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Examining the Intrapersonal, Interpersonal and Community Level Correlates of Access to Medical Care Among Women Employed by Sex Work in Southern Uganda: A cross-sectional Analysis of the Kyaterekera Study

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Abstract

Women employed by sex work (WESW) experience significant gaps in accessing necessary healthcare services, leading to unmet health needs. Yet, there is a dearth of literature on the barriers to medical care access among WESW in Uganda. We used data from the Kyaterekera

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Ethical Consideration Institutional review boards in Uganda and the United States of America approved the study protocol, in Uganda it was approved by the Uganda Virus Research Institute (UVRI) (*Ref: GC/127/18/10/690*) and the Uganda National Council for Science and Technology (*Ref: UNCST –SS4828*) in Uganda. In the USA it was approved by Columbia University Institutional Review Board (*Ref: AAAR9804*) and Washington University in St. Louis Institutional Review Board (*Ref: #201,811,106*). All study participants provided voluntary written consent before study participation and were made aware of their rights to withdraw from the study anytime they want without the study team approval.

Consent to Participate Written informed consent was obtained from study participants before participating in the study.

Consent for publication Written informed consent was obtained from study participants for their information to be used as an aggregate and de-identified for publishing or disseminating information on the results to describe the research study.

Conflict of Interest There is no conflict of interests to declare.

baseline to examine the correlates of access to medical care among WESW, defined as the ability of individuals to obtain the necessary healthcare services they require in a timely, affordable, and equitable manner. The Kyaterekera study recruited 542 WESW aged 18–58 years from Southern Uganda. We conducted a multilevel linear regression model to determine the intrapersonal (age, education level, marital status, HIV knowledge, and asset ownership), interpersonal (family cohesion and domestic violence attitudes), and community (community satisfaction, sex work stigma and distance to health facility) level correlates of access to medical care among WESW. Intrapersonal and interpersonal factors were associated with access to medical care among WESW. There was no significant association between community level factors and access to medical care. WESW with secondary education (β = 0.928, 95% CI = 0.007, 1.849) were associated with increased access to medical care. WESW with high asset ownership (β = −1.154, 95% CI= −1.903, −0.405), high family cohesion (β = −0.069, 95% CI= −0.106, −0.031), and high domestic violence attitudes (β = −0.253, 95% CI= −0.438, −0.068) were associated with decreased access to medical care. The findings emphasize the critical need for targeted family strengthening interventions to enhance family support for WESW and address domestic violence.

Keywords

Medical care; Health care; Vulnerable women; Sex work; Sub-Saharan Africa

Introduction

Women engaged in sex work (WESW) are part of the key population who face significant discrimination, marginalization, criminalization, and stigmatization. Unfortunately, these challenges contribute to their exclusion from accessing necessary healthcare services. As a result, WESW often experience unmet healthcare needs, further exacerbating disparities in their overall health and well-being [1]. Access to health care is defined as individuals' ability to obtain the necessary health care services they require in a timely, affordable, and equitable manner. Among WESW, access to medical care varies by country according to the legality of sex work, with more access in countries with less stringent laws against sex work and more limited in those with solid penal action [2]. The criminalization and other multilevel barriers can lead to the inability to access medical care services. Many WESW are immersed in poverty, which is one of the main drivers of sex work but also a critical structural factor of health disparities [3, 4]. WESW also have increased risk for HIV and other STIs, mental health problems including drug and alcohol problems, and sexual violence. Thus, they need both access to medical and mental health care services [5, 6].

WESW are highly burdened with HIV and other STIs. A UNAIDS 2021 report showed that this population had a 30 times higher risk of acquiring HIV than the general population in Sub-Saharan Africa (SSA) [7]. Alarmingly, the report also revealed that 32.8% of WESW in SSA are unaware of their HIV status [7]. In Uganda, the HIV prevalence among WESW is reported to be 41%, and that of STIs, which includes *Neisseria gonorrhoeae*, *Chlamydia trachomatis* and *Trichomonas vaginalis*, is 10.5% [8]. Interpersonal violence, which includes physical and sexual intimate partner violence (IPV) among WESW, is also high. Studies conducted in Uganda showed that 54–59% of WESW experience intimate partner violence

[9, 10]. All the above-mentioned problems WESW face require critical health care attention, which they may not access without difficulty.

Factors associated with access to medical care are categorized into three levels, these include intrapersonal, interpersonal, and community levels as described by the social-ecological model [11]. The social-ecological model has been widely applied in studies aimed at understanding the health behaviors of persons [12-14]. This model considers individuals and their surroundings to determine health-related behaviors [15].

Intrapersonal-level factors

encompass various elements, including age, marital status, education level, knowledge about HIV, and household socioeconomic status, all of which influence WESW's access to medical care. Women with higher educational attainment are more inclined to seek medical care, leading to improved health outcomes and longer life spans compared to their counterparts with lower educational attainment [16]. Unfortunately, many women in the sex work industry in SSA have low levels of education [17]. The correlation between education level and marital status is noteworthy; women with higher levels of education who are also married are likely to encounter fewer obstacles when accessing medical care than their unmarried counterparts [18, 19]. Additionally, individuals with a solid socioeconomic status are better positioned to afford medical care expenses, enhancing their access to healthcare services [20]. Conversely, older WESW may face challenges in accessing medical care due to the difficulty of disclosing their profession to potentially younger medical personnel [21, 22]. This dynamic can result in stigmatization and discrimination, further limiting their access to healthcare services.

Interpersonal level factors

these include factors like family support and domestic violence. Literature demonstrates that women's behaviors, including their healthcare access, are heavily influenced by the support they receive from their families and their individual and social networks [23]. The prevalence of domestic violence among WESW poses a significant barrier to healthcare access among WESW [24, 25]. Interpersonal violence, which includes physical and sexual intimate partner violence (IPV) among WESW, is also high. Studies conducted in Uganda showed that 54–59% of WESW experience intimate partner violence [9, 10]. Unfortunately, many victims of domestic violence within this population avoid seeking medical care for various reasons. One critical factor is low self-esteem, which can lead some WESW to feel unworthy of seeking help or support, even when facing health-related concerns [26, 27]. Additionally, the reluctance to disclose experiences of domestic violence can deter them from accessing medical services [26, 27].

Community Level Factors—these included factors like accessibility to health care facilities and services provided. Wanyenza et al. cited lack of awareness regarding available services for WESW, inflexible and short operational hours by health facilities, limited supplies and services provided, criminalization of sex work as some of the barriers to accessing medical care among WESW [28]. A study conducted in Canada by Socías et al. found that institutional factors, which included waiting time, short hours of operation,

and disrespect from health care personnel at the health facilities, were the common barriers to accessing medical care by WESW [29]. Additionally, stigma plays a precarious role in limiting WESW access to medical care. A study conducted in Burkina Faso found that social stigma in the form of verbal abuse, insecurity from police, and discrimination from friends and families was critical in limiting WESW's access to medical care [30].

The intrapersonal, interpersonal, and community levels barriers collectively impede access to medical care for WESW.

Despite improvements in the health care system in Uganda, it does not accommodate WESW since the services are not specific to them, and they fear being stigmatized and reported to relevant authorities if they disclose their work [1, 31, 32]. With all the above, there is still a dearth of literature on the correlates of access to medical care among WESW in Uganda. Therefore, this study aims to examine ten intrapersonal, interpersonal and community level correlates of access to medical care among WESW in Uganda. We hypothesize that intrapersonal, interpersonal and community level factors are associated with access to medical care among WESW in Uganda. The outcomes of this study can inform future intervention designs and programmes centered around access to medical care among vulnerable populations in low resource settings.

This study is guided by the social-ecological model, which considers individuals and their surroundings to determine health-related behaviors [15]. The model posits that one's behavior is molded by multiple factor levels, including intrapersonal, interpersonal, and community levels [11]. The model has been widely applied in studies aimed at understanding the health behaviors of persons [12-14]. In our study, intrapersonal-level factors include participants' demographics (age, marital status, and education level), knowledge about HIV, and household asset ownership. Interpersonal level factors include family cohesion and domestic violence attitude. Community-level factors included participants' community satisfaction, distance to health facilities and sex work stigma.

Methodology

Study Design

We analyzed baseline data from the Kyaterekera study, a cluster randomized clinical trial where 542 WESW aged 18 to 55 were recruited from 19 hotspots from four districts of the greater Masaka region in Southern Uganda. The *Kyaterekera* study evaluated a combination of economic empowerment and traditional HIV risk reduction measures to reduce new occurrences of HIV and STIs cases among WESW in Uganda. The participants were considered to participate in the study if they were 18 years and older at the time of recruitment, exchanged sex for money and other goods and services in the last thirty calendar days, and reported at least one encounter of condomless sex in the previous thirty calendar days. The study identified stakeholders who formed a community collaborative board and were engaged in identifying study sites and recruiting participants [33]. A detailed study protocol was published [34].

Data Collection

Data was collected by administering a structured questionnaire in Luganda, facilitated by trained Research Assistants. Since Luganda is the predominant language in the study region, the questionnaire was initially developed in English and translated into Luganda. To ensure accuracy and quality, a rigorous back-translation process from Luganda to English was performed, with approval of the translations obtained from language experts affiliated with Makerere University School of Languages, Literature, and Communications. Moreover, all Research Assistants involved in the study underwent comprehensive training in good clinical practice and received certification from the Collaborative Institutional Training Initiative (CITI Program). This ensured adherence to ethical guidelines and standards throughout the data collection process. All participants were tested for HIV and STIs (*Neisseria gonorrhoeae, Chlamydia trachomatis* and *Trichomonas vaginalis*), and viral loads were measured for those who tested HIV positive.

Outcome Measures

The outcome variable is access to medical care, measured using six questions related to seeking medical care in the past 12 months. These questions were developed from two studies which include the 1982 national study of access and the medical outcomes study (MOS) [35-37]. The items in the scale include the following; (1) *If I need medical care, I can get admitted without any trouble; (2) It is hard for me to get medical care in an emergency; (3) Sometimes I go without the medical care I need because it is too expensive; (4) I have easy access to the medical specialists that I need; 5)Places where I can get medical care are very conveniently located; and 6) I am able to get medical care whenever I need it.* Responses were rated on a 5-point scale with *1 = Strongly Agree, 2 = Somewhat Agree, 3 = Uncertain, 4 = Somewhat Disagree, and 5 = Strongly Disagree.* Items two and three in the scale were reverse-coded so that higher scores indicated less access to medical care. A composite score was created as a continuous variable. The items had a theoretical range of 6–30, with higher scores indicating more challenges in accessing medical care.

Independent Variables

Intrapersonal Level Variables—Intrapersonal level variables included age (measured in years), education level (primary or secondary school education), marital status (married/in a relationship, single and others), HIV knowledge of participants, and asset ownership (which is a measure of socio-economic status of a household according to assets owned including house, business, transport means, and farm gardens). HIV knowledge was measured using the HIV knowledge questionnaire [38]. Participants were asked to indicate whether the statements about HIV transmission were true or false. There were 17 statements with three response options which included: *1 = True, 0 = False*, and *0 = Don't Know*. The scale had a theoretical range of 0–17, with higher scores indicating high HIV knowledge. Household asset ownership was measured using a 21-item index, assessing the availability of assets, including transport means, house ownership, communication means, land, and farm gardens. The weighted total scores were transformed into a binary variable with low asset possession – six or fewer reported assets – coded as zero and high asset possession – seven or more reported assets – coded as one [39].

Interpersonal Level—Interpersonal level variables included family cohesion and approving domestic violence attitudes. Family cohesion was measured using the Family Environment Scale (Michaels, 1989). Family cohesion scale assessed the degree of commitment, help, and support that family members provide to one another. Respondents were asked to rate how often each of the seven items occurred in their family, on a 5-point Likert scale, with *1 = never, 2 = sometimes, 3 = about half of the time, 4 = most of the time, and 5 = always.* The scale's theoretical range was 7–35, with high scores indicating high levels of family cohesion. Domestic violence attitudes were measured using five questions adopted from the COMPASS Program questionnaire [40]. The items assessed whether a husband would be justified to hit or beat his wife if he was annoyed or angered by what the wife does. Participants responded with *no = 0* or *yes = 1*. The scale had a theoretical range of 0–5, with high scores (max = 5) indicating high levels of domestic violence attitudes.

Community Level—Community-level variables included participants' community satisfaction, distance to the health center, and sex work stigma. The Community Satisfaction Scale measured participants' community satisfaction [41]. The eight-item scale assesses a participant's satisfaction across key domains, including family, friends, and community/living environment. Participants were asked to rate their satisfaction with their community/living environment on a 5-point Likert scale with the following response options: *1 = never, 2 = sometimes, 3 = about half the time, 4 = most of the time, and 5 = always.* The theoretical range of the community satisfaction scale was 8–40, with higher scores indicating higher community satisfaction. Distance to the health center from the participant's residence; participants were asked how long it took them to get to the nearest medical center/doctor/nurse, two kilometers and less was considered near and coded 0, whereas greater than two kilometers was considered far and coded *1*. Sex work stigma was measured using the Sex Work Stigma Index [42]. Participants were asked to rate their agreement with items regarding if people found out that they were engaged in sex work. The Likert scale had 10 items with the following response options; *1 = strongly disagree, 2 = disagree, 3 = agree*, and *4 = strongly agree*. The scale was broken down into two separate scales representing community (first 5 items) and family level (last 5 items) stigma. The theoretical range for the community sex work stigma was 5–20, and family sex work stigma was 5–20 where higher scores indicated high levels of community and family sex work stigma respectively.

Data Analysis

We conducted descriptive statistics for all the 542 participants recruited in the study. Means and standard deviations were presented for continuous variables and percentages and frequencies for categorical variables. We fitted a multilevel linear regression model to examine the correlates of access to medical care among WESW. The data was structured into two levels, with participants variations in level one and hot spot variations in level two. We reported *p-values* below *0.05* as significant. We examined the dataset for missing values and found that only one variable had missing data, accounting for less than 1% of the total observations, a level generally considered acceptable. The analysis was conducted using STATA17.0 (StataCorp, Texas 77,845, USA).

Results

Sample Characteristics

Table 1 shows the characteristics of the population studied. The mean age of participants was 31.6 (SD: ±7.18) years. Of the 542 participants, 87.7% attained primary education, 25.6% were married or in a relationship, and 30.1% had high asset possession. About 22% of the participants traveled more than 2 km to reach the nearest health facility. 41% (41%) of the participants tested positive for HIV. Women who tested positive for at least one of the STIs (*Neisseria gonorrhoeae, Chlamydia trachomatis* and *Trichomonas vaginalis*) were 10.5%. The mean score on domestic violence attitude was 2.9, indicating moderate attitudes and the mean score of access to medical care was 16.7 (SD: ±4.5) showing moderate access.

Results from multilevel linear regression analysis are presented in Table 2.

Intrapersonal Level Correlates—we hypothesized that intrapersonal level factors were associated with access to medical care among WESW and this was partially supported. There was a significantly higher difference in mean medical care access scores among WESW with secondary education as compared to WESW with primary education (β = 0.928, 95% CI = 0.007, 1.849, t-value = 2.12, $p = 0.048$). On the other hand, there was a significantly lower difference in mean medical care access scores among WESW with high asset ownership (β = −1.154, 95% CI= −1.903, −0.405, t-value=−3.24, $p = 0.005$) compared to their counterparts with low asset ownership. WESW's age (β = −0.029, 95% CI= −0.066, 0.006, t-value=−1.73, $p = 1.000$), marital status – those who were married/in relationship (β = 0.578, 95% CI= −0.562, 1.719, t-value = 1.07, $p = 0.301$), single (β = 0.301, 95% CI= −0.740, 1.343, t-value = 0.61, $p = 0.551$) and HIV knowledge levels (β = 0.045, 95% CI= −0.075, 0.166, t-value = 0.79, $p = 0.437$) showed no significant association with access to medical care among WESW in Southern Uganda.

Interpersonal Level Correlates—we hypothesized that interpersonal level factors were associated with access to medical care among WESW and this was fully supported. There was a significantly lower difference in mean medical care access scores among WESW with high family cohesion scores (β = −0.069, 95% CI= −0.106, −0.031, t-value=−3.88, $p < 0.001$) and high approving domestic violence attitudes scores (β = −0.253, 95% CI= −0.438, −0.068, t-value=−2.88, $p = 0.010$) among WESW in Southern Uganda.

Community Level Correlates—we hypothesized that community level factors were associated with access to medical care among WESW, however, this was not supported. Distance to a health facility (β = 0.265, 95% CI= −0.769, 1.299, t-value = 0.54, $p = 0.597$), community sex work stigma (β = 0.071, 95% CI= −0.082, 0.226, t-value = 0.98, $p = 0.341$), family sex work stigma (β = −0.075, 95% CI= −0.230, 0.079, t-value=−1.02, $p = 0.322$) and community satisfaction (β = 0.047, 95% CI= −0.001, 0.097, t-value = 2.04, $p = 0.056$) were not associated with access to medical care among WESW in Southern Uganda.

Discussion

Guided by the social-ecological model [15], the study examined the correlates of access to medical care among WESW in Southern Uganda. Our findings showed that intrapersonal factors (education attained and asset ownership) and interpersonal factors (family cohesion and approving domestic violence attitudes) were associated with access to medical care among WESW. On the other hand, community level factors showed no significant association with access to medical care among WESW.

We hypothesized that intrapersonal level factors (age, education level, marital status, HIV knowledge and asset ownership) were associated with access to medical care among WESW. However, our study findings partially supported this hypothesis. Specifically, we found that education level and asset ownership were statistically significant predictors of access to medical care among WESW. Education plays a significant role in shaping health disparities, as individuals with higher educational attainment are more likely to prioritize seeking medical care, leading to improved overall well-being and longer lifespans within the general population [16]. In line with our study's findings, we observed that WESW with secondary education faced fewer challenges accessing medical care compared to their counterparts with only primary education. This observation could be attributed to women with higher education having better access to health information, enabling them to utilize available medical services more effectively [43].

In our study findings, WESW with more asset possession, indicating a higher socioeconomic status than their counterparts, were found to have reduced access to medical care. This observation is not in alignment with the broader context of sub-Saharan Africa (SSA), where socioeconomic inequality plays a significant role in determining healthcare access. Women with a higher economic standing often enjoy easier access to medical services, primarily due to their ability to afford the costs associated with medical care [43-45]. However, our study findings were contrary to this. Our findings may be attributed to the stigma and discrimination experienced by WESW when they disclose their work when seeking medical care which presents a substantial barrier even when they have the financial means to afford medical services [2, 28].

Previous research has consistently shown that older age or prolonged engagement in sex work is associated with reduced access to medical care [21, 22]. This barrier is primarily linked to the fear among WESW of disclosing their occupation to medical personnel, as it may result in stigma and discrimination related to sex work. These concerns, coupled with age-related factors, can contribute to a lower level of medical attention received by WESW [28]. Additionally, healthcare professionals may sometimes overlook the medical needs of older women, further exacerbating the issue. Factors such as high medical expenses and challenges related to transportation to healthcare facilities can also worsen the situation [21]. However, it is worth noting that our study findings contradict these past observations, as we did not find a significant association between age and access to medical care. One possible explanation for this discrepancy could be the relatively young age of the participants in our sample, with an average age of 31.6 years (Table 1). The youthfulness of our sample might indicate that these individuals have not yet faced some of the age-related barriers seen in

older WESW. It is essential to recognize that access to medical care can be influenced by a multitude of factors, and age is just one element in this complex equation. Further research and exploration of various age groups within the WESW population could provide a more comprehensive understanding of the interplay between age and access to healthcare.

Previous research has indicated that married women in the general population are more likely to access and utilize medical care compared to unmarried women, and this relationship can be influenced by education level [18, 19]. However, our study, focusing on WESW, yielded different results. We found no significant association between marital status and access to medical care among WESW. One possible explanation for this disparity in findings could be the small sample size of married WESW in our study, where only 25% of the participants reported being married or in a relationship (Table 1). The limited representation of married individuals in our sample might not have adequately captured the potential impact of marital status on medical access within this specific population. Therefore, more research is needed to ascertain this finding.

Our study findings revealed no significant relationship between HIV knowledge and access to medical care among female sex workers (WESW). This contrasts with previous research, which suggested that women with greater knowledge about HIV were more likely to have increased access to medical care. Such findings in other studies have been attributed to the fear of contracting HIV and other sexually transmitted infections (STIs), prompting women to undergo regular medical check-ups. It is worth noting that WESW in SSA are generally informed about the risks associated with sex work and the importance of seeking medical care for prevention and treatment [46]. They are aware of the availability of testing services, condom supplies, counseling, and antiretroviral therapy (ART) to protect their health and well-being [47, 48]. Despite this awareness, our study did not find a significant link between HIV knowledge and medical care access among WESW. To gain a deeper understanding of this discrepancy, further research is warranted.

Our study findings confirmed our hypothesis regarding interpersonal factors affecting access to medical care among women engaged in sex work (WESW). Specifically, our results demonstrated that both family cohesion and approving attitudes toward domestic violence were statistically significant predictors of access to medical care among WESW.

. This study revealed a concerning correlation between women who scored high on approving domestic violence attitudes and increased challenges in accessing medical care. The prevalence of domestic violence poses a significant barrier to healthcare access among WESW [24, 25]. Unfortunately, many victims of domestic violence within this population avoid seeking medical care for various reasons. One critical factor is low self-esteem, which can lead some WESW to feel unworthy of seeking help or support, even when facing health-related concerns [26, 27]. Additionally, the reluctance to disclose experiences of domestic violence can deter them from accessing medical services [26, 27]. The fear of being judged by healthcare professionals for their situation further compounds these challenges [27]. Addressing the issue of domestic violence and its impact on healthcare access is crucial to supporting the well-being of WESW. Implementing interventions prioritizing confidentiality, sensitivity, and non-judgmental care can help create a safe space for these individuals to seek

medical attention when needed. Moreover, raising awareness about the resources available to support victims of domestic violence can empower WESW to overcome these barriers and access the medical care they require for their health and safety.

In addition, research demonstrates that women's behaviors, including their healthcare access, are heavily influenced by the support they receive from their families and their individual and social networks [23]. However, our study findings indicates that WESW with high scores of family cohesion had reduced access to medical care. This finding could possibly be explained by the reluctance of WESW to disclose their engagement in sex work to family members due to fears of stigmatization, resulting in limited support. It could possibly be explained by the large household size of the sample (average of 3.6 (Table 1)) which puts high demand to the WESW with limited resources available, thus foregoing medical care. Therefore, there is a crucial need for family strengthening interventions and community level de-stigmatization programs tailored to WESW, helping them to communicate openly and honestly about their work with their families.

We hypothesized that community level factors, including community satisfaction, distance to health centers, and sex work stigma, were associated with WESW's access to medical care. However, our study findings did not support this hypothesis, as none of the community level factors were statistically significant. Community satisfaction plays a crucial role in determining access to medical care. When individuals are satisfied with the healthcare services available in their community, they are more likely to seek and utilize medical care when needed. This satisfaction can be influenced by factors such as the availability of healthcare facilities, the quality of care provided, the affordability of services, and the overall perception of the healthcare system [49-51]. A community that is satisfied with its healthcare resources tends to have better access to medical care. This includes having convenient and well-equipped healthcare facilities within reasonable proximity to residents. However, our study findings showed no significant relationship between community satisfaction, distance to the nearest health facility, community and family sex work stigma, and access to medical care among WESW in southern Uganda. A potential explanation for these insignificant results might be attributed to the mobility of WESW. Their transient nature may result in a reduced level of concern regarding the environment and the availability of health facilities in the communities they relocate to.

Limitations and Strengths

Limitations of this study should be acknowledged. First, it is important to recognize that the variables utilized in the analysis relied on self-reported data from study participants. Consequently, social desirability and recall bias may have influenced their responses, potentially affecting the accuracy and reliability of the findings. Secondly, the study's analysis was based on cross-sectional data collected at the baseline, implying that the observed associations should be interpreted with caution regarding causality. Future research should employ longitudinal data and conduct further investigations to establish a more definitive understanding of causality. By addressing these limitations, researchers can enhance the robustness and validity of the study's conclusions. However, the study had several strengths including (1) large sample size, the inclusion of a substantial number of

participants ($N = 542$) enhanced the statistical power and generalizability of the findings; (2) a comprehensive measure of access to medical care used which captured various dimensions of access, including geographical, financial, and cultural aspects. This comprehensive approach allows for a more nuanced understanding of the barriers and facilitators to medical care and provides a more comprehensive picture of the population's healthcare experiences. (3) WESW are a marginalized population, therefore this study findings have the potential to shed light on the unique challenges faced by this population and inform targeted interventions and policies to improve healthcare access and outcomes. (4) We also examined the correlates of access to medical care at three levels, including intrapersonal, interpersonal and community, this provides a nuanced understanding of how various factors interact and influence access to medical care, allowing for more targeted and effective interventions to enhance healthcare access and utilization.

Conclusion

WESW face several health challenges, including HIV and other sexually transmitted infections (STIs), interpersonal violence, and mental health issues, among others. Given the high-risk nature of their work, WESW not only face a greater vulnerability to HIV and STIs themselves but may also contribute to transmitting these infections to the general population through their clients. Ensuring their access to medical care becomes of utmost importance. Our study findings emphasize the critical necessity of addressing domestic violence and enhancing family support for WESW through targeted family strengthening interventions. Our findings showed that individuals with high scores of domestic violence attitudes and low family cohesion faced significant challenges in accessing medical care. Thus, implementing focused programs and interventions that emphasize family strengthening for WESW can encourage them to open up about their work and increase access to domestic violence victim services, ultimately improving their access to medical services. Moreover, information workshops can serve as valuable platforms for providing education, highlighting the importance of medical care, and addressing specific health concerns faced by WESW. By equipping them with accurate information and empowering them to make informed decisions, we can enhance their access to medical care and positively impact the overall well-being and health outcomes of both WESW and the broader community. It is crucial to prioritize efforts that promote a holistic approach to healthcare for WESW, which considers their unique challenges and circumstances, to create a healthier and safer environment for all.

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Data Availability

Due to the sensitivity around the data, the data will not be deposited in a data repository. However, data used in this analysis is available upon reasonable request. The team is open to data sharing provided the points outlined below, which were part of the study protocol, data sharing plan, and consenting process, are met; (1) A formal research question is specified a priori; (2) Names, affiliations, and roles of any other individuals who will access the shared data; (3) The deliverable(s)—e.g., manuscript, conference presentation—are specified a priori; 4)Proper credit and attribution—e.g., authorship, co-authorship, and order—for each deliverable are specified a priori; 5) A statement indicating an understanding that the data cannot be further shared with any additional individual(s) or parties without the PI's permission; 6) IRB approval for the use of the data (or documentation that IRB has determined the research is exempt).

Code Availability

Statistical analysis code is available at the request of the first author.

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Table 1

Description and characteristics of the population studied

Variable	Total sample (*N* = 542)
	Mean(SD)
Age (Min/Max: 18–55)	31.6(± 7.18)
Education level, %(n)	
Primary education	87.7(473)
Secondary school education	12.7(69)
Marital status, %(n)	
Married/in a relationship	25.6(139)
Single	13.3(72)
Other (divorced, separated, widowed)	61.1(331)
HIV	41.0(220)
STIs	10.5(57)
Asset ownership, %(n)	30.1(163)
HIV knowledge (Min/Max: 0–17)	9.1(±3.13)
Family cohesion (Min/Max: 7–35)	24.5(± 7.01)
Household size (Min/Max: 1–18)	3.6(± 2.18)
Domestic violence attitude (Min/Max: 0–5)	2.9(± 1.66)
Distance to a health facility, %(n)	
2 km and above	22.7(123)
Less or equal to 2 km	77.3(419)
Community satisfaction (Min/Max: 8–36)	21.3(± 5.55)
Community sex work stigma (Min/Max:5–20)	15.2(± 4.02)
Family sex work stigma (Min/Max:5–20)	14.65(± 4.23)
Access to medical care (Min/Max: 6–30)	16.7(± 4.51)

Table 2

Adjusted beta coefficients examining differences in the mean medical care access score by intrapersonal, interpersonal, and community variables in WESW ($N = 542$)

Variable	B	t-value	*p*-value	CI (95%)
Age	−0.029	−1.73	0.100	−0.066, 0.006
Education level (*Ref: Primary education*)				
Secondary school education	**0.928**	**2.12**	**0.048**	**0.007, 1.849**
Marital status (*Ref: Other*)				
Married/in a relationship	0.578	1.07	0.301	−0.562, 1.719
Single	0.301	0.61	0.551	−0.740, 1.343
Asset ownership (*Ref: Low possession*)	**−1.154**	**−3.24**	**0.005**	**−1.903, −0.405**
HIV knowledge	0.045	0.79	0.437	−0.075, 0.166
Family cohesion	**−0.069**	**−3.88**	**0.001**	**−0.106, −0.031**
Approving domestic violence attitudes	**−0.253**	**−2.88**	**0.010**	**−0.438, −0.068**
Distance to a health facility	0.265	0.54	0.597	−0.769, 1.299
Community sex work stigma	0.071	0.98	0.341	−0.082, 0.226
Family sex work stigma	−0.075	−1.02	0.322	−0.230, 0.079
Community satisfaction	0.047	2.04	0.056	−0.001, 0.097

Text in bold shows statistically significant association