health outcomes and co-morbidities than OPLHIV who have been on ART for a long period of time.

Conclusion

In our study of HIV and aging in Eswatini, all study participants were virally suppressed, and self-reported chronic disease risk factors and markers were common. This indicates the need to ensure OPLHIV are screened for diseases associated with aging and HIV, that they have access to appropriate health services for HIV and other health conditions, and that provision of these services is documented. Additionally, NCD services should be integrated with HIV services and health care professionals and community health workers providing HIV services should be trained to provide basic NCD-related services. However, even with integration plans and training, issues such as inadequate space, staffing, and supplies can limit the implementation of these programmes as was found with a cardiovascular disease risk factor screening programme implemented at another facility in Eswatini (Rabkin et al., 2018). We found that barriers to living with HIV were primarily structural, including food insecurity, unemployment, and access to transportation and health care. This study adds to the paucity of data on OPLHIV in sub-Saharan Africa and increases our understanding of the health and well-being of OPLHIV in Eswatini. Furthermore, this study showed that it is feasible to conduct research with this population, which is important as the number of OPLHIV is expected to increase. The growing number of OPLHIV cannot be ignored, and there is a need to ensure they have access to and utilise the appropriate health services by minimising barriers and enhancing facilitators. This will likely require multi-level interventions that provide needed services at all levels of the health system, including in the community, and target not only those living with HIV, but also those living with NCDs. Future work should evaluate such interventions.

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