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








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Sex work and young women: a cross sectional study to understand the overlap of age and sex work as a central tenet to epidemic control in South Africa

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ABSTRACT

Adolescent girls and young women (AGYW) engaging in sex-for-money transactions are at risk of HIV infection. A better understanding of the demographic, socio-economic factors and risks of HIV acquisition is required to guide appropriate public health interventions targeting young sex workers in South Africa. A cross-sectional survey of Female Sex Workers (FSWs), using a chain referral sampling method, was conducted across 12 sites in South Africa in 2019. Three thousand and five participants were enrolled and interviewed assessing demographic characteristics, sexual behaviour, substance use and HIV testing and treatment. Of 3005 women, 13.3% were ≤ 24 years old (young FSWs); of these, 60.0% entered sex work aged ≤ 19 years. Economic factors were the primary drivers of entry into sex work. HIV prevalence amongst young FSWs was 40.4%, with 12.4% recently infected. Younger FSWs were significantly less likely to know they were HIV positive (87.6% versus 92.1%), to report any ART exposure (75.2% versus 87.6%) and to be virally suppressed (58.1% versus 75.2%) compared to older FSWs. Our findings highlight that many FSWs enter sex work at a young age. It is essential to develop tailored services and interventions that improve access to HIV prevention and treatment services addressing specific needs.

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Adolescent girls and young women; key population; sex work; HIV

Introduction

Adolescent girls and young women (AGYW) account for a disproportionately high number of new HIV infections (UNICEF, 2021). HIV prevalence for young women aged 15–24 years old remains two to three times higher than amongst their male peers (Simbayi et al., 2019; UNICEF, 2021). Aspects driving the HIV gender difference include age-disparate relationships, transactional sex and sex work, gender-based violence and high-risk behaviours such as early sexual debut, inconsistent condom use, multiple sexual partners, and socio-economic factors (poverty, level of education) (Dunkle et al., 2004; Jewkes et al., 2012; Li et al., 2014; Wilson et al., 1999).

Based on a sub-analysis of the South African Human Science Research Council (2017) report, as many as 35% of AGYW described engaging in intergenerational

relationships (Simbayi et al., 2019). Evidence has shown that young women engage in such relationships for material gain, often driven by socio-economic factors (Kyegombe et al., 2020; Nguyen, 2017). These relationships are frequently predicated on power differentials underpinned by a patriarchal society (Chatterji et al., 2005; Hensen et al., n.d.; Nguyen et al., 2019) which prevent women from negotiating safer sex practices, resulting in unplanned pregnancies. Unplanned pregnancies are a major barrier to completing secondary education (Becker et al., 2018) and impact on employment opportunities. Young women, who are less employable (Statistics South Africa [Stats SA], 2020), are thus driven towards engaging in further transactional relationships grounded in “survival sex”. For a subset of these women, sex work becomes a means to provide for both themselves and their families. Thus, the overlap between AGYW and sex work is

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established, and the risk of HIV acquisition increases substantively.

Studies from across South Africa have shown that HIV prevalence amongst sex workers (SWs) ranges from 40% to 90%, and that 30% to 40% are under 25 years of age – with an elevated HIV risk profile (UCSF et al., 2015; Coetzee et al., 2017a). This paper argues for the overlap between young women and sex work in order to inform program implementation to achieve better public health outcomes for this population. These associations have become increasingly important given the impact that the COVID-19 pandemic has had on schooling, access to healthcare and unemployment (Espí et al., 2021).

Evidence shows that the gaps in prevention among sub-populations most at risk of acquiring and transmitting HIV can sustain an epidemic (Formson & Hillhorst, 2016). Traditional approaches to HIV prevention and treatment have often assumed a one size fits all approach, ignoring subset key populations with differing transmission and acquisition dynamics (Formson & Hillhorst, 2016). Thus, understanding the association of youth and sex work is essential for epidemic control in countries such as South Africa, where the boundaries between transactional sex and sex work are often blurred. Additionally, there is a clear trajectory for young, uneducated and impoverished women who begin transacting in sex towards more informal and formal methods of sex work.

The literature highlights challenges to drawing a clear distinction between sex work and transactional sex, with multiple terms used to define each practice

(Stats SA, 2020). This includes the practice of *Uku-phanda* in South Africa, which enables women to engage in sex for money exchanges within a social framework while allowing women to remain respected within the broader community (Stoebenau et al., 2016; Wojcicki, 2002). Evidence suggests that the frequency of such sex for money transactions has increased dramatically (Plan International and the African Child Policy Forum [ACPF], 2020). We propose that the behaviour of engaging in sex for money to survive is far more widespread than previously thought, and has transformed from minimal such sexual encounters into a form of “transactional sex work” which takes place on a regular basis. Through retaining one’s identity as a non-SW, women are better able to retain their identity as respectable women within their communities. Thus, we propose that sex work should be understood to function on a behavioural continuum (Figure 1). Across this continuum, terms like sex work and transactional sex are used interchangeably to describe a set of behaviours which increase or decrease the risk profile of individuals and/or populations who engage in them, but who may not self-identify with the identity label.

While there are a number of interventions geared towards AGYW (Gibbs et al., 2020; Gichane et al., 2020; Saul et al., 2018; Scorgie et al., 2018) few exist which target extremely high risk AGYW who may not self-identify as engaging in sex work nor in transactional sex, but who are engaging in the behaviours associated with each. Within impoverished communities, sex and money are inextricably linked.

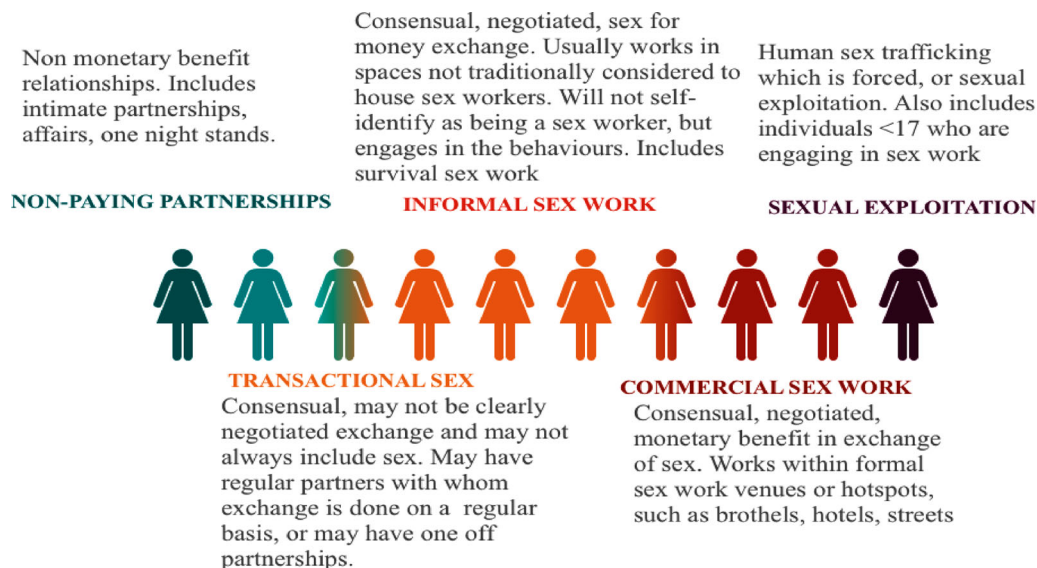


Figure 1. Understanding the continuum of sex for money transactions: from transactional to commercial sex work behaviours.

Understanding the overlap of young women and sex work is a vital step in developing an intervention package and a central tenet to epidemic control in South Africa. This is especially important within the context of highly targeted funding mechanisms which may inadvertently overlook high risk AGYW at risk of entering sex work (Pyett & Warr, 1997). This paper aims to describe the association between women entering sex work as AGYW, or as adults to highlight the gap in current interventions.

Methods

A cross-sectional national survey of FSWs, using a chain referral sampling method, was conducted across 12 randomly selected districts that housed sex work programs, from all nine provinces in South Africa, February–July 2019. A detailed description of the study methodology has been published (Milovanovic et al., 2021). The study analysed data for 3005 FSW participants: ≥ 18 years of age, actively engaged in the sale/transaction of sex for financial benefit at the time of the study, had sold/transacted in sex in the six months preceding the study and were cis-gender female.

After screening and signing of consent, participants completed a 40-minute survey assessing: demographics, HIV testing and treatment history, substance use, stigma, sexual behaviours, and exposure to violence. Participants underwent HIV testing and had blood draw for viral load testing, positives only. All data collection procedures were done in a private room to ensure participant confidentiality. Survey data were captured on a real-time basis, directly into tablets using the REDCap mobile phone application and the data was centrally collated using the REDCap management system (Harris et al., 2009).

After completing data collection, each FSW was issued with three coupons with which to recruit other potential FSWs into the study. Participants were asked to distribute the coupons to randomly selected women they knew and who knew them, who like themselves sold sex in the same district. This continued until the sample size per site was achieved. Site-specific information was used to adapt recruitment in line with site dynamics and staff and participant safety (Milovanovic et al., 2021).

Measures

Socio-demographic characteristics were scored as single items. Questions included: home language, place of birth and immigration status. Participants were asked their age and dichotomized into two groups based on Global Fund

categorization (The Global Fund, 2020): younger SWs were defined as those currently ≤ 24 years old, and older women (>24 years). This allowed us to understand the varying risk profiles between age at entry into sex work and current age, with the 24-year cut-off being the standard for defining young women. We also asked questions around the participant's highest level of education achieved (secondary complete or incomplete), food security, and pregnancy information.

To assess sexual behaviour and sex work, questions included: age of sexual debut, age of entry into sex work, and circumstances around entry into sex work. Participants were asked whether their family knew that they sold sex, usual place where they slept, venue where sex was sold, and number of clients and daily earning. This allowed us to calculate the earning potential per client. Additional variables explored alcohol use to help sell sex and condom use over the past year (consistently or inconsistently).

Internal stigma was assessed using an adaptation of the People Living with HIV Stigma Index (NAPAW SA, 2012) including eight questions (Milovanovic et al., 2021). Higher scores indicated more reported internalized stigma. External stigma was evaluated by asking if participants had been verbally, physically or sexually harassed, threatened or discriminated against by healthcare workers or police due to their being a sex worker.

Sexual violence was assessed using the adapted World Health Organization (2002) violence against women questionnaire. The questionnaire was modified to ask about violence specific to various perpetrator types. A new variable was created that grouped all perpetrator types indicating either “none” or “some” sexual violence. Additionally, participants were also asked whether they had ever been forced into sex by more than one man at the same time (gang rape).

Treatment cascade and health outcomes were assessed by asking questions around previous HIV testing history and known HIV status (newly diagnosed or a known positive). HIV status was based on study confirmed testing and blood collected for assessment of viral suppression ($VL < 1000$ cp/ml). An STI screening questionnaire was implemented which also explored whether or not participants received treatment for STI symptoms. Self-report ART exposure including PEP/PrEP/PMTCT was assessed using a guided chart. All participants were referred for further care as required.

Statistical analysis

Data were analysed and results were presented overall and stratified by age groups: ≤ 24 years (young

women), and those currently aged >24 years. Frequencies and percentages were determined for categorical variables. Medians and interquartile ranges (IQR) were determined for continuous measures overall and by age group.

Categorical variables were compared by the Chi-square test whereas medians between the two groups were compared non-parametrically using the Kruskal–Wallis Test. All statistical analyses assumed a 5% level of significance and were run using SAS Enterprise Guide 7.15, SAS Institute Inc., Cary, NC, USA.

Ethical considerations

All participants received oral and written information regarding the conduct of the study, voluntary participation and the risks and benefits, in the appropriate language of choice. Ethics approval was provided by the Human Research Ethics Committee (HREC) (Medical) of the University of the Witwatersrand (Ref number: 180809).

Results

Demographic characteristics

The study enrolled 3005 participants of which 399 (13.3%) were 24 years old or younger. Table 1 presents the demographic characteristics of the two groups.

Younger SWs were more likely to be local (295/399, 73.9% vs. 1646/2606, 63.2%, $p < .0001$) and less likely to be internal migrants (55/399, 13.8% vs. 496/2606, 19.0%, $p = 0.0116$) or external migrants (49/399, 12.3% vs. 464/2606, 17.8%, $p < 0.0063$) compared with older women. Younger SWs were also significantly more likely to have been pregnant between the ages 15–19 years compared to older women (202/268, 75.4% vs. 1208/2298, 52.6%, $p < .0001$). Amongst those who had children, younger SWs were less likely to have two (63/398, 15.8% vs. 777/2599, 29.9%, $p < 0.0001$) or more than two children (10/398, 2.5% vs. 825/2599, 31.7%, $p < 0.0001$) compared to their older counterparts.

Sex work-related characteristics

Table 2 presents the sex-related characteristics and behaviours by age group. Younger SWs were more likely to have had an earlier sexual debut with significantly more young women reporting first coitus before 14 years of age (93/391, 23.8% vs. 457/2528, 18.1%, $p = 0.0072$) compared to older women. Among the younger group, 60.0% (235/392) entered sex work aged ≤ 19 years compared to 16.8% (435/2586) of older women

Table 1. Demographic characteristics by age-group.

Variables	Overall (n = 3005)	≤ 24 years (n = 399)	≥ 25 years (n = 2606)	p-Value
Immigration status	3005	399	2606	
Local	1941 (64.6)	295 (73.9)	1646 (63.2)	<.0001
Internal Immigrant	551 (18.3)	55 (13.8)	496 (19.0)	0.0116
External Immigrant	513 (17.1)	49 (12.3)	464 (17.8)	0.0063
Education level	3002	398	2604	
Secondary incomplete	2334 (77.7)	311 (78.1)	2023 (77.7)	0.8398
Secondary complete	668 (22.3)	87 (21.9)	581 (22.3)	
Food security scale	2998	397	2601	
Food Security	1643 (54.8)	226 (56.9)	1417 (54.5)	0.3613
Food Insecurity	1355 (45.2)	171 (43.1)	1184 (45.5)	
Have you ever been pregnant?	2995	397	2598	
No	424 (14.2)	128 (32.2)	296 (11.4)	<.0001
Yes	2571 (85.8)	269 (67.8)	2302 (88.6)	
Age at first pregnancy (years)	2566	268	2298	
10–14	73 (2.8)	12 (4.5)	61 (2.7)	0.0893
15–19	1410 (54.9)	202 (75.4)	1208 (52.6)	<.0001
20–24	824 (32.1)	54 (20.1)	770 (33.5)	<.0001
≥ 25	259 (10.1)	0 (0.0)	259 (11.3)	–
How many living children do you have?	2997	398	2599	
None	401 (13.4)	133 (33.4)	268 (10.3)	<.0001
1 child	921 (30.7)	192 (48.2)	729 (28.0)	<.0001
2 children	840 (28.0)	63 (15.8)	777 (29.9)	<.0001
3 + children	835 (27.9)	10 (2.5)	825 (31.7)	<.0001
How many of these children are under the age of 12?	2580	264	2316	
None	583 (22.6)	2 (0.8)	581 (25.1)	<.0001
1 child	1102 (42.7)	173 (65.5)	929 (40.1)	<.0001
2 children	602 (23.3)	63 (23.9)	539 (23.3)	0.8298
3 + children	293 (11.4)	26 (9.8)	267 (11.5)	9.4150

– amongst whom almost half entered into sex work before the age of 25 (1151/2586, 44.5%). Younger women were less likely to report being homeless or sleeping in abandoned buildings (55/398, 13.8% vs. 553/2604, 21.2%, $p = 0.0006$) but more likely to report sleeping in sex work venues (141/398, 35.4% vs. 768/2604, 29.5%, $p = 0.0164$) compared with their older counterparts.

Younger women were more likely to report selling sex in a tavern/shebeen (172/399, 43.1% vs. 919/2606, 35.3%, $p = 0.0024$). Across both groups, there was no significant difference in the median number of clients in the last working day and their earning potential. Younger women reported drinking more alcohol to help them do sex work compared to their older counterparts (144/398, 36.2% vs. 707/2594, 27.3%, $p = 0.0002$). There were no significant differences by age category for inconsistency in condom use over the past year (20/393, 5.1% vs. 91/2571, 3.5%, $p = 0.1318$). The median internalized and externalized stigma was not significantly different between younger and older women.

Table 2. Sex-related characteristics and behaviours by age-group.

Variables	Overall (n = 3005)	≤24 years (n = 399)	≥25 years (n = 2606)	p-Value
How old were you when you first had sex?	2919	391	2528	
10–14	550 (18.8)	93 (23.8)	457 (18.1)	0.0072
15–19	2133 (73.1)	287 (73.4)	1846 (73.0)	0.8749
20–24	221 (7.6)	11 (2.8)	210 (8.3)	0.0001
25+	15 (0.5)	0 (0.0)	15 (0.6)	–
Median (IQR) years selling sex?	6.00 (3.00–10)	3.00 (2.00–4)	6.00 (4.00–12)	<.0001
Age entered into sex work?	2978	392	2586	
10–14	63 (2.1)	9 (2.3)	54 (2.1)	0.7900
15–19	607 (20.4)	226 (57.7)	381 (14.7)	<.0001
20–24	873 (29.3)	157 (40.1)	716 (27.7)	<.0001
≥25	1435 (48.2)	0 (0.0)	1435 (55.5)	–
Under what circumstances did you first sell sex?	3001	398	2603	
Economic Factor	2731 (91.0)	356 (89.4)	2375 (91.2)	0.2907
Forced	63 (2.1)	10 (2.5)	53 (2.0)	
Teenage pregnancy	56 (1.9)	12 (3.0)	44 (1.7)	
Other	151 (5.0)	20 (5.0)	131 (5.0)	
In the last week, where did you normally sleep (for at least 4 nights)?	3002	398	2604	
Homeless/Veld/Abandon Building/Other	608 (20.3)	55 (13.8)	553 (21.2)	0.0006
Flat/Private House	529 (17.6)	59 (14.8)	470 (18.0)	0.1158
Family/Home	956 (31.8)	143 (35.9)	813 (31.2)	0.0604
Sex Work Venue/Formal/Informal	909 (30.3)	141 (35.4)	768 (29.5)	0.0164
Do you sell sex on the streets and/or indoors?	2917	379	2538	
Street/outdoor-based	1137 (39.0)	153 (40.4)	984 (38.8)	0.5780
Indoor/venue-based	976 (33.5)	130 (34.3)	846 (33.3)	
Both outdoor and indoor	804 (27.6)	96 (25.3)	708 (27.9)	
Where do you normally do business/sell sex? Tavern/Shebeen	3005	399	2606	
No	1914 (63.7)	227 (56.9)	1687 (64.7)	0.0024
Yes	1091 (36.3)	172 (43.1)	919 (35.3)	
Median (IQR) no. of clients in the last working day	5.00 (3.00–8)	5.00 (3.00–8)	5.00 (3.00–8)	0.1452
Median (IQR) earning potential per client in the past day	66.7 (44.3–106)	64.3 (44.0–100)	66.7 (44.4–108)	0.6323
Do you drink alcohol to help you do sex work?	2992	398	2594	
No	2141 (71.6)	254 (63.8)	1887 (72.7)	0.0002
Yes	851 (28.4)	144 (36.2)	707 (27.3)	
Consistent condom use over the past year	2964	393	2571	
Inconsistent	2853 (96.3)	373 (94.9)	2480 (96.5)	0.1318
Consistent	111 (3.7)	20 (5.1)	91 (3.5)	
Median (IQR) Internalized Stigma	18.0 (16.0–21)	18.0 (14.0–21)	18.0 (17.0–21)	0.0935
Median (IQR) External Stigma	8.00 (7.00–11)	8.00 (7.00–12)	8.00 (7.00–11)	0.8869
Have you ever been forced into sex by more than one man at the same time or experienced streamlining or gang rape?	2994	397	2597	
No	2294 (76.6)	302 (76.1)	1992 (76.7)	0.7812
Yes	700 (23.4)	95 (23.9)	605 (23.3)	
Sexual violence ever (IPV/Client/Police/Other)	2991	399	2592	
None	1130 (37.8)	147 (36.8)	983 (37.9)	0.6781
Some	1861 (62.2)	252 (63.2)	1609 (62.1)	

Across both groups, women reported being gang raped (95/395, 23.9% younger and 605/2597, 23.3% older women) and experiencing some sexual violence (252/399, 63.2% younger and 1609/2592, 62.1% older women) – with no significant difference by age categorization.

Treatment cascade and health outcomes

Younger women were less likely to report receiving treatment for STI symptoms in the past six months (110/177, 62.1% vs. 968/1213 79.8%, $p < 0.0001$) and less likely to be HIV infected (161/399, 40.4% vs. 1701/2600, 65.4%, $p < 0.0001$) compared to their older counterparts (Table 3). They were more likely to be newly diagnosed HIV positive (20/161, 12.4% vs. 134/1701, 7.9%; $p = 0.0454$), less likely to self-report ART exposure (121/161, 75.2% vs. 1490/1701, 87.6%, $p =$

0.0001) and less likely to be virally suppressed (61/105, 58.1% vs. 963/1280, 75.2%; $p = 0.0001$) compared to older women.

Discussion

The current study offers the unique opportunity to understand some of the characteristics of women who had begun selling sex at an early age. While sex work programs in South Africa had made exceptional headway (prior to the COVID-19 pandemic) in reaching the 90:90:90 targets (Jaffer et al., 2022; UNAIDS, 2014), current AGYW had poorer health outcomes. This highlights an important gap in South Africa's key population programs which needs to be urgently addressed. At risk AGYW in South Africa, are unlikely to self-identify as engaging in any form of sex work

Table 3. Treatment cascade and health outcomes by age-group.

Variables	Overall (n = 3005)	≤24 years (n = 399)	≥25 years (n = 2606)	p-Value
Did you receive treatment for STI symptoms in the past 6 months?	1390	177	1213	
No	312 (22.4)	67 (37.9)	245 (20.2)	<.0001
Yes	1078 (77.6)	110 (62.1)	968 (79.8)	
HIV status (study confirmed)	2999	399	2600	
Negative	1137 (37.9)	238 (59.6)	899 (34.6)	<.0001
Positive	1862 (62.1)	161 (40.4)	1701 (65.4)	
Have you previously tested for HIV?	3005	399	2606	
No	10 (0.3)	2 (0.5)	8 (0.3)	0.5303
Yes	2995 (99.7)	397 (99.5)	2598 (99.7)	
Known HIV positive	1862	161	1701	
Newly Diagnosed	154 (8.3)	20 (12.4)	134 (7.9)	0.0454
Known Positive	1708 (91.7)	141 (87.6)	1567 (92.1)	
ART exposure (on treatment/PEP/PreP/PMTCT)	1862	161	1701	
Self-report Art Exposure	1611 (86.5)	121 (75.2)	1490 (87.6)	<.0001
Self-report Art No-Expos	251 (13.5)	40 (24.8)	211 (12.4)	
Viral load suppression (VL < 1000 cp/ml)	1385	105	1280	
Suppressed (VL < 1000 cp/ml)	1024 (73.9)	61 (58.1)	963 (75.2)	0.0001
Unsuppressed (VL > 1000 cp/ml)	361 (26.1)	44 (41.9)	317 (24.8)	

(Ranganathan et al., 2017) and consequently, they are less likely to access the standard package of sex work-specific services. Therefore, targeted programs will need to be innovative when thinking about how best to identify youth engaging in sex work in order to provide additional support services, without creating greater stigma.

While we found that there was no major difference amongst the two age groups in internalized and externalized stigma, the impact of stigma continues to massively influence young women, especially those who are transacting or engaging in any method of formal or informal sex work (Ranganathan et al., 2017).

AGYW and their older counterparts reported equal levels of exposure to sexual violence, and lifetime exposure to gang rape. However, younger SWs are reporting high exposure to violence from a younger age and by implication are likely to experience greater levels of violence across their lifetime (Jewkes et al., 2021). Suggesting that while fewer young SWs were HIV positive in our sample, the higher prevalence of violence across their lifetimes (Coetzee et al., 2017b) would likely impact on the rate of seroconversion.

Our study reports that economic factors drive entry and retention in sex work. Economic factors, including not having enough to eat, needing to add to the family

income, and needing to feed a child after dropping out of school are all reasons given for selling sex (Wilson et al., 1999). While younger SWs were less likely to have been pregnant, a higher proportion of them had been pregnant when compared to their same age adolescent counterparts in the general population (68% vs 12%, respectively) (National Department of Health et al., 2019).

Findings from a 2017 study suggested that adolescent girls and young women from impoverished backgrounds have an elevated risk of school drop-out (Jewkes et al., 2012) or to be withdrawn from school to aid in the financial sustainability of their families (Stoebenau et al., 2016). Girls are also more likely to miss a week of schooling every month due to menstruation (Gibbs et al., 2020). All of these factors increase the risk of incomplete high school, lowering the likelihood of employability and increasing the need to engage in sex for money transactions.

Given the continuum of sex work presented, women are able to recursively move along this continuum based upon their life circumstances, economic situation and needs. The sex work continuum is not predicated on age categories, and when compared to the general population, young women entering this continuum have a fundamentally different risk profile. While being a young woman is not contingent upon being a sex worker, it is frequently the case that SWs are either AGYW, or have entered into the sex work continuum during their youth. Through broadening our understanding of the overlap between these two population groups, we are better empowered to develop effective interventions, and to ensure we minimize the risk of a sub-population slipping through the gaps, especially as these may represent a high risk subset of AGYW. Some of these services may well overlap with those already provided through SW and AGYW programs. This creates opportunities for cost-sharing and learnings. Thus enabling us to develop effective and sustainable interventions for AGYW that ensure they are retained in school, avoiding unplanned pregnancies, improving job-readiness, proactively engaged in health seeking behaviours, and are empowered to make healthy sexual choices.

Limitations

There is limited, reliable data available in South Africa on mortality rates amongst SWs although we know that SWs are vulnerable to higher rates of violence than found in the general non-sex worker population. Mortality may be impacting the declines we see amongst the oldest age category. Due to ethical, time and

financial constraints, FSWs under 18 years of age were not eligible for enrolment into the study, which may be impacting our estimates of the number of SWs in each age category. We do not include data from a matched sample of women drawn from the general population as a comparison.

Conclusion

By outlining the overlap between young women and sex work, this study provides further evidence of the urgent need to address the gap in current programming for AGYW and sex work to ensure no one is left behind. Using the national study data, we were able to retrospectively explore the continuum of vulnerability that AGYW experience, and outline the drivers of entry into sex work. Understanding these drivers, vulnerabilities and poor health outcomes is crucial to the development and implementation of evidence-driven interventions that should aim to increase HIV prevention and treatment services.

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