



Literature review on risk factors for acquiring HIV infection in female sex workers

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Submitted on October 20th, 2023 / Accepted on May 23rd, 2024

<https://doi.org/10.5377/rtu.v13i37.17992>

Keywords: HIV, female sex workers, risk factor

ABSTRACT

The risk of not using safe sex practices and the vulnerability of sex workers to health risks such as acquiring a sexually transmitted infection such as HIV, makes them a key vulnerable population. The characteristics of sex workers and their perception of safe sex practices are unknown, most of them present some situations such as violence, low educational level, alcoholism, and drug use, in other words, the stigma and discrimination that women suffer because of sex work. Focusing on the issue of HIV in female sex workers and risk factors, a literature review was carried out in the following databases such as Lilacs, Scielo, Google Scholar, and Pubmed, from the last five years using the following descriptors. HIV, female sex workers, risk factor. A total of 20 scientific articles were obtained from websites such as WHO, PAHO, Thesis, Lilacs, Google Scholar, SCIELO, Revista Chilena,

being selected 10 for the research published between 2018 and 2023, taking into account that the publications were not more than five years old and were updated, all research before 2018 was excluded.

INTRODUCTION

WHO, the Global Fund, and UNAIDS have global HIV strategies that are in line with Sustainable Development Goal target 3.3 to end the HIV epidemic by 2030. (OMS, 2023)

By 2025, 95% of people living with HIV should have been diagnosed, 95% of them should be taking life-saving antiretroviral therapy (ART), and 95% of people living with HIV should have achieved viral load suppression, both for the benefit of their health and to reduce HIV transmission. In 2022, these percentages were 86(%) [73->98%], 89(%) [75->98%], and 93(%) [79->98%], respectively. (OMS, 2023)

If we take all people living with HIV, 86% [73->98%] were aware of their status, 76% [65-89%] were receiving antiretroviral treatment, and 71% [60-83%] had managed to suppress their viral load. (OMS, 2023)

The number of new HIV infections in Latin America is estimated to have increased by 4.7% from 2010 to 2021, with approximately 110,000 new infections in 2021. From 2010 to 2021, the Caribbean saw a 28% reduction, from an estimated 19,000 new cases to 14,000 per year. (OMS, 2023)

The HIV epidemic in the Region disproportionately affects certain subpopulations (key populations), including gay men and other men who have sex with men (MSM), transgender women, and sex workers. In Latin America, these three key populations accounted for more than half of new infections in 2021, and 44% in the Caribbean. (PAHO,2023)

In 2021, 3.8 million people were living with HIV in the Americas, of which 2.5 million live in Latin America and the Caribbean. In Latin America, the number of people dying from AIDS-related causes has decreased from 40,000 in 2010 to 29,000 in 2021, while in the Caribbean it decreased from 12,000 to 5,700 in the same period. (OPS, 2023)

It is estimated that 18% of people living with HIV in Latin America and the Caribbean are unaware of their infection. About one-third are diagnosed late, with advanced immunodeficiency (less than 200 CD4 per mm³ of blood). (OPS, 2023)

Approximately 1.5 million people living with HIV were receiving antiretroviral treatment in Latin America and 230,000 in the Caribbean at the end of 2021, representing an antiretroviral treatment coverage of 69% of all people estimated to be living with HIV in Latin America and 70% in the Caribbean. (OPS, 2023)

According to WHO, those most at risk of acquiring HIV are sex workers and transgender women, who jeopardize global progress in the HIV response, but who are also less likely to access prevention, screening, and treatment services. (OPS, 2023)

Studies indicate that sex workers are 14 times more likely to acquire HIV infection than other women, 19 times more likely to have sex with men than the general population, and 50 times more likely to have sex with other adults. (OPS, 2023)

National HIV plans still have significant gaps in addressing HIV needs. Globally, only 70% of countries surveyed explicitly address the needs of men and sex workers. (OPS, 2023)

The population of Nicaragua, according to INIDE, for the year 2022 is 6,733,761 inhabitants, being mostly female, 51%; and under 20 years of age, 38.6%. (MINSAs, 2023)

According to the Ministry of Health (MINSAs) on its website, in Nicaragua as of 2022 we have 1129 reactor cases, of which 6,567 are in ART treatment, 145 pregnant women are caught with HIV, children with HIV 3, being carried out 183847 being from this key population: 30877. (MINSAs, 2023)

DEVELOPMENT

Sexual behaviors are behaviors that the population adopts, either voluntarily or involuntarily, that can lead to danger for the person or their environment, producing immediate pleasurable sensations, taking into account the following affectations that can increase the risk in human beings.

Behaviors and conditions that increase the risk of getting HIV:

- Having sex, anal or vaginal, without a condom;
- Having other sexually transmitted infections (STIs), such as syphilis, herpes, chlamydia, gonorrhea, or bacterial vaginosis;
- Harmful use of alcohol or drugs in the context of sexual intercourse;
- Sharing contaminated drug solutions, needles, syringes, or other injection material;
- Receiving injections, transfusions, or transplants of tissues without guarantees of safety, or being subjected to medical procedures that involve cuts or perforations with non-sterile instruments;
- Accidentally pricking oneself with a needle, is particularly common among health personnel.

In 2019, UNAIDS, in its annual report for the country of Colombia, estimated that there are 244,400 sex workers and in Bogotá a ratio of nine workers per 10,000 inhabitants (District Secretariat for Women, 2019). Of these, 96.5% are cisgender women and 1.8% are transgender women with an average age of 25, 86.9% are single and homeless. Similarly, reports indicate that 60% are mothers who are heads of household and do not earn more than two legal minimum monthly wages (432.37 USD), that is, more than 70% are classified as poverty level, and 50% managed to complete basic and secondary education, but could not access other studies (District Women's Secretariat, 2019). Research from Colombia has found that mental health problems and risky behaviors are associated with negative attitudes towards sexuality in the face of condom use, which during the pandemic and the measures adopted worldwide to contain the spread, unleashed stressful and uncertain critical moments, especially in women sex workers since due to COVID-19 many establishments were closed forcing women sex workers going out on the streets being even more at risk not only from acquiring HIV, but also from the pandemic. (Rebellon, 2021, p.201)

Likewise, in Colombia, according to data managed through the epidemiological bulletin from 1985 to 2013, the total number of cases was 92,379, and by 2015 in week 52 11,606 new cases had been reported, proving that HIV has been increasing rapidly generating concern in local and national health entities. According to the study, it argues that the social determinants of health explain most of the health inequities, having a great impact on the deterioration of the quality of life of the population derived from various complex social, political, economic, and environmental factors. (Osorio, 2018, p.945)

Globally and in Latin America, the key population groups of female sex workers account for 65% of the acquisition of the human immunodeficiency virus (HIV). In Paraguay, the HIV epidemic is concentrated in key populations, with the main transmission being sexual intercourse without the use of condoms, which increases the risk in women sex workers. In 2018, a total of 21,000 people were estimated to be living with HIV, with a prevalence of 2.3 in MTS¹. (Aguilar, 2019, p.30)

The epidemiological behavior in Panama since the first case was detected in 1984 has seen rapid growth in reactor cases, according to data provided by the Ministry of Health (MINSA), until 2021 there were a total of 13,767 in Panama and 9,567 deaths due to AIDS. (Bernal, 2022, p.58)

For sex workers from Venezuela and who are immigrants in Colombia, condom use depends on several factors including knowledge, beliefs, skills, and social aspects, associated with prejudice, discrimination, and the use of psychoactive substances, which determine risky behavior both in their personal lives and in sexual practices. For this reason, to encourage the

1. Women sex workers.

use of condoms, it is essential to know the characteristics of social work. We also know that not all sex workers act in the same way, as some can use condoms in all their practices, and those who have never used them. It should also be considered that the use of condoms is a decision that can be conditioned by a situation of abuse of power and not only as a personal choice. (Restrepo, 2023)

In 2019, nearly 5,100 new cases were registered, the increase in HIV transmission is a worrying issue for public health in the world particularly in Chile, which has not yet been reduced, showing an increase in heterosexual monogamous women and young people between 20 and 29 years old. opting for unprotected sexual behaviors is one of the main routes of transmission today. (Venegas, 2022)

As in Latin America, the main route of infection in Chile is through sexual contact, despite efforts aimed at surveillance of HIV infection in the period 2010-2018, the incidence of cases increased by 34%. (Villanueva, 2022)

The current situation of HIV and AIDS in Chile continues to be a global public health problem according to the recent UNAIDS report at the end of 2021, in this country the epidemic has had a 45.7% increase in confirmed cases in the last 10 years. By 2021 approximately 84,0000 people are living with HIV, having a major impact on certain populations such as men who have sex with men, people who inject drugs, sex workers, transgender people, and people deprived of liberty. (Vargas, 2023)

The Chilean university population is concentrated between 20 and 24 years old, within which they establish new interpersonal relationships including unprotected sexual activity as well as alcohol and drug consumption, and multiple partners, among others. In this country, the highest reported rate is syphilis, followed by HIV infection, in 2017 there was an increase in men. Between the ages of 20 and 24, the university population acknowledged having had a diagnosis of risk. (Contreras, 2022)

In two U.S.-Mexico border cities, HIV/STI rates remain high despite low national prevalence overall, two cities such as Tijuana and Ciudad Juarez are major border crossings with high concentrations of sex work and the drug market, and sex work is allowed between the two border areas. (West, 2022)

Latin America is one of the most unequal regions in the world where race, ethnicity, and gender, among others. Since indigenous peoples are considered a vulnerable population due to their high prevalence of diseases, lack of health services, and high rates of morbidity and mortality, the HIV epidemic in rural areas in Mexico is more recent, showing exponential

growth due to lack of access to information, health services, and precarious conditions. women are physically and socially more vulnerable to HIV infection. (Juarez, 2021)

A study was carried out in 13 municipalities of Mexico City on women sex workers that began in the year 2011 to 2015, concluding that from 198 to 2000 HIV seroprevalence among sex workers was less than 1%, however, in Tijuana and Ciudad Juárez showed prevalences ranging between 6% and 12%. (Patterson, 2019)

The overlap between increasing substance use, work, and a highly mobile population at the Mexico-Guatemala border could have implications for risky behaviors and disease transmission across the region, which can lead to unsafe sexual practices with a large volume of clients having difficulty negotiating condom use. recruiting sex workers from September 2013 to July 2015. (Rocha, 2019)

In the Dominican Republic, adult prevalence is 0.9% among men and 0.7% among women, with approximately 67,000 people living with HIV in the country. In 2016, stigma-related deaths represented a 40% reduction since 2012, however, the country is far from reaching the 90-90-90 targets, only 77% know their HIV status and 55% receive antiretroviral treatment, they also experience stigma and discrimination, although are still no explicit laws that criminalize sex work. people of Haitian descent are more affected by HIV than any other community in the country. (Eileen, 2020)

In Ecuador, the figures show around 36,544 people living with HIV of which only 19,545 have antiretroviral treatment regularly, of the women who were evaluated only 58% were between 25 and 29 years old, a similar percentage had a maximum level of secondary education, 77% had sexual relations with at least two people a day, In addition, 54% do not have knowledge of HIV prevention and not all of them are tested for HIV. (Nazate, 2022)

According to a study, women sex workers in Catalonia who carry out their sex work on the streets or highways come from precarious conditions and have a greater vulnerability, which is related to economic factors, lifestyle or behaviors, the use of injectable drugs, as well as vulnerabilities associated with structural or social determinants such as having less access to health services.

The law that came into force in 2014 “Citizen Security Law” has caused a demand for services in isolated places, this causes women sex workers to change geographical areas, leading to an increase in their vulnerability and the possibility of being attacked, and being forced to negotiate the use of condoms, price or type of service. (Lopez, 2022)

Since the beginning of the HIV epidemic, women sex workers have been recognized nationally and internationally as a population at high risk of acquiring HIV infection, with

global studies indicating a high level of prevalence among sex workers. Compared to the general population, a study conducted in 2000-2001 in some capitals estimates a prevalence of 6.1% among 2712 female sex workers, a rate approximately 15 times higher compared to that of the Brazilian female population aged 15 to 49 years. (Landmann, 2018)

In Spain, the rates of new diagnoses of HIV are higher than the average of the countries of the European Union and Western Europe, it is estimated that HIV affects about 145,000 people in Spain, only in 2018 3,244 new diagnoses were reported, representing estimated annual rate of 8.65 per 100,000 inhabitants. (García, 2021)

CONCLUSIONS

Women sex workers globally, according to the articles reviewed, lack the same situations in each country. In Latin America, the main problems faced by this group of women were the lack of access to health services, stigmatization and discrimination, the vulnerability they have inside or outside establishments where sex work is practiced, the consumption of drug substances, the level of schooling and the lack of negotiation of the use of condoms in sexual practices with clients in acquiring HIV infection. It was also observed that the prevalence rate continues to increase over the years and sex workers are a key population that will always be exposed.

It should also be taken into account that, due to the lack of job opportunities that exist in Latin America, sex workers provide their service constantly and do not use a condom in every sexual intercourse, since they could receive more money without using it, and also, when they have regular clients, sex workers tend not to use them.

Many sex workers have a history of intimate partner violence, emotional, physical, and sexual abuse, and drug and alcohol use.

The lack of knowledge about HIV prevention among sex workers increases the risk factor since only a minimal percentage take the rapid HIV test.

This systematic review allows us to know the risk to which women sex workers are exposed to acquiring HIV due to the type of service they offer and the unsafe sexual practices they practice.

BIBLIOGRAPHIC REFERENCES

- Rebellón-Pinillos, P. A., Author_id, N., Gómez-Lugo, M., & Author_id, N. (2022). Sex Work and the COVID-19 Pandemic: Sexual and Mental Health of a Sample of Sex Workers in Colombia. *Latin American Journal of Psychology*, 53. <https://doi.org/10.14349/rjp.2021.v53.22>
- Aguilar, G., Samudio, T., López, G. G., Giménez, L., Ríos-González, C. M., & Sanabria, G. (2019). Prevalence of HIV/Syphilis and risk behaviors in female sex workers in Paraguay. *Revista de salud publica del Paraguay*, 9(2), 29-34. <https://doi.org/10.18004/rspp.2019.diciembre.29-34>
- Osorio, E. V., Ocampo, D. A. A., & Pineda, J. E. R. (2018). Social determinants of health influencing the prevalence of HIV infection in female sex workers from the downtown area of the city of Armenia, Quindío, Colombia. *Saude E Sociedade*, 27(3), 944-956. <https://doi.org/10.1590/s0104-12902018180066>
- Bernal, D. (2022). Epidemiological behavior of HIV-AIDS in Panama. *Focus (Panama)*; 31(27): 55-70, Jul.-Dec.2022. | LILACS | BDENF. <https://pesquisa.bvsalud.org/portal/resource/es/biblio-1380863>
- Eduardo, R. (2023). Factors associated with condom use among sex workers of Venezuelan origin in Colombia. *Rev. Panam. public health*; 47: E2, 2023. tab | LILACS. <https://pesquisa.bvsalud.org/portal/resource/es/biblio-1424266>
- López-Corbeto, E., Sanclemente, C., González, V., Mansilla, R., Casabona, J., & Folch, C. (2022). HIV, chlamydia, and gonorrhea vulnerability depending on sex work site. *Enfermedades infecciosas y microbiología clínica (English ed.)*. <https://doi.org/10.1016/j.eimce.2022.02.001>
- Szwarcwald, C. L., Damacena, G. N., De Souza Júnior, P. R. B., Guimarães, M. D. C., Da Silva De Almeida, W., De Souza Ferreira, A. P., Da Costa Ferreira-Júnior, O., & Dourado, I. (2018b). Factors associated with HIV infection among female sex workers in Brazil. *Medicine*, 97(1S), S54-S61. <https://doi.org/10.1097/md.00000000000009013>
- Del Romero, J., García-Pérez, J., & Espasa, M. (2019). Prevention and treatment of sexually transmitted infections in people at high risk, including HIV-infected patients. *Infectious Diseases and Clinical Microbiology*, 37(2), 117-126. <https://doi.org/10.1016/j.eimc.2018.11.008>
- García-López, Y. L., Bernal-Soriano, M. C., Torrús-Tendero, D., de los Reyes, J. A. D., & Bolea, R. C. (2021). Factors related to quality of life in people living with HIV in Alicante, Spain. *Infectious Diseases and Clinical Microbiology*, 39(3), 127-133. <https://doi.org/10.1016/j.eimc.2020.03.005>
- C, C. V., F, J. L., C, C. O., H, P. A., R, M. E., & H, T. B. (2022). Barriers and

- facilitators to the use of barrier methods for HIV/AIDS transmission. *Revista Médica de Chile*, 150(3), 295-301. <https://doi.org/10.4067/s0034-98872022000300295>
- West, B. S., Agah, N., Roth, A. M., Connors, E. E., Staines-Orozco, H., Magis-Rodríguez, C., & Brouwer, K. C. (2022). Sex work venue disorder and HIV/STI risk among female sex workers in two México-US border cities: a latent class analysis. *AIDS and Behavior*, 27(1), 82-95. <https://doi.org/10.1007/s10461-022-03746-x>
- Patterson, T. L., Strathdee, S. A., Semple, S. J., Chavarin, C. V., Abramovitz, D., Gaines, T., Mendoza, D. V., Staines, H., Aarons, G. A., & Rodríguez, C. (2019). Prevalence of HIV/STIs and correlates with municipal characteristics among female sex workers in 13 Mexican cities. *Salud Publica De Mexico*, 61(2, Mar-Abr), 116. <https://doi.org/10.21149/8863>
- Rocha-Jiménez, T., Morales-Miranda, S., Fernández-Casanueva, C., & Brouwer, K. C. (2019). The influence of migration in substance use practices and HIV/STI-related risks of female sex workers at a dynamic border crossing. *Journal of Ethnicity in Substance Abuse*, 19(4), 503-520. <https://doi.org/10.1080/15332640.2018.1556763>
- Yam, E. A., Pulerwitz, J., Almonte, D., García, F., Del Valle, Á., Colom, A., McClair, T., & Dolores, Y. (2020). Stigma among key populations living with HIV in the Dominican Republic: experiences of people of Haitian descent, MSM, and female sex workers. *AIDS*, 34(1), S43-S51. <https://doi.org/10.1097/qad.0000000000002642>
- Paola, I. (2023). Current situation of HIV and AIDS in Chile; Counseling, an important prevention tool. *Horiz. sick*; 34(1): 1-4, 2023. | LILACS. <https://pesquisa.bvsalud.org/portal/resource/es/biblio-1427976>
- Contreras-García, Y. (2022). Sexual behaviors bysex in the Chilean university population that demands rapid HIV testing. *Rev. chil. obstet. gynecol.* (Online); 87(3): 194-202, Jun. 2022. tab | LILACS. <https://pesquisa.bvsalud.org/portal/resource/es/biblio-1388738>
- Alejandro, C. R. M. (2022). Knowledge and risk perception of stomatology students in the face of HIV/AIDS. *Educ. med. super*; 36(1)Mar. 2022. tab | LILACS | CUMED. <https://pesquisa.bvsalud.org/portal/resource/es/biblio-1404520>
- Villanueva-Pabón, L. P. (2022). Epidemiological characterization of new diagnoses of human immunodeficiency virus infection in Chile, 2010-2019. *Rev. chil. infectol*; 39(4)2022. | LILACS. <https://pesquisa.bvsalud.org/portal/resource/es/biblio-1407799>
- Juárez-Moreno, M. (2021). Sexuality, gender, and perception of risk of HIV infection in indigenous women in Mexico. *Saúde Soc*; 30(2): E200399, 2021. tab | LILACS.

<https://pesquisa.bvsalud.org/portal/resource/es/biblio-1280649>

Chuga, Z. N., & Mauricio, O. E. A. (2022). Knowledge about HIV-AIDS among women sex workers attending El Priorato Health Center, Ecuador. Zenodo (CERN European Organization for Nuclear Research). <https://doi.org/10.5281/zenodo.7442807>