

Early Sex Work Initiation and Violence against Female Sex Workers in Mombasa, Kenya

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ABSTRACT *Between 20 and 40 % of female sex workers (FSWs) began sex work before age 18. Little is known concerning whether early initiation of sex work impacts later experiences in adulthood, including violence victimization. This paper examines the relationship between early initiation of sex work and violence victimization during adulthood. The sample included 816 FSWs in Mombasa, Kenya, recruited from HIV prevention drop-in centers who were 18 years or older and moderate-risk drinkers. Early initiation was defined as beginning sex work at 17 or younger. Logistic regression modeled recent violence as a function of early initiation, adjusting for drop-in center, age, education, HIV status, supporting others, and childhood abuse. Twenty percent of the sample reported early initiation of sex work. Although both early initiators and other FSWs reported commonly experiencing recent violence, early initiators were significantly more likely to experience recent physical and sexual violence and verbal abuse from paying partners. Early initiation was not associated with physical or sexual violence from non-paying partners. Many FSWs begin sex work before age 18. Effective interventions focused on preventing this are needed. In addition, interventions are needed to prevent violence against all FSWs, in particular, those who initiated sex work during childhood or adolescence.*

KEYWORDS *Sex work, Violence, Adolescence, Africa*

INTRODUCTION

Initiation of sex work during childhood or adolescence (i.e., prior to age 18) is common among female sex workers (FSWs) across global regions. Twenty to 40 % of FSWs worldwide first engaged in sex work before the age of 18,^{1,2} with the mean age of sex work entry being 16 or younger.^{3,4}

While limited, research suggests that FSWs who enter sex work as children or adolescents experience high prevalence of physical and sexual violence victimization and more violence than other FSWs, during both adolescence and adulthood.⁵⁻⁸ Research with FSWs in Thailand found that those between 14 and 17 years old

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reported a higher prevalence of recent physical or sexual violence victimization compared to those 18 and older.⁹ Among adult FSWs in India, those who reported recent physical or sexual violence were more likely to have started engaging in sex work at a younger age (i.e., <25 years) compared to those who did not report recent violence.¹⁰

Early sex work initiation may be associated with violence as a result of reduced negotiation power and self-efficacy with paying sex partners.¹¹⁻¹³ Due to younger age, limited sex work experience, and age and power differentials with paying sex partners and brothel owners, adolescent FSWs likely experience reduced relational power and self-efficacy for help seeking in violent relationships compared to adult FSWs.^{13,14} Brothel owners may discourage or prohibit adolescent FSWs from using condoms with paying sex partners to obtain greater profits from condomless sex with adolescent FSWs. Adolescent FSWs may also have less access to public health programming and interventions compared to adult FSWs as brothel owners may fear legal repercussions if adolescent FSWs are discovered. Patterns of low self-efficacy for help seeking in violent relationships established in adolescence may persist into adulthood.

Endorsement of inequitable gender norms that support male dominance and justify violence have been associated with violence.¹⁵⁻¹⁷ The relationship between early sex work initiation and endorsement of inequitable gender norms in adulthood remains largely unexamined.

One's early risk environment during childhood and adolescence also influences future risk. FSWs who began sex work as minors are also more likely to have been trafficked, coerced, or forced into sex work than FSWs who began sex work as adults.^{18,19} It is estimated 19-50 % of adult FSWs globally were coerced or forced into sex work as minors.^{5,8} Economic vulnerability, child abuse, family violence, homelessness, and limited social support increase young women's vulnerability to engage in sex work.^{19,20} Among women, risk factors for experiencing violence in adulthood include childhood abuse and witnessing intimate partner violence (IPV) during childhood.²¹⁻²⁵ Further, early sexual debut has been associated with transactional sex.²⁶ However, the temporality of this relationship warrants further investigation as early sexual debut may occur within the context of forced transactional sex.

Kenya is experiencing a generalized HIV epidemic with an HIV prevalence among adults aged 15-49 of 5.6 %.²⁷ Approximately 1.6 million adults in Kenya are living with HIV, with approximately 106,000 new adult infections each year.²⁷ HIV prevalence among high-risk populations far exceeds the national prevalence. While estimates of the number of sex workers in Kenya vary, it has been estimated that approximately 6.6 % of women living in urban areas in Kenya have exchanged sex for money in the past year.²⁸ Between 20 and 45 % of FSWs in Kenya are living with HIV, with one of every three new HIV infections in Kenya occurring among FSWs.^{29,30} A meta-analysis estimated that FSWs in Kenya have approximately ten times the odds of HIV infection compared with the general population of Kenyan women aged 15-49.²⁹

Consistent with studies of FSWs in other countries, FSWs in Kenya report high levels of violence. Among FSWs surveyed in Coast Province, Kenya, 77 % reported having ever experienced physical or sexual violence, with 30 % reporting that such violence occurred regularly.³¹ Similarly, one third of FSWs in Mombasa reported sexual violence from a paying partner in the past year³² and 29 % of FSWs in Meru, Kenya, reported forced sex in the previous 6 months.³³ Among FSWs in urban and

rural Kenya, 17 % reported sexual assault and 35 % reported rape by clients in the past month.³⁴ In addition, FSWs in Kenya are at increased risk of violence compared to Kenyan women who do not engage in sex work.³⁵

Mombasa serves as the primary economic center of Kenya's Coast province, with substantial tourism and industrial markets. Mombasa is also a major air and sea transport hub, with an international airport and situated on the Trans-East Africa highway, linking Mombasa with Kampala, Uganda.

Evidence on the relationship between early sex work initiation and violence against adult FSWs remains limited, particularly in sub-Saharan Africa. In addition, there is a lack of data assessing the relationship between early initiation of sex work and violence-related self-efficacy and gender norms in adulthood. Additional research is necessary to further understanding of whether early sex work initiation is associated with violence in adulthood. Greater understanding of the long-term influence of early sex work initiation can inform the development of effective interventions to improve the health and safety of adolescent and adult FSWs and reduce violence against FSWs. This paper investigates if early sex work initiation among adult FSWs in Mombasa, Kenya, is associated with: (1) interpersonal violence, (2), violence-related self-efficacy, or (3) violence-related gender norms.

METHODS

Sample

The current study took place as part of a parent study of FSWs in Kenya that examined the efficacy of an alcohol harm reduction intervention in reducing alcohol use and HIV sexual risk behaviors among moderate drinkers.³⁶ The parent study was conducted by FHI 360 and the International Center for Reproductive Health, with funding from the United States Agency for International Development.

Participants were recruited from three drop-in centers that provide HIV prevention and care services in Kisauni, Chaani, and Likoni divisions of Mombasa, Kenya. Chaani is located near the port and international airport and serves as a major transport hub. Likoni is located near the Kenyan Navy and has a large military population. Kisauni is located on the north coast of Mombasa which is known for its entertainment industry.

Women were eligible for enrollment into the parent study if they: were 18 years of age or older, had visited one of the HIV drop-in centers, planned to live in Mombasa for 12 months, reported transactional sex (i.e., self-report of exchange of any type of sex including oral, anal, or vaginal sex for money or gifts) in the past 6 months, and were moderate-risk drinkers (i.e., scored between 7 and 19 on the Alcohol Use Disorders Identification Test (AUDIT)).³⁷ Women who scored 20 or higher on the AUDIT were ineligible for participation and were referred to an alcohol treatment program in Mombasa. Women who scored <7 on the AUDIT were also ineligible for participation in the alcohol harm reduction parent study. A total of 818 FSWs were enrolled in the study. The current sample is comprised of baseline data for 816 participants who reported age of sex work initiation.

Data Collection

Enrollment and data collection procedures for this study including information about data confidentiality have been previously reported.³⁶ Briefly, baseline data were collected between March and September 2011 as part of a randomized

controlled alcohol harm reduction intervention study with FSWs in Mombasa, Kenya.³⁶

Assessment

Data collection consisted of an in-person interview which included questions on early sex work initiation, violence, violence-related self-efficacy, gender norms, sociodemographic and occupational characteristics, early risk environment, and the AUDIT.

Early Sex Work Initiation Participants were asked the age when they first received money for sex. Those who first received money for sex at 17 or younger were coded as having initiated sex work early. Age 18 was chosen because Kenya's Children's Act defines a child as anyone under the age of 18.³⁸

Interpersonal Violence Participants were asked the number of times they experienced physical or sexual violence by a sex partner in the last 30 days. Questions were asked separately for violence by paying and non-paying partners. Questions about verbal abuse and being robbed were asked only for violence by paying partners. Physical violence was defined as having been "beaten or physically abused." Sexual violence was defined as "forced to have sex when you didn't want to." The physical and sexual violence measures were previously used in the 2007 Kenya Behavioral Monitoring Survey.³⁹ Robbery or non-payment was defined as having been "robbed or not paid as agreed to by a client." This measure was previously used with substance using FSWs in South Africa.⁴⁰ Verbal abuse was defined as having been "threatened or verbally abused." Responses were dichotomized into having experienced each type of violence or not in the last 30 days.

Violence-Related Self-Efficacy Participants were asked if they thought they could "tell a paying client to stop acting violently" toward them and if they thought they could "tell a non-paying partner to stop acting violently" toward them. Response options included yes, no, and don't know.

Violence-Related Gender Norms Participants were asked to what extent they agreed or disagreed with a series of statements, including: "My friends think it's OK for men to sometimes hit or physically hurt their partners;" "if a friend had a problem with physical or sexual violence from a paying partner, she would go to someone for help;" and "if a friend had a problem with physical or sexual violence from a non-paying partner, she would go to someone for help." Responses were dichotomized into agree (strongly agree or agree) and disagree (disagree or strongly disagree).

Sociodemographic, Occupational Characteristics, and Early Risk Environment Sociodemographic variables included age, education, marital status, having a non-paying sex partner, number of living children, and number of people supported by respondent.

Occupational characteristics included where they usually meet paying partners and how many years they had been a sex worker.

Early risk environment was assessed with several questions. Participants were asked the age when they first drank alcohol and when they first had sexual intercourse. First sexual intercourse at 15 or younger was coded positive for early

sexual debut. Childhood physical abuse was assessed by asking, "As a child, were you beaten up by your parents or guardians more than other children your age were beaten up by their parents or guardians?" This question assesses individuals' perceptions of child abuse as compared to their peers. Childhood witness to IPV was assessed by asking, "As a child, did you ever see your mother beaten up by your father or another partner?" Childhood sexual abuse was assessed by asking, "As a child, were you ever sexually abused?"

Analysis

Bivariate analyses were conducted to evaluate differences in sociodemographic, occupational, and early risk environment characteristics for FSWs who reported early sex work initiation and those who did not. Pearson chi-square tests were used for dichotomous variables (e.g., marital status) and *t* tests for continuous variables (i.e. current age, age when first drank alcohol, years in sex work).

Unadjusted bivariate analyses with Pearson chi-square tests were conducted to evaluate differences in outcome variables (e.g., violence, self-efficacy, gender norms) between FSWs who reported early sex work initiation and those who did not. Logistic regression with logit link and binomial distribution was conducted to assess the relationship between early sex work initiation and outcome variables (e.g., violence, self-efficacy, gender norms). All analyses controlled for sampling via drop-in center. Based on previous literature,^{1,3,18} adjusted analyses also controlled for current age, education, supporting others, HIV status, childhood physical abuse, childhood sexual abuse, and childhood witness to IPV. Current age and years in sex work were highly collinear. Adjusted analyses controlled for current age, but not years in sex work. All analyses were conducted using SAS Version 9.3.

FSWs provided verbal informed consent prior to eligibility screening. Written informed consent was obtained for full study participation. The parent study was approved by ethics review committees at FHI 360 and the Kenyatta National Hospital. The study protocol for the current study was submitted to the University of North Carolina at Chapel Hill's Institutional Review Board who determined that it did not constitute human subjects research because it consisted exclusively of secondary analysis of de-identified data. This parent trial was registered with ClinicalTrials.gov, NCT01756469.

RESULTS

Early Initiation of Sex Work

Approximately one fifth ($n = 162$, 19.9 %) of participants reported early initiation of sex work. Among those who reported early initiation, the mean age of sex work initiation was 16 years (see Table 1). Among FSWs who did not report early initiation, the mean age of sex work initiation was 22 years.

Sociodemographic, Occupational, Early Risk Environment Characteristics

The mean current age of those who reported early initiation of sex work was 24 while the mean current age of those who did not report early initiation was 28 (Table 1). Those who reported early initiation reported significantly lower levels of education and were less likely to have ever been married, have children, or be financially supporting others compared to those who did not report early initiation.

TABLE 1 Sociodemographic characteristics of sample by early initiation of sex work

| Characteristic | Total (<i>n</i> = 816) | Began sex work <18 (<i>n</i> = 162) | Began sex work >18 (<i>n</i> = 654) | <i>p</i> value |
|---|---------------------------------|--|--|----------------|
| | Mean (SD, range) | Mean (SD, range) | Mean (SD, range) | |
| Age when first engaged in sex work | 21.0 (4.9, 9–48) | 15.7 (1.5, 9–17) | 22.3 (4.5, 18–48) | <0.0001 |
| Current age (years) | 27.5 (6.6, 18–54) | 24.4 (5.3, 18–44) | 28.2 (6.7, 18–54) | <0.0001 |
| Number of years as a FSW ^a | 5.7 (4.7, 0–31) <i>n</i> (%) | 7.1 (4.8, 1–25) <i>n</i> (%) | 5.4 (4.7, 0–31) <i>n</i> (%) | <0.0001 |
| Highest level of education | | | | 0.003 |
| Primary school or less | 449 (55.0) | 106 (65.4) | 343 (52.5) | |
| Secondary school or more | 367 (45.0) | 56 (34.6) | 311 (47.6) | |
| Marital status ^a | | | | 0.003 |
| Never married | 376 (46.6) | 94 (58.4) | 282 (43.7) | |
| Currently married | 28 (3.5) | 3 (1.9) | 25 (3.9) | |
| Divorced/separated/widowed | 403 (49.9) | 64 (39.8) | 339 (52.5) | |
| Number of living children | | | | 0.0003 |
| No children | 155 (19.0) | 47 (29.0) | 108 (16.5) | |
| ≥1 child | 661 (81.0) | 115 (71.0) | 546 (83.5) | |
| Currently supporting others ^a | | | | 0.02 |
| Yes | 728 (89.5) | 137 (84.6) | 591 (90.8) | |
| No | 85 (10.5) | 25 (15.4) | 60 (9.2) | |
| Currently has non-paying partner | | | | 0.64 |
| Yes | 618 (75.7) | 125 (77.2) | 493 (75.4) | |
| No | 198 (24.3) | 37 (22.8) | 161 (24.6) | |
| Where usually meet paying clients ^a | | | | 0.16 |
| Bar/nightclub | 656 (80.5) | 124 (76.5) | 532 (81.5) | |
| Street/home/hotel/beach | 159 (19.5) | 38 (23.5) | 121 (18.5) | |
| Drop-in center | | | | <0.0001 |
| Kisauni | 304 (37.3) | 41 (25.3) | 263 (40.2) | |
| Chaani | 285 (34.9) | 88 (54.3) | 197 (30.1) | |
| Likoni | 227 (27.8) | 33 (20.4) | 194 (29.7) | |

^aMissing data by variable: years as sex worker 2, marital status 9, supporting other 3, meet clients 1

p values compare frequencies of each variable among those who initiated sex work as a minor and those who initiated sex work as an adult

Despite being on average 4 years younger than those who initiated sex work in adulthood, those who initiated sex work early reported engaging in sex work for a longer period of time than those who did not initiate sex work early. Those who reported early initiation had engaged in sex work for an average of 7 years while those who did not initiate sex work early had engaged in sex work for an average of 5 years. There was no difference between groups in the proportion that had a non-paying sex partner or in where FSWs met paying partners. Early initiation was significantly more common in the Chaani neighborhood of Mombasa.

FSWs who initiated sex work early were significantly more likely to report physical and sexual abuse in childhood (see Table 2). Fifty-five percent of FSWs who

TABLE 2 Early initiation of sex work and early risk experiences

| Characteristic | Total (<i>n</i> = 816) <i>n</i> (%) | Began sex work <18 (<i>n</i> = 162) <i>n</i> (%) | Began sex work >18 (<i>n</i> = 654) <i>n</i> (%) | <i>p</i> value |
|--|--|---|---|----------------|
| Childhood physical abuse ^a | | | | 0.001 |
| Yes | 353 (43.3) | 88 (54.7) | 265 (40.5) | |
| No | 462 (56.7) | 73 (45.3) | 389 (59.5) | |
| Childhood sexual abuse ^a | | | | 0.0007 |
| Yes | 102 (12.6) | 33 (20.5) | 69 (10.6) | |
| No | 711 (87.5) | 128 (79.5) | 583 (89.4) | |
| Witnessed IPV during ^a childhood | | | | 0.57 |
| Yes | 407 (50.2) | 84 (52.2) | 323 (49.7) | |
| No | 404 (49.8) | 77 (47.8) | 327 (50.3) | |
| Early sexual debut (<16 years) ^a | | | | <0.0001 |
| Yes | 198 (24.3) | 90 (55.6) | 108 (16.6) | |
| No | 616 (75.7) | 72 (44.4) | 544 (83.4) | |
| | Mean (SD, range) | | | |
| Age first drank alcohol | 19.6 (4.2, 9–40) | 16.5 (2.8, 9–34) | 20.4 (4.1, 10–40) | <0.0001 |

^aMissing data by variable: childhood physical abuse 1, childhood sexual abuse 3, witnessed IPV during childhood 5, early sexual debut 2

p values compare frequencies of each variable among those who initiated sex work as a minor and those who initiated sex work as an adult

started sex work as minors reported childhood physical abuse compared to 41 % of those who started sex work as adults. The prevalence of childhood sexual abuse was approximately twice as high among those who initiated sex work early compared to those who did not (21 and 11 %, respectively). There was no significant difference between groups in having witnessed IPV during childhood. Early initiators were significantly more likely to report early sexual debut and were significantly younger on average (16.5 years of age compared to 20.4 years) when they first drank alcohol compared to those who did not initiate sex work early.

Recent Violence

Recent violence from paying and non-paying partners was highly prevalent across groups (see Table 3). FSWs who initiated sex work early were significantly more likely to experience all forms of violence from paying partners, including sexual and physical violence, verbal abuse, and being robbed or not paid compared to those who did not initiate sex work early.

In crude analyses, early initiators were 1.92 (95 % CI 1.43, 2.59) times as likely to experience forced sex and 2.32 (95 % CI 1.90, 2.84) times as likely to report physical violence from paying sex partners, compared to those who did not initiate sex work early.

All associations between early sex work initiation and violence from paying partners persisted in adjusted analyses. Those who initiated sex work early were significantly more likely to have experienced recent sexual and physical violence, verbal abuse, and having been robbed or not paid compared to those who did not initiate sex work early, after controlling for age, education, supporting others, HIV status, childhood abuse, and drop-in center.

TABLE 3 Prevalence of recent interpersonal violence by early initiation of sex work

| | Total (<i>n</i> = 816) <i>n</i> (%) | Began sex work <18 (<i>n</i> = 162) <i>n</i> (%) | Began sex work >18 (<i>n</i> = 654) <i>n</i> (%) | Crude OR (95 % CI) |
|--|--|--|--|-----------------------|
| Violence by paying sex partner past 30 days ^a | | | | |
| Sexual violence | 264 (32.3) | 72 (44.4) | 192 (29.4) | 1.92 (1.43, 2.59)** |
| Physical violence | 219 (26.9) | 67 (41.4) | 152 (23.3) | 2.32 (1.90, 2.84)** |
| Verbal abuse | 403 (49.4) | 102 (63.0) | 301 (46.0) | 1.99 (1.30, 3.07)* |
| Robbed/not paid | 421 (51.6) | 101 (62.4) | 320 (48.9) | 1.73 (1.26, 2.36)* |
| Violence by non-paying sex partner past 30 days ^b | | | | |
| Sexual violence | 275 (44.6) | 69 (55.7) | 206 (41.8) | 1.79 (1.23, 2.61)** |
| Physical violence | 187 (30.3) | 46 (36.8) | 141 (28.6) | 1.45 (0.78, 2.71) |

Each model was run individually with early initiation of sex work as independent variable and violence as dependent variable. Analyses controlled for drop-in center

^aAmong entire sample

^bAmong those with non-paying sex partner (*n* = 618)

p* < 0.01; *p* < 0.0001

Recent violence from non-paying partners was also highly prevalent across groups. In crude analyses, FSWs who initiated sex work early were significantly more likely to report sexual violence from a non-paying partner (see Table 4). However, this relationship did not persist in adjusted analyses. There was no significant difference between groups in having experienced physical violence from non-paying sex partners.

FSWs who initiated sex work early reported reduced violence-related self-efficacy compared to those who did not initiate sex work early. In crude analyses, those who initiated sex work early endorsed reduced ability (OR 0.34 (95 % CI 0.25, 0.46)) to tell a non-paying partner to stop acting violently, compared to those who started sex work in adulthood. This association persisted in adjusted analyses. There was no difference between groups in reported self-efficacy of telling a paying partner to stop acting violently.

FSWs who initiated sex work early endorsed greater acceptance of IPV and reduced help seeking for violence from paying partners compared to those who did not initiate sex work early (see Table 5). In adjusted analyses, FSWs who initiated sex work early had twice (1.99 (95 % CI 1.64, 2.42)) the odds of reporting that their friends accepted IPV compared to those who did not start sex work early. Further, FSWs who initiated sex work early endorsed less help-seeking for violence from a paying partner. Those who initiated sex work early had approximately half the odds (0.45 (95 % CI 0.33, 0.61)) of reporting that a friend would seek help for violence from a paying partner, compared to those who did not. In crude analyses, early initiators had significantly reduced odds of reporting that a friend would seek help for violence from a non-paying partner, compared to those who did not. However, this relationship did not persist in adjusted analyses.

DISCUSSION

Early sex work initiation was common among this sample with 20 % of participants reporting sex work before age 18. This prevalence is consistent with previous research that estimated that between 20 and 40 % of sex workers initiated sex work

TABLE 4 Results from logistic regression models of association between early initiation of sex work and violence

| Predictor variables | Violence by paying sex partner | | | Violence by non-paying sex partner | | |
|------------------------------|--------------------------------|--------------------------------|---------------------------|------------------------------------|------------------------------|--------------------------------|
| | Sexual violence OR (95 % CI) | Physical violence OR (95 % CI) | Verbal abuse OR (95 % CI) | Robbed/not paid OR (95 % CI) | Sexual violence OR (95 % CI) | Physical violence OR (95 % CI) |
| Early initiation of sex work | 1.83 (1.35, 2.49)** | 1.89 (1.44, 2.48)** | 1.84 (1.33, 2.56)* | 1.66 (1.34, 2.06)** | 1.60 (0.91, 2.79) | 1.29 (0.74, 2.25) |
| Current age | 0.98 (0.96, 0.99)* | 0.96 (0.94, 0.99)* | 0.98 (0.96, 1.00) | 1.00 (0.96, 1.03) | 0.98 (0.95, 1.01) | 0.97 (0.94, 0.99)* |
| Education | 1.27 (0.84, 1.92) | 1.30 (0.78, 2.12) | 1.33 (0.68, 2.61) | 1.20 (0.74, 1.92) | 0.90 (0.70, 1.16) | 1.14 (0.74, 1.75) |
| Supporting others | 1.14 (0.78, 1.67) | 1.90 (1.35, 2.69)* | 1.71 (1.10, 2.67)* | 1.60 (1.38, 1.84)** | 2.27 (0.69, 7.42) | 1.74 (1.24, 2.43)* |
| HIV positive | 1.02 (0.75, 1.39) | 0.77 (0.58, 1.03) | 1.43 (0.73, 2.81) | 1.31 (0.95, 1.80) | 0.74 (0.64, 0.85)** | 0.94 (0.60, 1.48) |
| Childhood physical abuse | 1.47 (0.72, 3.02) | 1.55 (1.04, 2.30)* | 1.68 (1.47, 1.91)** | 1.50 (0.99, 2.28) | 1.43 (1.27, 1.62)** | 1.29 (1.01, 1.64)* |
| Childhood sexual abuse | 1.64 (1.02, 2.62)* | 1.89 (1.30, 2.74)* | 1.47 (1.38, 1.57)** | 1.68 (1.04, 2.70)* | 1.78 (1.06, 3.01)* | 1.10 (0.42, 2.93) |
| Childhood witness to IPV | 1.11 (0.83, 1.48) | 1.13 (0.79, 1.63) | 1.18 (0.94, 1.47) | 1.09 (0.96, 1.24) | 0.80 (0.52, 1.22) | 1.27 (1.08, 1.49)* |

Analyses were also adjusted for drop-in center

* $p < 0.01$, ** $p < 0.0001$

TABLE 5 Early initiation of sex work and violence-related self-efficacy and gender norms

| Characteristic | Total (n = 816) n (%) | Began sex work <18 (n = 162) n (%) | Began sex work >18 (n = 654) n (%) | Crude OR (95 % CI) | Adjusted OR (95 % CI) |
|---|--------------------------|---------------------------------------|---------------------------------------|-----------------------|--------------------------|
| Violence-related self-efficacy | | | | | |
| Could tell paying partner to stop acting violently | | | | | |
| No | 38 (4.7) | 9 (5.7) | 29 (4.4) | 0.77 (0.39, 1.55) | 1.32 (0.92, 1.89) |
| Yes (referent) | 775 (95.3) | 150 (94.3) | 625 (95.6) | | |
| Could tell non-paying partner to stop acting violently | | | | | |
| No | 48 (6.0) | 19 (12.1) | 29 (4.5) | 0.34 (0.25, 0.46)** | 0.44 (0.34, 0.58)** |
| Yes (referent) | 757 (94.0) | 138 (87.9) | 619 (95.5) | | |
| Violence-related gender norms | | | | | |
| My friends think it's OK for men to hit or physically hurt their partners | | | | | |
| Agree/strongly agree | 81 (9.9) | 26 (16.2) | 55 (8.4) | 2.10 (1.82, 2.41)** | 1.99 (1.64, 2.42)** |
| Disagree/strongly disagree (referent) | 734 (90.1) | 135 (83.9) | 599 (91.6) | | |
| If a friend had a problem with violence from a paying partner, she would go to someone for help | | | | | |
| Disagree/strongly disagree | 52 (6.4) | 21 (13.0) | 31 (4.8) | 0.34 (0.22, 0.50)** | 0.45 (0.33, 0.61)** |
| Agree/strongly agree (referent) | 763 (93.6) | 141 (87.0) | 622 (95.3) | | |
| If a friend had a problem with violence from non-paying partner, she would go to someone for help | | | | | |
| Disagree/strongly disagree | 152 (18.7) | 38 (23.8) | 114 (17.5) | 0.68 (0.52, 0.90)* | 0.81 (0.57, 1.17) |
| Agree/strongly agree (referent) | 660 (81.3) | 122 (76.3) | 538 (82.5) | | |

Each model was run individually with early initiation of sex work as independent variable and self-efficacy or gender norm as dependent variable. Adjusted analyses controlled for: drop-in center, current age, education, supporting others, HIV status, childhood physical abuse, childhood sexual abuse, and childhood witness of IPV

* $p < 0.05$, ** $p < 0.001$

before the age of 18.² Early sex work initiation was significantly more common among FSWs from the drop-in center in Chaani. With a large port and close proximity to an airport, Chaani serves as a major transportation center. Research indicates that sex work is often more prevalent in transportation or tourist hubs.^{41,42} Additional research is warranted to understand the context that contributes to higher prevalence of early initiation of sex work in the Chaani neighborhood of Mombasa.

Childhood physical and sexual abuse was reported by 43 and 13 % of the sample, respectively. The prevalence of childhood sexual abuse in this study is significantly lower than that captured in the 2010 Kenya Violence against Children (VAC) survey, the first nationally representative household survey of child abuse in Kenya. The VAC survey estimated prevalence of childhood physical and sexual abuse among female respondents 18–24 years of age to be 66 and 32 %, respectively.⁴³ Differences in prevalence estimates may reflect true differences in prevalence or may reflect differences in survey questions, study populations, or study settings. For example, the VAC survey was nationally representative of females 18–24 while the current study included only FSWs in Mombasa. In addition, the VAC survey asked behaviorally specific questions about childhood physical abuse while the current survey assessed perceptions of child abuse in relation to one's peers. Additional research on the prevalence of child abuse both among FSWs and nationally representative samples in Kenya is warranted.

Significant differences were identified in the early risk environment between those who initiated sex work early and those who did not. FSWs who entered sex work before age 18 were significantly more likely to report childhood physical and sexual abuse compared to those who entered sex work at 18 or older. Abuse during childhood is a risk factor for entry into sex work and sexual violence in adolescence and adulthood.^{21–25} Qualitative work with sex workers with a history of adolescent or involuntary sex exchange in Mexico found that FSWs often described early experiences of physical and sexual violence as directly related to sex work initiation.¹⁹ Participants described how early experiences of violence led to initiation of substance use, discontinuation of education, and homelessness.¹⁹ The combination of limited social and economic support, being young and inexperienced, and lack of alternatives facilitated entry into sex work.¹⁹

In adjusted analyses, childhood sexual abuse was associated with significantly increased odds of all forms of violence by paying sex partners, including physical and sexual violence, verbal abuse, and being robbed or not paid and increased odds of sexual violence by non-paying partners. Similarly, childhood physical abuse was associated with increased odds of physical violence and verbal abuse from paying partners and physical and sexual violence from non-paying partners. More research is needed to develop effective interventions to prevent childhood abuse in low- and middle-income settings and promote resiliency among children who have experienced abuse. Evidence from high-income countries suggests that parenting interventions which include knowledge about child development and strategies for effective discipline and problem management have been effective in preventing child abuse.⁴⁴ More research is needed on the appropriateness and effectiveness of such interventions in low- and middle-income settings and across cultures.⁴⁵ Services for identification and treatment of abused children in low- and middle-income settings should be expanded. Reductions in childhood abuse may reduce adolescents' vulnerability to substance abuse, homelessness, and school drop-out, and consequently their vulnerability to early sex work initiation.

On average, FSWs who initiated sex work early were more likely to have sex and drink alcohol at significantly younger ages compared to those who did not initiate sex work early. These findings support research that found that early initiators of sex work began using substances, including alcohol and injection drugs, at younger ages compared to those who initiated sex work in adulthood.¹ In addition, among adult FSWs in India, early initiation was associated with higher prevalence of alcohol use prior to transactional sex.⁴⁶ Early risk behaviors may influence entry into sex work. However, the temporality of sex work initiation in relation to early substance use and sexual debut remains uncertain. It is equally possible that once engaged in sex work, young women began drinking, given the widespread use of alcohol in sex work venues. FSWs also report being encouraged or coerced to drink alcohol by clients and pimps.^{47,48} In addition, FSWs often report using alcohol to cope with violence, past trauma, or to facilitate participation in commercial sex.⁴⁹

Women who initiated sex work early were more likely to report multiple forms of violence in adulthood. These findings are consistent with previous research with FSWs in India that found that those who started sex work at younger ages were significantly more likely to have experienced physical or sexual violence in the past year.¹⁰ In adjusted analyses, early initiation was significantly associated with all forms of violence perpetrated by paying partners. However, there was no significant association between early initiation and physical or sexual violence from non-paying partners in adjusted analyses. In addition, there was no difference between groups in having witnessed IPV during childhood. Such similarities between groups may be informed by a relatively common experience of IPV during childhood and adulthood among this sample. Alternately, findings may suggest that the relationship between early initiation of sex work and violence in adulthood differs by type of perpetrator. This is the first study to examine the relationship between early initiation of sex work and recent violence disaggregated by paying and non-paying partners. Findings were disaggregated by partner type as previous research has found that the prevalence and nature of violence against FSWs differ by type of perpetrator.⁵⁰ In addition, violence perpetrated by intimate partners of FSWs is often related to their engagement in sex work.⁵⁰ The pathway between early initiation of sex work and violence by paying partners remains unclear.

Current findings highlight potential differences in the relationship between early sex work initiation and violence based on partner type. More research is needed to further understand the relationship between early initiation of sex work and violence from paying partners. Harm reduction interventions for FSWs who initiated sex work early should be developed to help FSWs reduce risk of work-related violence and improve their health and safety.

Differences in violence-related self-efficacy may influence pathways between early initiation of sex work and violence from paying partners. FSWs who initiated sex work early reported reduced violence-related self-efficacy. Interventions that promote empowerment may be particularly relevant for FSWs who initiated sex work early.⁵¹ Multilevel interventions that address structural risk factors for entry into sex work including economic vulnerability should be developed and implemented, especially as multilevel interventions have demonstrated effectiveness with FSWs in the past.⁵² In addition, primary prevention interventions that target those perpetrating violence including paying partners of FSWs and bar and brothel owners and managers are critically needed.

FSWs who initiated sex work early also reported less equitable gender norms than those who did not. Early initiators were less likely to report that their friends would

seek help for violence from a paying partner. This is particularly concerning since FSWs who initiated sex work early had significantly greater odds of all forms of violence from paying sex partners. FSWs who initiated sex work early also reported greater acceptability of violence. Greater acceptability of violence may partially explain the increased prevalence of violence by paying partners among FSWs who initiated sex work early. More research is needed to better understand the increased acceptance of violence among FSWs who initiate sex work early. Interventions to promote more equitable gender norms among adolescents and adults are warranted. Community-based programs that target gender and violence-related norms are increasingly common in low-income countries.⁵³ The effectiveness of such interventions to reduce violence against FSWs needs further evaluation.

This study has several limitations. All data were self-reported and may be subject to social desirability bias. FSWs were sampled from three areas of Mombasa and associated with drop-in centers, and may not be representative of FSWs in other urban areas in Kenya. FSWs associated with drop-in centers may have greater violence-related and help-seeking self-efficacy than those not associated with drop-in centers. Thus, FSWs associated with drop-in centers may experience less violence than those not associated with drop-in centers. FSWs were moderate-risk drinkers. The relationship between early sex work initiation and violence may differ among FSWs who are low or high-risk drinkers. Experiences of violence were likely underreported, particularly as the physical violence and verbal abuse questions asked about experiences of abuse rather than specific behaviors. Individuals are more likely to disclose experiences of violence when asked behaviorally specific questions as compared to questions in which they must identify as having experienced abuse.^{54,55} Childhood physical abuse was assessed by asking "As a child, were you beaten up by your parents or guardians more than other children your age were beaten up by their parents or guardians?" The validity of this question as a measure of childhood physical abuse is unknown. Finally, associations between sociodemographic characteristics and early initiation of sex work should be interpreted with caution as they may be confounded by current age of participants.

Findings speak to the need for early intervention for high-risk youth and adolescent FSWs, particularly in relation to violence risk reduction. No evidence-based interventions exist for adolescent FSWs or adult FSWs who began sex work early. Structural interventions that address underlying risk factors for adolescent sex work, including economic vulnerability and family violence, are warranted. Interventions to prevent violence against adolescent sex workers are critically needed. The development of adolescent-friendly health services for young FSWs is vitally important, as adolescents may be less likely to identify as sex workers or engage with services targeted to sex workers.⁵⁶⁻⁵⁸ Additional information on circumstances surrounding adolescent sex work, particularly in sub-Saharan Africa, is needed to develop appropriate and effective services to identify high-risk youth and divert adolescents from sex work. Interventions should incorporate components designed to increase self-efficacy. Services targeting adult FSWs should consider when individuals began sex work, as FSWs who initiate sex work early represent a population at particularly high-risk of violence.

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