

# HIV prevalence and characteristics of sex work among female sex workers in Hargeisa, Somaliland, Somalia

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**Objective:** To measure prevalence of HIV and syphilis and describe characteristics of sex work among female sex workers (FSWs) in Hargeisa, Somaliland, Somalia.

**Methods:** A cross-sectional survey recruited 237 FSWs using respondent-driven sampling (RDS). A face-to-face, structured interview using handheld-assisted personal interviewing (HAPI) on personal digital assistants (PDAs) was completed and blood collected for serological testing.

**Results:** FSWs 15–19 years old accounted for 6.9% of the population; 20–24 year-old constituted an additional 18.0%. The majority (86.6%) never attended school. International (59.0%) and interzonal (10.7%) migration was common. Most (95.7%) reported no other source of income; 13.8% had five or more clients in the last 7 days. A minority (38.4%) had heard of STIs, even fewer (6.9%) held no misconceptions about HIV. Only 24% of FSW reported using a condom at last transactional sex, and 4% reported ever been tested for HIV. HIV prevalence was 5.2% and syphilis prevalence was 3.1%.

**Conclusion:** Sex work in Hargeisa, Somaliland, Somalia, is characterized by high numbers of sexual acts and extremely low knowledge of HIV. This study illustrates the need for targeted HIV prevention interventions focusing on HIV testing, risk-reduction awareness raising, and review of condom availability and distribution mechanisms among FSWs and males engaging with FSWs.

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## Introduction

Somalia is a country situated in the Horn of Africa with a history of recent conflict, limited infrastructure, inadequate health services, widespread drought and food shortages, and overall poor human development indicators [1]. Despite being in a region where available data confirm elevated HIV prevalence in many neighbouring countries, including Ethiopia and Kenya,

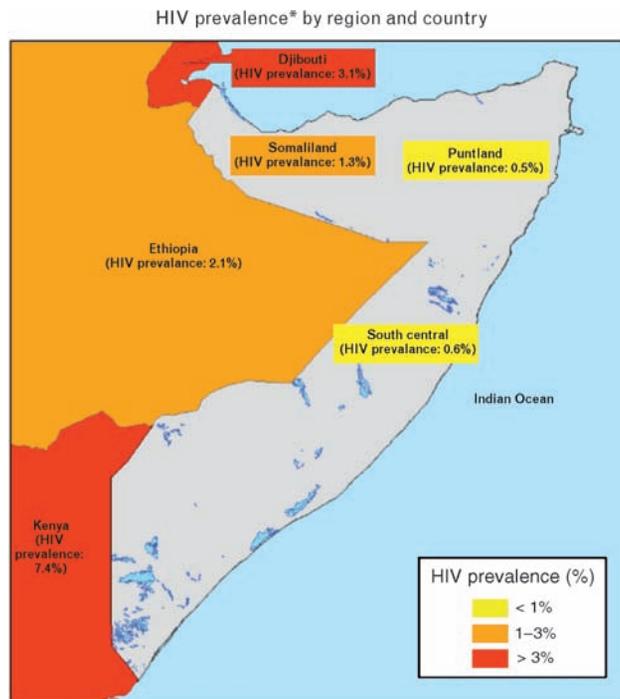
Somalia's HIV prevalence remains relatively low (Fig. 1 illustrates neighbouring countries, zones of Somalia, and varying prevalence). Additionally, given the nature of frequent mixed migration movements within and through Somalia, many migrants are transiting from higher prevalence countries.

Somalia has had no central government since 1991 and is administratively organized in three geographical zones. In

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**Fig. 1. Map of Somalia, geographic zones, surrounding countries and corresponding HIV prevalence.** \*Sources. i. Somaliland – 2007 HIV Sero-prevalence survey. A Technical Report Ministry of Health and Labour and WHO Somalia. ii. Putland – 2007 HIV Sero-prevalence survey. A Technical Report Ministry of Health and Labour and WHO Somalia. iii. South Central – 2004 1st Natl Sentinel Sero-surveillance Survey on HIV/STDs Among ANC woman attending MCH clinics. iv. Djibouti – UNAIDS. Report on the Global AIDS Epidemic, 2008. v. Kenya – 2007 HIV and AIDS Estimates and Interim projected HIV prevalence and incidence trends for 2008 to 2015. vi. Ethiopia – UNAIDS. Report on the Global AIDS Epidemic, 2008.

2004, antenatal clinic (ANC) data showed HIV prevalence of 0.5% in South-Central [2], and in 2007 0.5% in Puntland [3] and 1.3% in Somaliland [4]). The relatively higher HIV prevalence currently found in Somaliland may be related to substantial trade-driven mobility and conflict-associated forced migration. The relatively low HIV prevalence in Somalia compared with its neighbours in the early 1990s was hypothesized to be partly the result of relatively minimal trade with the rest of Africa [5]. However, with the increase of transport corridor infrastructure and increased demand for trade, the situation may have reversed, with trade now potentially driving the spread of infection. Although evidence of injecting drug use in Somalia exists [6], data are minimal, suggesting sexual transmission of HIV, particularly among female sex workers (FSWs) and their clients, is the predominant mode in Somalia.

Research in the Middle East and North Africa among FSWs in similar cultural and religious contexts illustrates

varying HIV prevalence: Egypt, 0.8% [7]; Lebanon, 0% [8]; Pakistan, 0.2% [9]. Djibouti is the only country in the region to find HIV prevalence among FSWs above 5% [10], a threshold conventionally defining a concentrated epidemic.

Behavioural and HIV prevalence data on key populations at increased risk in Somalia are limited. To our knowledge the only HIV and sexually transmitted infection (STI) prevalence surveys amongst FSWs in Somalia were undertaken in the late 1980's and early 1990's in South Central Zone. Data were primarily collected in Mogadishu, but some studies also included the towns of Merka, Qoyoley, and Kismayo. Data consistently showed a low-HIV prevalence across repeated studies: 0% in 1990 [6], 0% in 1987 [11] and 0% in 1991 [12]. The last study by Scott *et al.* [12] found seven cases positive for HIV-1 antibodies, but further testing could not confirm any of these. One survey in 1990 found prevalence of HIV as high as 2.4% in Mogadishu and 8.3% in Kismayo [13]; however, more recent data including Mogadishu, Merka, and Kismayo found a substantially lower prevalence of 1.4% among FSWs [5].

In none of the above mentioned studies were sex workers within the primary population surveyed, additional groups included STI patients, pregnant women, newborn babies, tuberculosis (TB) and other infectious disease patients, individuals from rehabilitation camps and secondary schools, Ethiopian immigrants, male partners of prostitutes, and military personnel. Although the earlier-mentioned studies included subpopulations of sex workers surveyed ranging in sample sizes from 57 to 302, none of these studies used representative or probability-based sampling. To our knowledge, there has been only one recent study examining the behaviour of sex workers and their clients [14]. Results of this qualitative research illustrated high-risk sexual behaviour among sex workers and their clients and thus the potential for elevated HIV prevalence in these populations; however, no biological data were collected.

To help address wide gaps in our knowledge of FSW in Somalia, we conducted the first integrated bio-behavioural surveillance (IBBS) among sex workers in the geographical area of Somalia known as Somaliland. This study aimed to establish baseline information on HIV infection and related socio-demographic and behavioral characteristics of FSWs in Hargeisa, Somaliland.

## Methods

### Overall study design

We conducted a cross-sectional bio-behavioural study among FSWs in Hargeisa, Somaliland in 2008 using respondent-driven sampling (RDS). The Somaliland

Ministry of Health (MoH) Ethical Clearance Committee reviewed and approved the study.

### Study individuals

To be eligible to participate in the research, respondents had to be 14 years or older, had exchanged sexual intercourse (vaginal and/or anal) for money, a gift, or a favour in the past 3 months, were currently living and trading sex in Hargeisa, and were able to give informed consent. The study started with six seeds, half of Ethiopian and half of Somali origin, recruited through the preceding formative research conducted in 2007 when contacts with FSWs were established [14]. Participants were given a primary incentive of US \$4 for completion of both the behavioural and biological components of the survey. For each peer recruited to the study, an additional US \$3 was given, to a maximum of three recruited peers resulting in a maximum total incentive of \$13 USD. Response rate information was collected through a 'coupon rejector form' and collected every time the recruiter returned to the site to collect the secondary incentive. Verbal informed consent was obtained prior to enrolling the respondent in the study. No identifying information, including the name of respondent, was ever collected. Respondent data were collected using a unique identifying code, unlinked to any personal information, but linked to biological data.

### Questionnaire

Data on demographic characteristics, risk behaviours, and HIV/AIDS knowledge were collected. All five United Nations General Assembly Special Session on HIV/AIDS (UNGASS) indicators for most-at-risk populations (MARPs) were collected from the questionnaire, which include composite indicators for testing, prevention programmes, knowledge, condom use, and HIV prevalence [15]. The behavioural questionnaire was translated into Somali, translated back into English, and pretested with members of the target population. The questionnaire was implemented through structured one-to-one interviews with trained interviewers and the use of handheld-assisted personal interviewing (HAPI) using personal digital assistants (PDAs).

### Laboratory methods

A linked anonymous serial testing strategy was used for both HIV and syphilis testing utilizing rapid testing kits. A 5 ml venous blood draw and completion of serial testing using Determine HIV 1+2 (Abbot Laboratories, USA), Unigold HIV 1+2 (Trinity Biotech, Ireland), followed by Capillus HIV 1+2 (Trinity Biotech, Ireland) for confirmation of HIV seropositivity was used. A one-time Determine Syphilis TP (Abbot Laboratories, USA) test kit was used for syphilis diagnosis. Both HIV and syphilis seropositivity resulted in counselling and referral to the closest health facility for follow-up testing and treatment, sero-negative respondents were also advised to proceed for follow up testing at a later date. All biological data

were coded with the same unique identifier and later linked with behavioural data.

### Data management and analysis

Data were analysed in RDSAT 6.0 where weighted univariate and bivariate analyses were conducted. Due to the small number of HIV positive participants, multivariate analysis on correlates of infection was not pursued. For continuous variables, such as number of sexual partners, we present unadjusted means as respondent-driven sampling analysis tool (RDSAT) computes only categorical variables.

## Results

A total of 237 FSWs aged 15 years and above were recruited to participate in the study from September through October, 2008 and interviewed at a designated RDS site in Hargeisa, Somaliland, Somalia. Equilibrium (the point where subsequent recruitment does not alter the sample composition with respect to key variables) was reached for both HIV and syphilis prevalence by wave 2; however, data collection continued past the prestudy targeted sample size of 146 to reach equilibrium on additional behavioural variables. HIV and syphilis seroprevalence was determined for 237 respondents; however, due to lost questionnaires, behavioural data were available for only 219 respondents. Of the 237 FSWs who participated in the study, only nine indicated that at least one person had refused to accept a coupon. Of these nine recruiters there were 14 instances of individuals refusing coupons. The reasons indicated for the refusal were as follows: nine respondents reported the incentive was not worth the time, four responded fear of being identified as a sex worker and one responded that she was too busy. The overall rate for coupons redeemed was 45.9% (516 coupons given out in total).

Forty-one percent (41.6%) of FSWs were above the age of 29 years (Table 1), 86.6% had never attended school, and almost all (99.5%) were of the Muslim faith. Almost three-quarters were single (74.8%) and the majority originated from neighbouring areas, with Ethiopia the most common place of origin (57.2%). The most common reason for leaving place of origin was to find work (85.1%).

Overall prevalence of HIV infection among FSWs was 5.2%, and prevalence of syphilis was 3.1% (Table 2). Co-infection with HIV and syphilis occurred in one woman (0.4%) (data not shown). Over two-thirds (67.4%) of FSWs reported 2–4 transactional sex clients in the past 7 days. Overall, 40.6% of respondents earned less than \$1 USD per transactional act, and 49% earned between \$1 and \$5. Over one-half (53.8%) of the FSWs did not know the occupation of their clients; 13.4% were businessmen,

**Table 1. Demographics of female sex worker respondents in Hargeisa, Somaliland, 2008, (N = 219)\*.**

| Indicator                            | RDS population estimates % | 95% CI    | n/N     |
|--------------------------------------|----------------------------|-----------|---------|
| Age                                  |                            |           |         |
| 15–19                                | 6.9                        | 3.5–10.6  | 22/219  |
| 20–24                                | 18.0                       | 12.2–24.3 | 44/219  |
| 25–29                                | 33.5                       | 26.6–41.0 | 67/219  |
| 30–34                                | 7.7                        | 4.3–11.5  | 21/219  |
| 35–39                                | 23.7                       | 16.2–30.4 | 44/219  |
| >40                                  | 8.9                        | 4.9–14.0  | 20/219  |
| Education                            |                            |           |         |
| Never attended school                | 86.6                       | 81.4–90.4 | 183/219 |
| Attended some primary                | 0.7                        | 0.7–2.2   | 1/219   |
| Completed primary                    | 12.7                       | 8.5–17.5  | 35/219  |
| Faith                                |                            |           |         |
| Christianity                         | 0.5                        | 0.3–2.0   | 2/219   |
| Islam                                | 99.5                       | 98.0–99.7 | 217/219 |
| Marital status                       |                            |           |         |
| Single                               | 74.8                       | 67.4–80.6 | 170/219 |
| Separated                            | 3.5                        | 1.6–5.6   | 9/219   |
| Divorced                             | 14.9                       | 9.3–19.7  | 27/219  |
| Widowed                              | 6.3                        | 2.8–13.1  | 12/219  |
| Place of birth                       |                            |           |         |
| Ethiopia                             | 57.2                       | 42.8–71.0 | 157/219 |
| Somaliland                           | 29.4                       | 17.9–42.0 | 42/219  |
| South Central Somalia                | 9.7                        | 4.7–15.4  | 10/219  |
| Djibouti                             | 1.8                        | 0.5–2.9   | 4/219   |
| Puntland                             | 1.0                        | 0.1–1.6   | 3/219   |
| Reason left place of birth           |                            |           |         |
| To find work                         | 85.1                       | 81.0–91.4 | 184/219 |
| To run away fighting and instability | 5.1                        | 1.6–8.6   | 10/219  |
| I was forced to leave                | 2.0                        | 0.0–4.8   | 2/219   |
| I was kidnapped                      | 0.8                        | 0.0–1.8   | 2/219   |
| To be sex worker                     | 2.1                        | 0.5–3.8   | 7/219   |
| I do not know/I do not remember      | 4.2                        | 1.9–6.5   | 13/219  |
| Self defined migration status        |                            |           |         |
| Economic migrant                     | 29.8                       | 24.3–36.5 | 72/219  |
| Asylum seeker                        | 2.2                        | 0.3–4.9   | 3/219   |
| Refugee                              | 6.9                        | 3.3–11.6  | 16/219  |
| Internally displaced person          | 2.2                        | 0.4–5.2   | 5/219   |
| Other                                | 54.8                       | 47.1–61.7 | 113/219 |
| Do not know                          | 2.9                        | 0.8–5.7   | 5/219   |
| No response                          | 2.1                        | 0.0–2.4   | 5/219   |

\*Sub-totals do not always add up due to missing data or refusal to answer.

9.2% were government workers, followed by truck drivers (9.0%) and khat sellers (7.9%). The median number of transactional sex clients over the past 7 days was 3 (minimum 0, maximum 18), the median number of all sexual partners (including nontransactional) in the past 7 days was four (minimum 0, maximum 33), and the median number of clients the last day they exchanged sex was two (data not shown).

Less than one-quarter (24.0%) of FSWs reported using a condom at last transactional sex and only 4.3% reported consistent condom use with clients over the past 1 month (Table 3). Of the 24.0% who did use a condom at last sexual intercourse with a client, 80.5% indicated it was suggested by the client. Almost one-third (29.5%) of FSWs reported the reason for not using a condom with a client was due to not knowing where to obtain condoms. At last sex with a nontransactional partner, 1.8% of FSWs reported using a condom, a considerably lower proportion than with clients. The vast majority of FSWs did

not know where to go for a confidential HIV test (2.6%) with only 4% of FSWs reported ever having had an HIV test, and none of them received their test results. Few FSWs, 6.9%, correctly answered all five questions on HIV factual knowledge (UNGASS HIV Prevention knowledge indicator) and only 38.4% had ever heard of a sexually transmitted infection (STI). Only one respondent (0.4%) had been given condoms through a clinic or outreach in the past 12 months. No injecting drug use was reported (data not shown in table) and self report STI symptoms (genital discharge or genital ulcer or sore) in the past 12 months among FSWs was 7.8% (data not shown in table).

The majority of the HIV positive respondents were from Ethiopia, had five or more sexual partners in the last 30 days, did not use a condom at last sexual intercourse and responded 'never' when asked about frequency of condom use over the last month (Data not shown).

**Table 2. HIV and syphilis prevalence and characteristics of sex work among female sex worker respondents in Hargeisa, Somaliland, 2008, (N = 219)\*.**

| Indicator  | RDS population estimates % | 95% CI    | n/N     |
|--|----------------------------|-----------|---------|
| HIV Positive   | 5.2                        | 2.5–8.5   | 13/237  |
| Syphilis positive  | 3.1                        | 1.1–5.7   | 8/237   |
| Total number of transactional sex clients in past 7 days |                            |           |         |
| None   | 5.0                        | 1.9–9.6   | 10/219  |
| 1  | 13.1                       | 8.6–18.7  | 27/219  |
| 2–4  | 67.4                       | 59.6–73.6 | 146/219 |
| 5+   | 13.8                       | 8.8–19.6  | 33/219  |
| Amount earned last transaction sex act                   |                            |           |         |
| <\$1   | 40.6                       | 33.6–49.6 | 81/219  |
| \$1–\$5  | 49.0                       | 41.3–55.2 | 108/219 |
| >\$5   | 9.7                        | 6.1–14.9  | 26/219  |
| Typical occupation of clients*                           |                            |           |         |
| Businessman  | 13.4                       | 8.8–18.3  | 32/219  |
| Government worker  | 9.2                        | -- --     | 8/219   |
| Truck driver   | 9.0                        | 4.7–14.3  | 16/219  |
| Khat seller  | 7.9                        | 4.8–11.8  | 22/219  |
| Unemployed   | 6.7                        | 3.6–12.3  | 14/219  |
| Unknown to FSW   | 53.8                       | 43.1–61.8 | 147/219 |
| Type of sex work (meet clients)                          |                            |           |         |
| Home shared with other transactional sex workers         | 43.9                       | 36.8–50.5 | 85/219  |
| Home   | 22.7                       | 17.0–28.9 | 47/219  |
| Roadside   | 11.5                       | 8.0–16.0  | 32/219  |
| Home shared with family                                  | 10.4                       | 6.5–14.6  | 25/219  |
| Telephoned by client                                     | 9.2                        | 5.8–12.7  | 23/219  |
| Source of income other than sex work                     |                            |           |         |
| No   | 95.7                       | 92.1–98.4 | 210/219 |
| Yes  | 4.3                        | 1.6–7.9   | 9/219   |

\*Subtotals do not always add up due to missing data or refusal to answer and for the variable 'Typical occupation of clients' not all responses are listed.

## Discussion

Our study showed HIV prevalence of 5.2% among FSWs in Hargeisa, Somaliland, Somalia indicating a possible concentrated epidemic that should be confirmed by a second round of surveillance and urgently addressed by prevention interventions. The HIV prevalence among FSWs was considerably higher than the 1.4% and 1.3% prevalence found among pregnant women in ANC sentinel surveillance in Somaliland in 2004 [2] and 2007 [4] respectively, and the 0.8% found specifically in the Hargeisa sentinel site in 2007 [4]. Prevalence of syphilis among FSWs in this study (3.1%) was also higher than found in the 2007 ANC surveillance (0.8% in Hargeisa and 1.3% in Somaliland) [3]. A similar pattern has been seen in other parts of Africa, with the HIV epidemic starting in sex workers and entering the general population via clients [16], and as such the most important finding, that HIV is higher amongst sex workers than the general population in Somaliland, must be used for targeted interventions.

There are several additional important findings from this study. Firstly, HIV testing was notably low, with very few FSWs reporting having ever having an HIV test. Of the less than 5% who had ever presented for an HIV test, none reported knowing her HIV status, resulting in 0% for this UNGASS indicator. This result indicates the need for rapid scale up of targeted HIV counselling and testing

amongst FSWs. Secondly, over three-quarters of FSWs reported never using a condom in the past month with clients. Of the less than a quarter of FSWs who did report using a condom at last sexual intercourse with a client, the majority indicated it was done upon the suggestion of the client. This shows that some clients are aware of risks associated with unprotected sex and accept condoms as measures of protection, perhaps to a greater degree than the women themselves. Additionally, almost one-third of FSWs reported the reason for not using a condom with a client was due to not knowing where to obtain condoms, indicating the need for expanding accessibility. In order for condom usage to be widely accepted, interventions must target sex workers and their male clients. Thirdly, knowledge about HIV and STI prevention among sex workers is very poor. This clearly shows the necessity of carrying out interventions focused on increasing knowledge about HIV and STI transmission and methods of prevention. Finally, mobility amongst sex workers in Somaliland is high, with the majority originating from neighbouring countries, which could have implications for interventions in terms of language, culture, and acceptability.

Due to the biases that are inherent in sampling hard-to-reach populations and RDS, the generalizations of the findings to FSWs living in Hargeisa have certain limitations. As with many RDS studies, ensuring respondents are true members of the target population

**Table 3. Condom usage, HIV testing and knowledge among female sex workers in Hargeisa, Somaliland, 2008 (N = 219).**

| Indicator   | RDS population estimates (%) | 95% CI     | n/N     |
|---|------------------------------|------------|---------|
| Condom used at last transactional sex with client                               |                              |            |         |
| No  | 76.0                         | 69.2–81.5  | 156/219 |
| Yes   | 24.0                         | 18.5–30.9  | 63/219  |
| Frequency of condom use with clients in past month                              |                              |            |         |
| Every time  | 4.3                          | 2.2–8.7    | 14/219  |
| Almost every time   | 0.2                          | 0.0–0.5    | 2/219   |
| Sometimes   | 18.1                         | 13.6–23.6  | 50/219  |
| Never   | 75.6                         | 68.1–81.39 | 148/219 |
| Do not know   | 1.7                          | 0.0–2.7    | 5/219   |
| Person who suggested condom use at last transactional sex (n = 63) <sup>a</sup> |                              |            |         |
| Sex worker  | 19.5                         | 6.9–33.5   | 15/63   |
| Client  | 80.5                         | 66.5–93.3  | 47/63   |
| Reason condom not used at last transactional sex (n = 156) <sup>b</sup>         |                              |            |         |
| We did not have one with us   | 0.6                          | 0.0–2.6    | 4/156   |
| Do not know where to buy one  | 29.5                         | 24.7–42.8  | 56/156  |
| Client objected   | 39.3                         | 27.6–45.2  | 52/156  |
| I do not like them  | 6.8                          | 2.6–12.6   | 10/156  |
| Did not think it was necessary  | 16.3                         | 6.9–19.5   | 16/156  |
| Did not think of it   | 0.8                          | 0.0–2.7    | 4/156   |
| Other   | 2.6                          | 0.0–3.9    | 1/156   |
| Do not know   | 10.5                         | 4.4–14.6   | 15/156  |
| Condom used at last nontransactional sex  |                              |            |         |
| No  | 31.5                         | 23.9–39.5  | 42/147  |
| Yes   | 1.8                          | 0.1–4.4    | 6/147   |
| HIV testing   |                              |            |         |
| Know where to go for confidential HIV test                                      | 2.6                          | 1.0–4.7    | 10/219  |
| Ever had HIV test   | 4.0                          | 1.9–6.3    | 12/219  |
| HIV & STI knowledge   |                              |            |         |
| No misconceptions about HIV prevention (UNGASS Indicator)                       | 6.9                          | 3.2–11.5   | 13/219  |
| Ever heard of STI   | 38.4                         | 31.1–45.5  | 100/219 |
| Received condoms through clinic or outreach in past 12 months                   |                              |            |         |
| No  | 91.5                         | 87.7–94.8  | 199/219 |
| Yes   | 0.4                          | 0.0–1.1    | 1/219   |

\*n is weighted for survey design and subtotals do not always add up due to missing data or refusal to answer.

<sup>a</sup>Denominator is 63 for those who did use a condom at last sexual intercourse with a client.

<sup>b</sup>Denominator is 156 for those who did not use a condom at last sexual intercourse with the client.

can be a challenge. Given the poor livelihood situation in the Somali context and the relatively high incentive (maximum of US\$13) compared with other income generating activities accessible to this population (almost 90% of FSWs reported earning US\$5 or less per transactional act), the possibility of respondents who were not FSWs attempting to participate in the study was high. However, the incentive amount was pretested in the formative research and our team developed additional screening measures by staff experienced in working with the population to identify any respondents misrepresenting themselves as FSWs. Additionally, 18 behavioural questionnaires were lost due to one day of malfunction with the handheld computer-assisted device used for interviewing, and one out of these 18 lost behavioural questionnaires was linked with an HIV-positive serological result. Furthermore, migration status is an important variable in this study population; however, more than half the sample identified as 'other' status and due to consistent interviewer error this 'other' category was not expanded further and may include a substantial proportion of migrants. Finally, the sample was heavily weighted to foreign-born respondents (mainly from Ethiopia). None-

theless, RDS in theory corrects for this by long-chain referrals reaching across networks, by achieving equilibrium with the target population, and through statistical adjustment for recruitment biases – all factors accomplished in our study. Therefore, our data suggest that a large proportion of FSWs in Hargeisa are indeed of Ethiopian origin.

From our field experience, we believe that RDS remains the most appropriate method for recruiting our hidden population of FSWs in this setting at the present moment. We were able to exceed our projected sample size in less than the projected time required under exceedingly challenging conditions. Moreover, the diversity of our sample speaks to the method's ability to reach different networks of FSWs. Of the six seeds that were originally recruited into the study, half Ethiopian and half Somali, only the Ethiopian seeds were successful in recruiting peers to the study. Nevertheless, later referral waves of recruitment were successful in recruiting Somalis into the overall sample, illustrating the cross over of networks, thus satisfying the theoretical and statistical requirements of RDS [17].

Despite limitations, for the first time in Somaliland a representative or probability based sample of sex workers were recruited to an IBBS surveying a population that is otherwise very hidden and extremely hard to reach. HIV prevention services need to specifically target FSWs, as it is evident from the data that they are not reached by the current general population HIV-response efforts. Scale-up of HIV testing, specifically to accommodate the needs and characteristics of FSWs is required. Promotion of knowing one's HIV status, education around risk perception, and condom use are also needed. A mechanism for condom distribution among sex workers and their clients, such as roll out of a national condom distribution strategy at diverse venues would be an ideal starting point, in addition to interventions and awareness raising among male clients as the likely decision makers in the transactional sexual interaction. In Somalia, condom distribution is controversial; nonetheless it would likely facilitate preventing the current concentrated epidemic spreading into the general population. Targeted interventions and risk reduction awareness and behaviour among male subpopulations frequently engaging with FSWs are also needed.

Given the results of the research that a population has crossed the 5% HIV prevalence threshold, additional surveillance, particularly among groups characterized by high mobility, is highly recommended. Finally, this is the first study in Somaliland to measure HIV prevalence among sex workers, therefore providing baseline prevalence for future surveillance activities and to gauge the impact of aggregate efforts, in addition to demonstrating the feasibility of the methodology. In order for such surveillance efforts to be effective, we cannot afford another 22-year gap in our information.

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*Conflicts of Interest: None.*

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