

Sex work in Cotonou: Critical vulnerability of young women in the face of poverty

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Abstract

This article analyzes the vulnerability of unemployed young women to sex work (SW) in the city of Cotonou, Benin. The data used comes from a survey of 355 SW, 96 of whom were registered and 259 of whom were operating clandestinely. The methodological approach is based on multiple correspondence analysis, which allows for the identification of the main socio-economic profiles of the women concerned. The results highlight two distinct groups: (i) educated and single young women, with a median age of 26, who have a high level of education (95%) and are relatively autonomous in their decision-making, but face a lack of stable employment opportunities, leading them to SW as a means of subsistence; and (ii) younger women, with a median age of 23, who have low levels of education, 68% of whom live below the poverty line and 94% of whom have multiple family responsibilities. This second group illustrates heightened vulnerability, marked by economic and social insecurity. The study reveals that sex work, far from being a homogeneous phenomenon, reflects differentiated dynamics depending on the socioeconomic profiles of women. It underscores the urgent need for targeted interventions, including the implementation of appropriate education and vocational training programs, increased awareness of sex work rights, and improved access to healthcare. Furthermore, specific economic support for sex workers with dependent children, as well as the development of government and non-profit partnerships, appear essential to reducing their vulnerability and promoting their socioeconomic inclusion.

Keywords: Economic Vulnerability; Sex Work; Poverty; Young Women; Cotonou; Benin

1. Introduction

Sex work, a significant phenomenon in social life in most countries of the world, is the subject of much analysis. According to a 2012 report on sexual exploitation by the Scelles Foundation, 42 million people engage in it worldwide, and 75% of sex workers are between 13 and 25 years old, with more than 3 million minors being victims of sexual exploitation. Sex work covers a range of activities, but it is defined in most studies as "the provision of sexual services in exchange for money or goods" (Johnson et al., 2022). UNAIDS (2005) provides a broader definition that includes several dimensions of the phenomenon. It defines it as "the exchange of money or goods for sexual services, on a regular or occasional basis, involving adults, young people, and children of the female, male, or transgender sex, with or without the sex worker consciously defining this activity as income-generating."

Predominantly female (Sethuramalingam et al., 2017), sex workers constitute a heterogeneous population where the structural, economic, social, and legal context in which they work, as well as their social needs, vary considerably from one continent and country to another (Hester et al., 2019). In sub-Saharan Africa, the phenomenon is evident, and the

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statistics speak volumes. In this regard, Lagaa et al. (2022), in their work, estimate the number of sex workers aged between 15 and 49 at 2.5 million, representing 1.1% of women of reproductive age. This phenomenon is therefore expanding and continues to impact society, particularly in Africa, where multiple challenges already pose existential questions for the full development of all.

Furthermore, the stigmatizing and hidden nature of sex work limits the availability of accurate data, especially in developing countries. Benin is not immune to this situation. It also experiences the existence and regular practice of sex work within its borders, particularly in large cities like Cotonou (Batona et al., 2017; Moreau, 2021). While official statistics on the number of people engaged in this activity are virtually nonexistent, Kroone and Huberta revealed in 2009 that 15% of sex workers in Cotonou are Beninese nationals. This activity is considered "semi-legal" because it is not a criminal offense, but it is not legalized either (Moreau, 2021). UNAIDS also estimates that there are approximately 15,000 sex workers in the country, with about 15% being Beninese nationals. This activity takes place in the streets, bars, restaurants, hotels, and brothels. Several reasons are cited by sex workers, including economic ones. International organizations such as the World Health Organization (WHO) and the United Nations Programme on HIV/AIDS (UNAIDS) counted 16,219 sex workers across the country in 2017. The city of Cotonou alone is home to 4,926 of them, of which 1,334 are registered and 3,592 are operating clandestinely.

Two main forms of sex work are observed: either registered or clandestine (Mboup et al., 2018). The illegal nature of their activity forces them into secrecy, and they sometimes face discrimination and stigmatization due to socio-cultural reasons (Kpatchavi et al., 2012). These difficulties do not prevent these sex workers from practicing their profession, especially in urban areas like Cotonou. With the work carried out by certain authors, it has been proven that sex work would be a handicap for the economic development of territories and, more broadly, of countries.

To this end, the identified channel is based on the link between the resurgence of sexually transmitted infections and sex work (Dinkelman et al., 2008); health being an important dimension of human capital (Onyango et al., 2015). More specifically, the literature emphasizes that poor health undermines work capacity and erodes the potential of human capital (Gennaioli et al., 2013; Lamzihri et al., 2023). In reality, sex workers adopt risky sexual practices, such as unprotected sex, in order to obtain greater monetary compensation from clients (Dasgupta, 2013; Sobo, 1993). Furthermore, poverty also negatively impacts the negotiation of protected sex with clients who may insist on foregoing protective measures (Amaro, 2000; Shannon et al., 2009; Wojcicki and Malala). It leads sex workers to accept money for unprotected sex (Sherman et al., 2010; Sahini, 2008; Reeves et al., 2017).

Thus, sex work poses a significant challenge in terms of public health, policy, society, and sustainable development. As it constitutes a threat to human capital and the economic development of countries, understanding the factors that explain sex work is a crucial issue. In both wealthy and developing countries, studies on sex work argue that poverty and economic disadvantage drive women into sex work (Overs, 2014). Furthermore, it has been shown that monetary poverty, as a structural barrier, creates a cyclical interconnection with sex work (Overs, 2014). In this regard, the UNAIDS Advisory Committee on Sex Work and HIV identifies the economic empowerment of sex workers as an important strategy affecting their choice of work (UNAIDS, 2012). The importance for sex workers of increasing their capacity to absorb economic shocks has been highlighted by a number of studies (Binagwaho et al., 2010; Pronyk et al., 2005; Parker et al., 2000).

Indeed, sex workers come from very diverse socio-economic backgrounds, but most studies focus primarily on their high-risk behavior and the assaults they experience, without considering their socio-economic and demographic profile, geographic location, education level, and other socio-cultural norms (Amritha et al., 2013; Sagtani et al., 2014). For example, HIV prevention programs and policies emphasize limiting transmission among sex workers, which often leads to the neglect of social, occupational, economic, and socio-demographic issues (Scorgie et al., 2012; Pauwi, 2003; Gysels et al., 2002).

Studies have shown that poverty, among many other factors, has a more severe negative impact on the health of sex workers than if they were affected by only one social problem. It has also been shown that the health problems of sex workers can be linked to complex social needs and structural determinants, including unemployment, negative childhood experiences, gender and racial inequalities, and poverty (Johnson et al., 2022; Abad et al., 2015; Argento et al., 2019; Jeal et al., 2017). This highlights the need to understand the socioeconomic and demographic profile of sex workers. Legarde's work (2023) indicates, in this regard, the influence of socioeconomic factors as the primary reason for engaging in sex work.

Billah and Baroi (2012) examined the socioeconomic profile of sex workers (SWs) who are mothers of school-aged children and linked this profile to the barriers to their children's access to formal education. They concluded that the

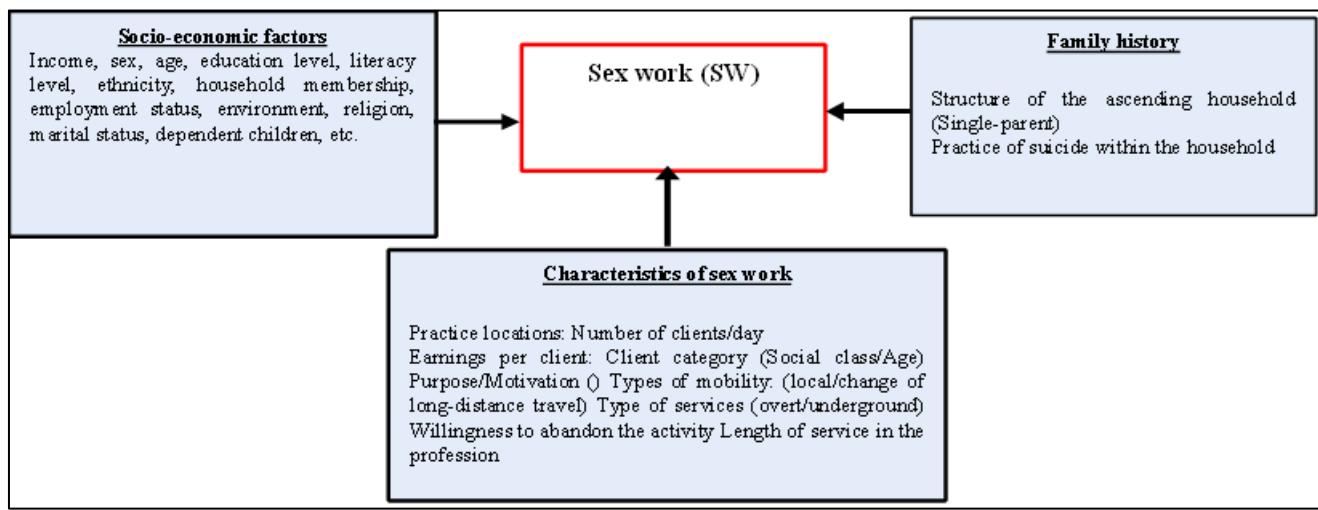
children of SWs have limited access to formal education. Those who are rarely admitted also end up dropping out after a short period due to societal divisions. Financial reasons were also identified by these authors. Kawser et al. (2020), in their study of the city of Dakar, found that the vast majority of SWs were illiterate (65.8%), widowed/separated (44.6%), followed by 43.5% who were married.

Based on all these elements, this article aims to establish the socioeconomic and demographic profile of SWs in the context of Benin. Although male sex workers exist in the country, this research focused solely on women. This choice stems from their greater numbers and accessibility. The contribution of this work lies in the scarcity of published scientific articles on the facts and characteristics of sex workers in Benin, or those that primarily describe the situation in Cotonou, the country's economic capital. Indeed, most scientific studies analyze the violence experienced by sex workers, the use of contraceptive methods, and risky behaviors related to sexually transmitted infections, etc. (Dugas et al., 2019; Semini et al., 2013; Tounkara et al., 2014; Dugas et al., 2015; Batona et al., 2015). Furthermore, the issue is not truly addressed scientifically in the city of Cotonou, despite the phenomenon being rapidly expanding there. It is important to study the vulnerability of young women engaged in sex work in Cotonou in order to get to the root of the problem and implement policies capable of addressing the underlying causes of the phenomenon. This article also distinguishes itself by adopting a quantitative method (multiple correspondence analysis) for analyzing the socio-economic and demographic profile.

The remainder of the article is structured as follows: Section 2 presents the conceptual framework, methodology, and data used. Section 3 presents the main results, and Section 4 provides the discussion.

2. Conceptual framework

The conceptual framework highlights the socio-economic factors, family background, and characteristics of sex work that constitute the aspects considered in this study for data collection and analysis. In-depth analysis of socio-economic factors required examining income, gender, age, education level, literacy level, ethnicity, household membership, employment status, environment, religion, marital status, dependent children, and other relevant factors. Regarding family background, the criteria considered include the structure of the ascending household (single-parent household) and the practice of sex work within the household. The study of sex work characteristics considered the number of clients per day and earnings per client (including client category, social class and age, purpose/motivation, types of mobility (local/remote), type of sex work, willingness to leave the activity, and length of time in the profession).



Source: Authors' design, 2025.

Figure 1 Diagram of the conceptual framework

3. Methodology

This section presents the methodological approach adopted. It describes the sampling techniques, as well as the methods of data collection and analysis.

3.1. Study population

This is a cross-sectional descriptive and analytical study conducted between February and March 2024 among sex workers living in the city of Cotonou. The study population consists of sexually active women and men living in Cotonou who reported having engaged in sexual relations in exchange for financial compensation during the three months preceding the survey (IOM, 2011). Sex workers are included in this study if they:

Aged 18 years or older;

- Resident in Cotonou for the three months prior to the interviewer's visit;
- Have given their consent to participate in the study.
- Excluded from this study are sex workers who are: Under the influence of drugs or alcohol, insofar as the influence of this substance could impair the validity of consent;

3.2. Sampling techniques and size

The respondent-driven sampling method was used for selection. Respondent-driven sampling (SDR) is an evolved version of snowball sampling. Like all chaining methods, it requires the respondent to take on the role of recruiter for future respondents (Ined, 2020). Indeed, these methods consist of surveying within networks by initially selecting a few individuals called "seeds" or "seeds." Only these individuals are designated by the surveyor. Subsequently, the respondents themselves recruit/designate their peers who will in turn be asked to participate in the survey. In practice, the SDR method involves giving respondents coupons at the end of the questionnaire, which they then distribute to their contacts (who also belong to the target population). In this study, the aim is to recruit initial groups and then use them to reach others like them, because regardless of the specific roles within the sex work category, they form a community through their shared practices.

The sample size is calculated based on an estimate of 30% of all sex workers in Cotonou (UNAIDS, 2017), given that we plan to interview both active men and women. Therefore, the minimum sample size of sex workers to be drawn is given by the formula below (Johnston, 2013):

$$n = (Z^2 * P(1-p)) / d^2$$

Where: n = minimum required sample size;

z = confidence level;

p = proportion;

d = precision 95% is the confidence level generally used (in this case, z = 1.96); the precision is set at 5%.

By applying a 10% increase to account for possible non-response or refusal, we arrive at a minimum acceptable sample size of 355 TDS for the study. The 355 TDS will be distributed as follows:

Table 1 Number and distribution of surveyed TDS

N°	Category of TDS	Effective
1	Displayed	96
2	Clandestine	259
TOTAL		355

Source: Authors, 2025.

For the data collection to proceed smoothly, respondents must be members of the target population and know each other. "Knowledge" of someone means general recognition, which allows for the recruitment of acquaintances (weaker ties) as well as friends (stronger ties). The TDS recruitment strategy involves participants using a specific number of coupons, each bearing a unique code, to recruit peers within their social network. If accompanied by positive experiences during the survey, the presumed social influence of the "seeds" among their peers encourages them to accept the coupons. Once the survey is completed with the "seeds," they become recruiters and receive a specific

number of coupons with which they will recruit eligible peers from their social network to participate in the survey. When the recruits of the "seeds" have participated in the survey, they in turn become recruiters and receive a specific number of coupons with which they will recruit peers from their social network to participate. This process allows for the theoretically exponential expansion of the sample from one wave to the next, forming a recruitment chain (Figure 1). It continues until the final sample is obtained.

The recruitment process relies on several assumptions that must be verified:

- individuals recruit randomly from among their acquaintances.
- the population consists of a single network: all individuals are interconnected, more or less directly. This assumption is essential because it allows us to apply Markov chain theory and thus argue for the convergence of the estimators towards unbiased estimates.

The links between individuals are reciprocal: If A cites B, B will necessarily cite A.

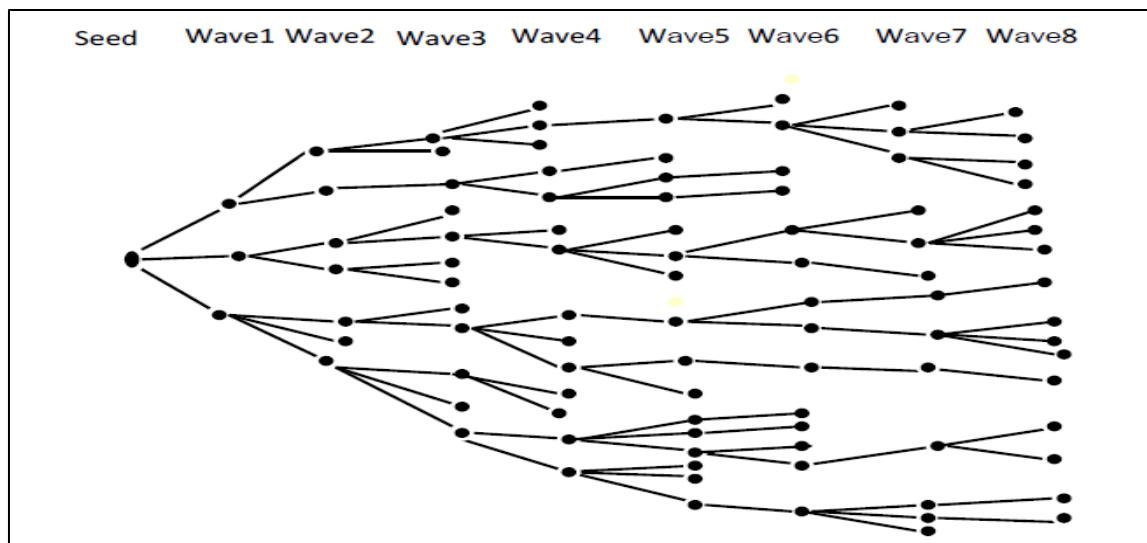


Figure 2 Theoretical recruitment chain by TDS

The TDS relies on various incentives to encourage participation. Mild pressure exerted by the recruiter on their peer constitutes one incentive. In our study, a sum of cash and items of monetary value constitute our incentive. This incentive often requires qualitative research prior to the survey to ensure that a single incentive is suitable for capturing all subgroups of the target population (Johnston et al., 2010). One difficulty in determining incentives is that if they are too high, they can lead to bartering and encourage ineligible individuals to pretend to be part of the eligible population in order to enroll in the study and obtain the incentive. When incentives are too low, recruitment can be slow and, in some cases, attract only members of the population from a lower socioeconomic level (Kendall et al., 2008). Both situations can lead to selection bias.

3.3. Data collection techniques and tools

The data collection technique to be used is direct, in-person interviews with the TDS (Targeted Data Systems). To obtain the raw survey database as quickly as possible, a computer-assisted interviewing system will be used. This is Computer Assisted Personal Interviewing (CAPI); specifically, the Kobocollect application will be used. Using tablets for the survey offers significant time savings by eliminating the need for in-office verification and data entry. Numerous other advantages result from using CAPI. These include:

- data collected is entered directly in the field during the interviews; - consistency checks are performed during the interview;
- data is cleaned as the teams work in the field;
- the raw database is available immediately after the fieldwork phase.

After fieldwork, adherence to skipping rules, completion instructions, and valid values is reviewed to ensure the questionnaire is filled out correctly. Data processing required preparation and analysis using Excel, Stata, and SPSS

software. These tools enabled the coding, entry, cleaning, and formatting of the collected information, as well as the generation of descriptive statistics to characterize the respondents (Bryman and Cramer, 2005).

3.4. Analysis technique

Data analysis employed Multiple Correspondence Analysis (MCA). Developed following the work of Benzécri (1992) and enriched by recent applications (Greenacre, 2017), MCA is a factor analysis technique particularly well-suited to qualitative data. It allows for a concise representation of the relationships between several variables and the identification of latent patterns. As part of this research, she contributed to developing typological vulnerability profiles by highlighting the correlations between sociodemographic characteristics, lack of employment, and potential exposure to sex work.

4. Results

This section presents the analysis of the results, their interpretation, and discussion.

4.1. Socioeconomic profiles of sex workers: classification

The classification of individuals resulting from the data analysis identified two distinct groups: Group 1: Young, Educated, and Single Adults. This group consists of individuals (sex workers) with a median age of 26 (young adults). 95% of individuals in the group are educated, 76% have never been married and have very few dependents, and 66% have no dependents. 95% primarily worked as waitresses before becoming sex workers. The figure below illustrates the two groups:

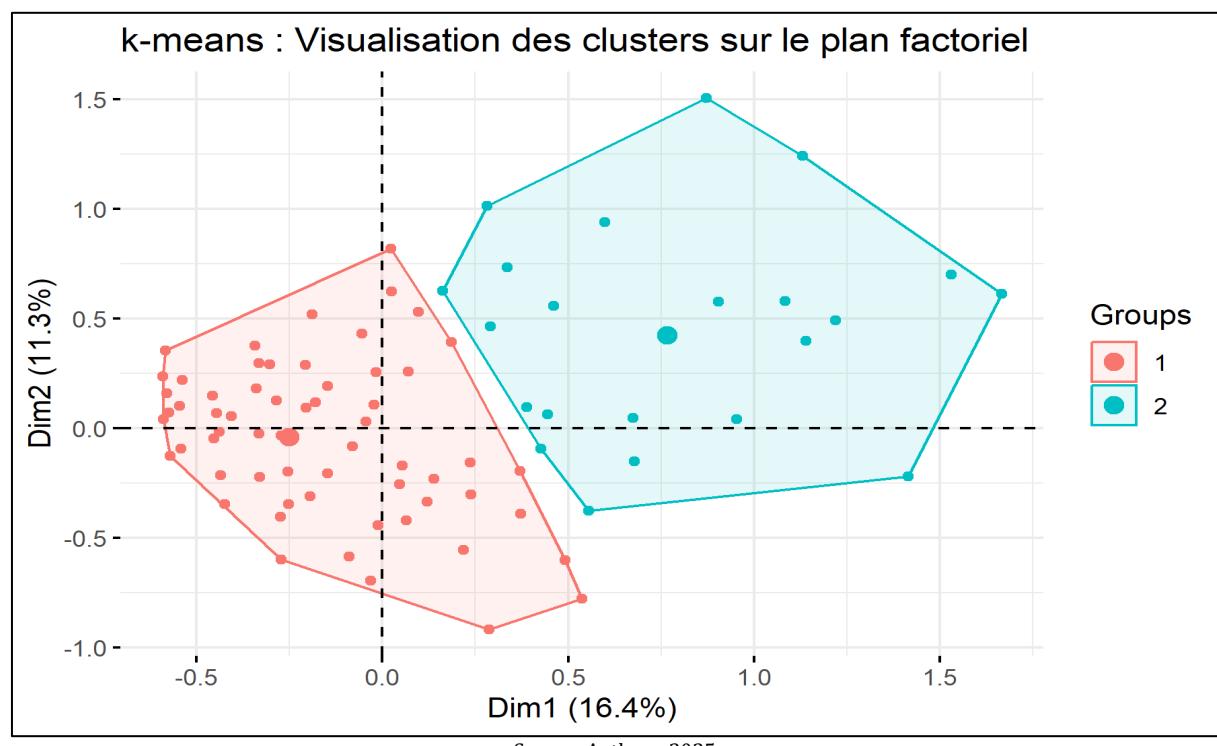


Figure 3 Visualization of clusters on the factorial plane

Group 2: Women in precarious economic situations Group 2 consists of individuals with a median age of 23, 44% of whom have no formal education. 24% have never been married, and the majority (94%) have several dependents. Before becoming sex workers, they were resellers (10%), and a significant proportion were unemployed (41%). 68% live below the monetary poverty line. The table below allows for a comparison of these two groups.

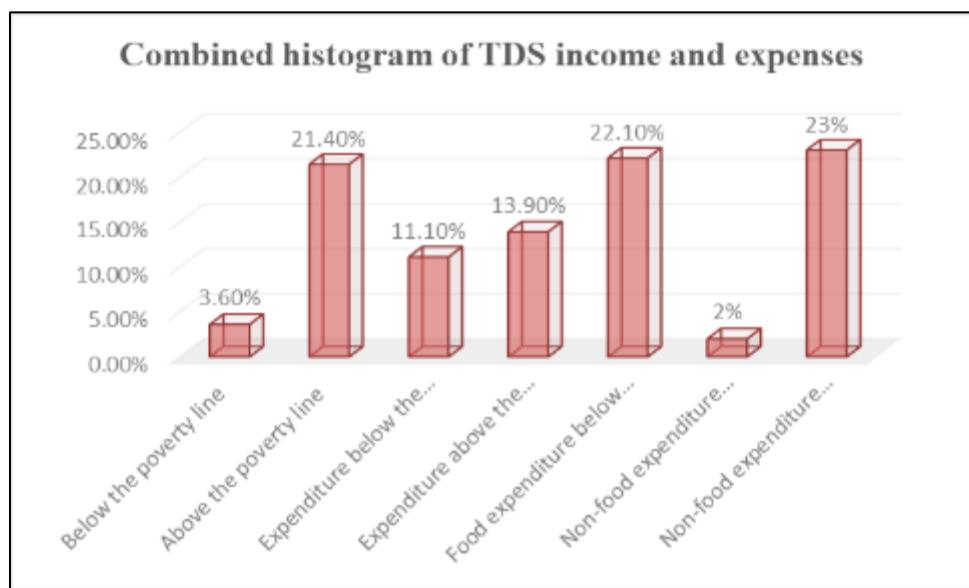
Table 2 Comparison of groups

Characteristic	Group 1	Group 2
Median age	26 years old	23 years old
Education level	95% educated	44% without education
Marital status	76% never married	94% with family expenses
Profession before TDS	Waitresses, students	Resellers, without activity
Income	95% above the poverty line	68% below the poverty line
Family structure	Often single-parent	Often two-parent or polygamous

Analyzing these elements allows us to establish the socio-economic profile of sex workers. To this end, two distinct profiles are constructed. The first profile consists of young, educated, single women without children. The results reveal, in particular, that this group is less economically vulnerable. However, their entry into sex work appears to be linked to additional financial needs or a lack of career prospects. The second profile is characterized by economically vulnerable women, younger (23 years old on average), often with several dependent children, with little education, and in precarious economic situations. It emerges that this group is significantly more vulnerable, with a strong dependence on sex work income to meet their family needs.

4.2. Economic situation of sex workers

The following figure presents the combined income and expenditure situation of sex workers:

**Figure 4** Combined situation of income and expenditure of TDS

From the analysis of the figure, we can conclude that, in terms of overall poverty, the proportion of sub-sector workers below the poverty line (3.6%) is lower than that above it (21.4%). This situation shows that a minority of sub-sector workers live below the poverty line; this suggests that the remaining majority live above the threshold of \$2.15 (expressed in PPP) set by the World Bank. Regarding overall expenditures, it is noted that those above the poverty line represent a slightly higher proportion than those below the threshold (13.9% > 11.1%), revealing that the overall expenditures of sub-sector workers are almost at the same level, regardless of whether their poverty level is below or above the poverty line. Regarding food expenditures for sex workers below the poverty line, they are significantly lower than those of sex workers above the poverty line (2.9% < 22.1%). This reflects the fact that expenditures are almost proportional to income level. As for non-food expenditures, the situation is almost similar to that of food expenditures, as the proportion of non-food expenditures for sex workers below the poverty line (2%) is significantly lower than that of non-food expenditures for sex workers above the poverty line (23%). It is therefore clear that their income allows them to cover social needs such as housing, healthcare, and clothing.

5. Discussion

5.1. Socio-economic profiles of sex workers

The examination of the two groups of sex workers reveals significant differences related to their backgrounds and socio-economic conditions. This situation highlights the factors that influence their career choices and their vulnerability. In this regard, the first group, comprised mostly of educated young women, is distinguished by lower economic vulnerability. With an education rate of 95% and 76% being single, this group benefits from a certain degree of autonomy and the capacity for independent decision-making. Furthermore, the results obtained at this level indicate that the following factors may explain their transition to sex work:

- significant financial needs: despite their level of education, these women often struggle to find stable, well-paid jobs, leading them to explore alternatives to further improve their financial situation;
- lack of professional opportunities: the saturation of the job market and the lack of opportunities in their fields of study can also lead them to turn to sex work.
- The second group, made up of younger women with lower levels of education, reveals a more concerning reality. With 68% of them living below the poverty line and 94% bearing multiple family responsibilities, their economic situation is alarming. Given this situation, several points deserve emphasis:
- their dependence on income from sex work to feed their families exacerbates their precariousness, exposing them to increased risks of violence and exploitation;
- having multiple dependents complicates their daily lives, forcing them to balance family responsibilities with professional demands;
- their low level of education (44% uneducated) restricts their employment opportunities in other sectors, pushing them to choose sex work out of necessity.

These points are similar to those raised in previous research in the literature. For example, Munyati (2019), examining how family responsibilities influence the choices of sex workers, indicated that the pressure of having multiple dependents makes it difficult to find other forms of employment, thus pushing women into sex work out of necessity.

Ndlovu (2021) highlights that even highly educated sex workers can find themselves in situations of economic insecurity. His study also demonstrates that financial pressure pushes many women into sex work, a reality that resonates with the additional financial needs identified among educated youth. Sibanda (2022) notes that the saturation of labor markets in traditionally female-dominated sectors contributes to the increase in the number of sex workers. This reinforces the idea that, despite education, career opportunities are limited, creating constraints that lead to the choice of sex work. Chikanda (2023) explores the stigma associated with sex work and its impact on the safety of sex workers. In his work, he demonstrates that social stigma limits access to services and exposes women to violence, which is particularly true for those who rely heavily on sex work income to feed their families.

5.2. Economic situation of sex workers

Regarding the economic situation of sex workers, the results revealed that they can be divided into two categories:

sex workers above the poverty line who have sufficient income to cover not only their food needs but also significant non-food expenses. They allocate approximately 23% of their budget to non-food expenses, which include housing, healthcare, education, and other essential services. This category enjoys a more or less acceptable quality of life, with access to goods and services that improve their overall well-being;

sex workers living below the poverty line have limited incomes that do not allow them to cover essential expenses. They represent 3.6% of the studied population. They allocate only 2% of their resources to non-food expenses and 2.9% to food expenses, reflecting a precarious situation. This situation limits their access to basic services, making them vulnerable and exposing them to increased health and food security risks.

The results obtained in this study are similar to those obtained by Matsiko (2020), who states that sex workers in sub-Saharan Africa are often trapped in a cycle of poverty, with precarious incomes hindering their access to healthcare and adequate education. He also indicates that social stigma and the criminalization of their activity exacerbate this situation. Nyang'oro (2021), whose study focuses on the lack of access to healthcare for sex workers, shows that those living above the poverty line invest more in their health, while those below it, as indicated in the analysis above, dedicate few resources to necessary care. Tandia (2023) argues that social stigma hinders sex workers' access to social services and affects their mental health, preventing them from improving their economic situation.

Chirwa (2022) discusses the need to recognize the rights of sex workers in Africa. The author specifically advocates for policies that guarantee legal protections, stating that this would improve their economic and social situation. Kambule and Mchenga (2019) emphasize the importance of education for sex workers. Their study demonstrates that education can be a key lever for their empowerment, enabling them to access more stable jobs and escape poverty.

6. Conclusion and policy implications

This article, analyzing the socio-economic and demographic profile of sex workers in Cotonou, reveals major and crucial aspects related to the practice of this activity in the study area. The results highlight a diverse set of characteristics within this target group, comprised of educated, uneducated, and economically vulnerable women, divided into two groups. Within Group 1, the majority (76%) have never been married and have very few family responsibilities. Furthermore, their primary occupation before becoming sex workers was waitressing (95%). A significant proportion of these women live above the poverty line, which allows them to meet their basic needs, both food and non-food. However, meeting these basic needs does not guarantee them a significantly improved situation. This striking situation exposes sex workers to problems such as increased precarity, significant risks of violence and exploitation, the complication of their daily lives due to the numerous responsibilities they must bear, and the restriction of their employment opportunities in other sectors, pushing them to choose sex work out of necessity.

It is therefore crucial that appropriate measures and strategies be implemented to help this segment of the population regain a better life. To this end, it will be necessary to adopt strategies such as:

- the implementation of education and training programs tailored to young women, enabling them to access stable and dignified employment opportunities, thereby reducing their economic vulnerability;
- the development of initiatives aimed at raising awareness among sex workers about their rights and available resources, while providing them with the necessary tools to negotiate the terms of their transition to safer and more balanced sectors of activity;
- facilitating their access to health services, including preventive care against sexually transmitted infections (STIs) and HIV, by integrating community health programs specifically targeting sex workers;
- creating economic support programs for sex workers with dependent children, including financial assistance and childcare solutions, to reduce their dependence on sex work;
- strengthening partnerships between the government and NGOs to develop programs that meet the specific needs of sex workers, ensuring their active participation in the design of these initiatives. Ultimately, it is essential that a socially inclusive and sustainable approach be adopted to improve the living conditions of sex workers in Benin, taking into account the socio-economic factors influencing their daily lives.

Furthermore, this research would benefit from a more in-depth analysis, incorporating, for example, an assessment of sex workers' willingness to pay or receive compensation for leaving this activity. It would also be relevant to identify the key variables influencing the decision to abandon sex work in favor of retraining. The use of modern predictive techniques, such as machine learning, could strengthen the robustness of the results. In addition, the phenomenon of sex work can exhibit different socio-economic profiles across the country. Expanding data collection to other areas would allow for an analysis of the spatial dynamics of the phenomenon and highlight potential regional disparities. These various research avenues offer promising perspectives for achieving a more comprehensive understanding of the factors underlying this complex phenomenon.

Compliance with ethical standards

Disclosure of conflict of interest

The authors have no relevant financial or non-financial interests to declare.

Data availability

Data are available upon reasonable request.

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Author contributions

All authors contributed to the design and implementation of the study. They also contributed to all sections and the drafting of the first version of the manuscript. All authors have read and approved the final manuscript.

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