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SYSTEMATIC REVIEW

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Invisible and stigmatized: A systematic review of mental health and risk factors among sex workers

Laura Martín-Romo[1] | **Francisco J. Sanmartín**[1,2,3] | **Judith Velasco**[1,2,3]

[1]Department of Psychology, University of Córdoba, Spain

[2]The Maimonides Institute for Biomedical Research of Cordoba, Córdoba, Spain

[3]Reina Sofía Hospital, Córdoba, Spain

Correspondence
Judith Velasco, Department of Psychology, University of Córdoba, C/Alberto Magno s/n, 14004. Facultad de Ciencias de la Educación y Psicología, Universidad de Córdoba, Spain.
Email: judith.velasco@uco.es

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Abstract

Introduction: Sex work is a common phenomenon, but socially invisible and stigmatized. Due to exposure to work-related risks, sex workers (SWs) are vulnerable to developing health problems. However, little attention has been paid to their mental health. The purpose of this systematic review was to synthesize the existing literature on mental health and to explore risk factors related to psychopathology in sex workers.

Methods: A systematic review (CRD42021268990) was conducted on the Web of Science, PubMed, Scopus, and PsycInfo for peer reviewer papers published between 2010 and 2022. The Newcastle-Ottawa Scale (NOS) was used to examine the quality of the studies. Of the 527 studies identified, 30 met the inclusion criteria.

Results: Mental health problems were prevalent among sex workers. Depression was the most common mental health problem; however, other psychological problems were also high, including anxiety, substance abuse, and suicidal ideation. Sex workers are exposed to numerous work-related risks, including violence and high-risk sexual behaviors. Despite the high prevalence of mental health problems, SWs often encounter significant barriers to accessing healthcare services.

Conclusion: These results suggest the need to focus on preventive measures to promote psychological well-being among sex workers.

KEYWORDS

anxiety, depression, mental health, sex work, systematic review

1 | INTRODUCTION

Sex work has historically been surrounded by controversy and debate. The European Parliament (2014)[1] estimated that around 40–42 million people worldwide are involved in sex work, with the majority being victims of human trafficking. Sex work is highly feminized, with over 90% of sex workers (SWs) being women.[1,2] It is also precarious,[3] lacking in legal protections and characterized by health risks, violence, and exploitative conditions.[4] It is additionally associated with financial stress.[5] According to the United Nations,[6] a substantial

proportion of SWs come from low-income countries, such as those in Latin America, sub-Saharan Africa, and Eastern Europe, with their primary destinations being Western Europe and North America. The sex industry is estimated to generate benefits of between $7 and $12 billion annually, making it the second most profitable illegal business in the world after gun and drug trafficking.[7] However, given the secretive nature of sex work, the numbers could be underestimated.

Despite the sex industry being a widely recognized phenomenon, SWs and their needs remain invisible. SWs are at an increased risk for health problems.[8] According to previous studies, they are 30 times more likely to be diagnosed with HIV than the general population.[9] Additionally, SWs may experience other chronic physical problems such as respiratory infections[10] as well as mental health conditions, including depression, anxiety, and posttraumatic stress disorder (PTSD).[11]

SWs face a variety of occupational risks, including violence, substance abuse, and high-risk sexual behavior, which makes access to basic health-care services essential. However, despite the need for these services, SWs often encounter significant barriers to access, with stigma being particularly relevant.[12] In this vein, SWs are more likely to experience discrimination than individuals in other professions,[13] which is perceived by experiences such as disrespectful treatment by doctors,[14] feeling unprotected by the police,[15] and being forced to disclose their engagement in sex work during therapy sessions.[16] All of these factors can negatively impact help-seeking behavior and contribute to poorer overall health outcomes.[17,18]

While previous research has examined the physical and mental health problems experienced by SWs, the focus has primarily been on specific issues such as HIV and sexually transmitted infections (STIs), rather than on synthesizing the available evidence. Consequently, there is a lack of understanding regarding the prevalence and risk factors associated with mental health problems among SWs. To address this gap, this study conducted a systematic review of quantitative research on mental health problems in SWs and their associated risk factors.

2 | METHODS

This review was preregistered in PROSPERO (CRD42021268990) and follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. As no human or animal data was collected or analyzed, ethics committee approval was not required.

Significant outcomes

- Sex workers (SWs) experience high rates of mental health problems, including depression, anxiety, and PTSD.
- SWs are exposed to numerous risk factors, including violence, and systemic abuse; but they face barriers to accessing health services.

Limitations

- The studies included in the review presented a limited quality (i.e., lack of information about pre-existing conditions, no longitudinal studies).

2.1 | Inclusion and exclusion criteria

The studies included in the review had to meet the following criteria: (a) empirical studies using quantitative or mixed methods; (b) written in English or Spanish; (c) published after 2010 in peer reviewed journals; (d) a sample composed of adult SW (>18 years); and (e) investigating the relationship between sex work and mental health. Qualitative studies were excluded. Studies focused on minors were also excluded because underage sex work is considered a form of sexual exploitation and abuse associated with higher levels of psychological distress than adult sex work.

2.2 | Search strategy

The searches were conducted in the Web of Science, PubMed, Scopus, and PsycInfo (title, topic, and keywords). The search included a combination of the following terms: "sex* work *" OR "prostitute*" OR "professional sec" OR "sex trad*" AND "mental health" OR "psychological health" OR "psycholog* distress" OR "mental illness." All searches were performed in English and Spanish. The search was restricted to articles published between 2010 and 2022. The initial search was completed in June 2021 and updated in December 2022. A manual search of the reference lists of included studies was conducted to identify additional relevant publications.

2.3 | Data extraction

For each study, the two authors extracted the following data: authorship, year of publication, design (i.e., cross-

sectional, longitudinal), aim of the study, sample size, sampling procedure, participant demographics (age, gender, country of origin, sex work location), measurement instruments, and main results.

2.4 | Quality of the studies

The two authors independently evaluated the quality of the selected studies using an adapted version of the Newcastle–Ottawa Scale (NOS)[19] for cross-sectional studies. This scale is composed of eight items related to three dimensions: (a) selection (representativeness of the sample, sample size, assessment of mental health issues using validated scales, information regarding mental health baseline); (b) comparison (participants are distributed in comparable groups; moderating factors are controlled); and (c) results (quantitative information about the presence and intensity of mental health issues is provided; adequate statistical tests are conducted). Each item was evaluated on a three-point scale with scores of 0, 1, or 2 resulting in a final rating between 0 and 10 (0–4 = "unsatisfactory"; 5–6 = "acceptable"; 7–8 = "good"; and 9–10 = "excellent"). The two researchers agreed on the quality rating for 96% of the studies. The results are presented in Table S1.

3 | RESULTS

A total of 527 studies were identified. The papers were imported to Rayyan[20] for screening. First, duplicates ($n = 208$) were removed, leaving 319 studies for abstract and title screenings. Of these, 232 were excluded because they did not meet the inclusion criteria. From the remaining 87 studies eligible for full-text analysis, four could not be retrieved. The two researchers examined the remaining 83 articles. Fifty-three studies were excluded from the analysis for different reasons (i.e., focused on child sexual exploitation or did not report the age, lack of interest for the aim of this study, lack of measurement instruments). Finally, 30 studies were included. Figure 1 summarizes the selection process.

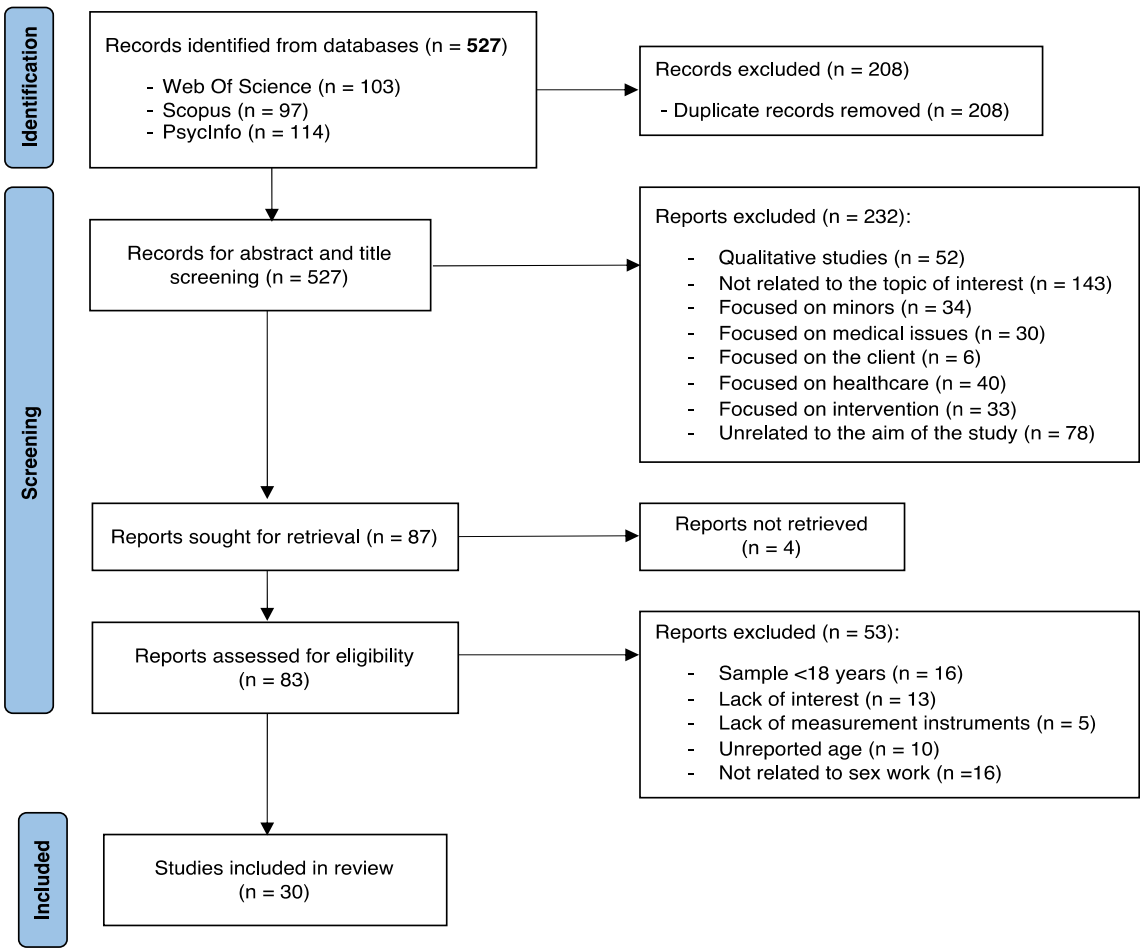

FIGURE 1 PRISMA diagram of the study selection process.

3.1 | Description of the studies

Most of the studies were cross-sectional ($k = 24$), with a lower representation of mixed methods studies ($k = 3$), systematic reviews ($k = 2$), and longitudinal studies ($k = 1$). The studies employed non-probabilistic sampling ($k = 17$), with a high level of snowball procedures ($k = 7$), which may be due to difficulties accessing SWs. There were 10 studies in Asia, eight studies in Africa, six studies in America, and four studies in Europe. One systematic review did not specify the origin of the studies, and another review included studies from multiple geographical locations.

The total sample was composed of 19,507 individuals, with 86.4% being women ($n = 16{,}861$), 6.51% being men ($n = 1270$), and 7.05% identifying as transgender ($n = 1376$). The gender distribution reflects the feminization of sex work. The mean age was 31.61 years (ranging from 18 to 71 years). Regarding the location of sex work, the studies distinguished between public or outdoor spaces (e.g., parks, streets, cars) and private or indoor spaces (e.g., brothels, restaurants, saunas). Public spaces were the most reported locations among the studies included. Nine of the studies did not provide information about the sex work location.

3.2 | Synthesis of results for the mental health of sex workers

This section presents an overview of the findings related to mental health conditions associated with sex work (Table S2). Given the heterogeneity of the studies included in the review, the results will be described in two distinct sections to enhance clarity: (a) mental health conditions; and (b) risk factors.

3.3 | Sex workers' mental health

Mental health problems were prevalent among SWs,[21,22] with percentages ranging from 50% to 71%.[22–25]

3.3.1 | Mood disorders

Between 30%[25] and 53.5%[24] of the SWs reported mood disorders. Twenty-four studies explored depression, reporting an estimated prevalence between 50% and 88%.[23,26,27] The most commonly reported symptoms were feeling depressed (62.3%), anhedonia (59.7%), a lack of energy (53%), changes in appetite or weight (52.2%), and sleeping difficulties (50.7%).[28] The severity of depressive symptoms varied across studies; some found that mild symptoms were more common (84.3%),[29] while others found that severe symptoms were more frequent (50.4%).[28] Approximately 30% of SWs reported moderate to severe depressive symptoms.[30,31] The prevalence of major depressive disorder (MDD) was estimated between 24% and 61.5%.[21] Dysthymia was reported by 11.9% of the SWs[25]. Bipolar disorder (BD) was only described in three studies,[21,22,25] but it showed a high prevalence (46.9%).

3.3.2 | Anxiety disorders

Seven studies examined anxiety,[22,24,25,32–35] revealing a high prevalence estimated to be between 13.6% and 51%. The most commonly reported disorders were generalized anxiety disorder (5.2%–8%), panic disorder (8.8%), and social phobia (7.3%).[25,33]

3.3.3 | Posttraumatic stress disorder

Ten studies found PTSD among SWs.[21–23,25,29,33,36–39] The prevalence of PTSD ranged between 10% and 39.6%. The only study that examined dissociative symptoms was a systematic review by Tschoeke et al.[38] in a sample composed of 683 female SWs (FSWs). In this study, posttraumatic dissociative symptoms were highly prevalent, with the most reported being distancing (71%), memory problems (68%), flashbacks (65%), derealization (59%), and depersonalization (50%). Of those who reported dissociative symptoms, 35% met the diagnostic criteria for psychogenic amnesia, 15% for depersonalization disorder, and 5% for dissociative identity disorder. This study considered dissociation to be a coping mechanism for child sexual abuse (CSA) that persists in adulthood because of its utility in handling traumatic experiences associated with sex work. In fact, one of the most reported personal risk factors was having experienced CSA. In this vein, Mimiaga et al.[39] found that 56.8% of SWs reported having been abused in childhood. Similarly high rates were observed by Tschoeke et al.,[38] who reported that CSA is a risk factor for adult revictimization. CSA was also found to predict worse psychological adjustment, showing more depressive symptoms than SWs without this experience.[27]

3.3.4 | Personality disorders

Only two studies explored personality disorders (PD). Iaisuklang and Ali[33] concluded that 9% of SWs had antisocial personality disorder (APD). Ranjbar et al.[24] found that 80% of SWs had a diagnosis of PD, with borderline PD (23.3%), antisocial PD (13.3%), and histrionic PD (13.3%) being the most common.

3.3.5 | Suicide

Eight studies examined suicide, finding that 38.8% of SWs were at risk of committing suicide.[40] Between 3% and 8% of SWs reported suicidal ideation.[23,29,32,41] Data on suicide attempts was not conclusive, with studies reporting rates between 1% and 4.3%,[23,41] and other studies describing results ranging between 44.2%[35] and 50%.[42] McCabe et al.[43] reported suicide a rate for male SWs (MSWs) of 28.3%.

3.3.6 | Distress

Approximately 23% of SWs reported mild psychological distress and 19% reported severe psychological distress,[44,45] which 16% of SWs reported life dissatisfaction.[34]

3.3.7 | Substance abuse disorder

Fifteen studies examined substance abuse. A significant number of SWs (36.7%–45.4%) reported problematic alcohol use.[35,39,44,45] Regarding alcohol dependency, the results indicated gender differences, with 58.3% of MSWs with substance dependence[43] compared with 8% of FSWs.[33] Tobacco was reported as less prevalent, with an estimated 13%[44,45] of SWs reporting regular tobacco use. Between 20.9% and 32.7% of SWs reported regular consumption of illicit drugs[32,35,41] with cocaine being the most common reported substance. Interestingly, McCabe et al.[43] found that all MSWs in their sample reported substance use during sex work. Mimiaga et al.[39] found that stimulating drugs were more prevalent than inhibitory drugs (56.8% vs 13.6%).

3.3.8 | Comorbid conditions

Although comorbidity is a common condition in mental health, only two studies reported comorbid conditions. Twenty-five percent of SWs presented a comorbidity of depression and suicidal behavior,[40] and 32.7% had depression and PTSD.[23] Substance abuse was associated with overall psychological distress and comorbid conditions. In this vein, SWs who reported substance use during work presented more depressive, suicidal, and anxious symptoms.[28,32,35,40,44–48] Only one study did not find this relationship.[27]

3.3.9 | Other psychiatric conditions

Rössler et al.[25] found that approximately 1% of SWs had psychotic disorders, schizophrenia being one of the most common.[21,22] Other relevant mental health problems included eating disorders (5.2%) and somatic disorders (10.4%). Because these conditions were examined only in this study, further information could not be provided.

3.4 | Risk factors for the development of mental health problems

3.4.1 | Personal risk factors

Women represent the majority of SWs, reflecting that gender is a significant risk factor. Stockton et al.[31] examined both MSW and FSWs, finding that women were more vulnerable to all kinds of risk, exhibiting higher levels of depression (39.2% vs. 22%) and stigma (96.2% vs. 85.8%).

Age was found to be associated with mental health problems in SWs. Younger SWs (under 20 years old) were the most vulnerable, exhibiting higher rates of depression, suicidal ideation and suicidal attempts, substance abuse, and violence.[41] SWs aged between 21 and 34 years reported less psychological distress. Similarly, MacLean et al.[29] found that young SWs who started before 18 years were at an increased risk of developing depression and PTSD. In contrast, Ouma et al.[28] found that older SWs had higher rates of depression. This greater vulnerability to mental health problems among younger SWs may be due to several reasons, including a lack of coping skills to navigate the physical and emotional demands of sex work, a higher risk of experiencing violence and exploitation (including sexual abuse and trafficking), and an increased risk of experiencing social and economic marginalization that can exacerbate mental health problems.

The majority of the SW sample were from low-income countries, as nationality played a crucial role in their vulnerability to trafficking. Studies conducted in the United States[21,39] primarily included racial minorities, with black women and Latinas being the most represented groups. Studies conducted in Europe revealed a similar pattern,[25,35] with a higher representation of women from South America, Africa, and Eastern Europe, including Romania. In Asia, Su et al.[41] found that 15.6% of the sample were from ethnic minorities. SWs' origin is a relevant variable since it is associated with trafficking and unfavorable living conditions (e.g., poverty).[25] However, these results should be interpreted with caution, as half of the studies did not provide information about the nationality of the sample.

The lack of social support was consistently associated with worse psychological adjustment. Those who perceived less social support experienced higher levels of suicidal ideation and depression.[35,46] Similarly, Rössler

et al.[25] found that feeling excluded from society, not having people to trust, and the lack of social support predicted poor psychological adjustment. Furthermore, family rejection was associated with greater mental health problems,[40] along with more high-risk sexual behaviors.[34] However, there was a lack of information on the role of marital status in sex work, with only one study suggesting that being married was a risk factor for depression.[49] Conversely, Nabunya et al.[37] found that being married was associated with fewer depressive symptoms.

Eight studies reported the motivations of SWs to start or remain in sex work.[24,25,28,33,35,43] These studies identified financial stress as the main reason for engaging in sex work. However, economic needs were diverse and included different motivations, such as a lack of family support, paying debts for education, substance abuse, and difficulties in finding alternative jobs.[25,33,35,43] Engaging in sex work for financial reasons was also found to be a risk factor for mental health problems. Krumrei–Mancuso[36] and Nabunya et al.[37] reported a positive association between financial stress and depression, and PTSD. Moreover, Patel et al.[48] found a relationship between fewer economic resources and depressive symptoms. These findings underscore the importance of addressing financial stressors that lead to sex work and highlight the need for effective interventions aimed at reducing economic vulnerability.

Sex work has been linked to a higher risk of physical health problems, with SWs reporting conditions such as asthma, heart problems, hypertension, cancer, and STIs.[21] Additionally, SWs had worse self-perceived physical health.[47] Studies described a positive relationship between mental and physical health, with SWs who attempted suicide being at a higher risk of physical problems. HIV was also found to be associated with poorer mental health, including depression and general psychological distress.[28,45,48]

Stigma was found to be a moderating variable that increased the severity of symptoms among SWs. According to Stockton et al.,[31] 92.9% of SWs experienced stigma to some extent, with 74.2% of them interiorizing it. High levels of stigma were associated with increased high-risk sexual behavior and a greater risk of developing mental health problems.[23,26,31,37,46,50] Other factors were also described—but with a lower frequency—such as a lack of confidence in finding another job, willingness to leave sex work, self-transcendence, life stress, low autonomy, having been arrested, and living in high-risk contexts.[21,28,36,48] Maternal stress was found to be associated with depressive symptoms for FSWs working in the streets, but not for those in private spaces.[30]

Regarding access to healthcare services, Teixeira and Oliveira[35] reported that while 70% of FSWs received medical attention, only 37.9% attended follow-up appointments, indicating the inconsistent use of medical services which may be associated with the stigma previously described. However, none of the studies examined this topic in detail.

3.4.2 | Work-related risk factors

Two studies[25,29] found that having more than 20 clients per week was associated with an increased risk of developing PTSD.

High-risk sexual behavior, defined as the inconsistent use of prophylaxis during sex, was associated with higher rates of mental health problems. Three studies found that SWs with severe depressive symptoms or MDD had a greater risk of engaging in high-risk sexual behaviors than SWs with better psychological health.[26,46,48] Similarly, Jung[47] found that FSWs who attempted suicide were less likely to use condoms with clients. Regarding MSW, Mimiaga et al.[39] found an association between psychosocial problems and condom use. As a result, the risk of engaging in high-risk sexual behaviors increased when the SW had mental health problems.

Ten studies reported a positive association between violence and mental health. FSWs reported experiencing more violence than women in the general population,[21] and transgender SWs (TSWs) experienced the highest rates of violence.[49] Workplace violence predicted psychological distress and was associated with a higher risk of depression, PTSD, suicide, and PD.[23–26,36,40,46,48,51] Furthermore, violence was linked to increased condom misuse.[34]

Regarding the location of sex work, three studies characterized street-based sex work as a greater risk of mental health problems.[30,36,39] One study found that street-based sex work was associated with higher levels of depression,[36] while another study reported higher scores for depression and PTSD.[39] Semple et al.[30] compared SWs providing services in public spaces with those working in private spaces, finding that the former was associated with higher depression scores measured by the BDI-II, lower social support, and greater financial constraints. However, SWs working in private spaces were at an increased risk of substance abuse. Finally, three studies reported that SWs who had to commute experienced more depressive symptoms.[28,48,51]

4 | DISCUSSION

This systematic review aimed to synthesize the available literature on SWs' mental health. For this purpose, 30 studies with 19,507 participants were examined, and the

review found that SWs experience high rates of mental health problems, including depression, anxiety, and PTSD. To our knowledge, there is only one previous systematic review on this topic, but it is focused on SWs from low-income countries,[52] who share similar mental health problems but face different challenges which does not make the results of our studies completely comparable.

Mental health problems were not only prevalent among SWs but also more so than in the general population. According to the World Health Organization, depression is a common illness worldwide, affecting an estimated 3.8% of the global population.[53] However, among SWs, these percentages range from 49% to 88%. Studies also show that SWs experience high levels of dissatisfaction with life and psychological distress, which is consistent with previous research indicating worse self-perceived quality of life in individuals with mental health problems.[54] The high prevalence of mental health problems among SWs can be attributed to their greater exposure to risk factors, particularly violence. SWs are known to experience high levels of violence from clients, intimate partners, and even the police, which may contribute to their mental health problems. A systematic review found that SWs had a significantly higher risk of experiencing violence (43.8%) than the general population.[55] Additionally, Sanders[56] reported that 75% of SWs had been physically assaulted by clients, and Elmore-Meegan et al.[57] found that 35% were sexually assaulted by clients. Moreover, Footer et al.[58] revealed that 78% of SWs had experienced abusive police encounters. The increased number of violent experiences, along with the lack of social support and experiences of stigma and discrimination, could adversely affect SWs' mental health and overall well-being. Further research is necessary to focus on the impact of these factors on SWs' mental health and well-being.

In addition to violence, SWs are exposed to numerous risk factors associated with unfavorable working conditions. For example, studies have underscored the high prevalence of high-risk sexual behaviors, such as inconsistent condom use, which was also associated with worse psychological adjustment. However, the reasons for this behavior are often overlooked. It is important to recognize that while sex work is heterogeneous and involves different conditions, the studies included in the review highlighted financial stress as one of the main reasons for starting and remaining in sex work. Consequently, a substantial proportion of SWs come from disadvantageous backgrounds (e.g., poverty, abuse, lack of support), finding themselves obliged to accept the conditions imposed by their clients, even if it means not using prophylaxis during penetrative sex.[59,60] Those SWs with poorer mental health and more difficulty receiving psychological treatment may be at an increased risk of experiencing unsafe working conditions. Therefore, it is crucial to focus on the association between SWs' mental health and their engagement in high-risk behaviors since this can reveal a more vulnerable group of SWs who experience severe structural and systemic discrimination.

Although the quality of the studies included in the review was moderate, primarily because of methodological problems, the results consistently indicated a similar profile of SWs who may be at a higher risk of developing mental health difficulties: a young woman of foreign origin with financial problems, low education, and lack of social support. This profile seems to predict worse psychological adjustment and greater exposure to other risks, such as violence and stigmatization, along with limited access to health-care services.

However, this systematic review is not exempt from limitations. First, the quality of the studies included in the review was limited because of methodological issues such as non-random sampling and a lack of control groups. The heterogeneity of the samples, assessment instruments, and outcomes also limits the generalizability of the results. Furthermore, the number of published studies on this topic was surprisingly low, which raises concerns about the representativeness of the results.

In addition, two important issues that could affect the reliability of the findings. First, the lack of longitudinal studies means that it is not possible to determine the direction of the results or establish causality. Second, the studies did not collect information on the pre-existing conditions of the participants, which makes it difficult to ascertain whether the reported mental health conditions are the result of sex work. Future research should address these issues and conduct longitudinal studies that collect clinical histories to better understand the impact of sex work on mental health. Moreover, most of the sample was composed of cisgender women, which limits the generalizability of the findings to other genders, such as MSWs or TSWs. Future research should explore the impact of sex work among cisgender men and transgender individuals to examine gender differences in psychopathology along with the impact of intersectionality. Finally, there are inherent difficulties with the SW sample, such as cultural and linguistic barriers or the potential risks to the SWs' integrity when taking part in research, that should also be considered.

5 | CONCLUSION

There is substantial evidence to suggest that SWs are at an increased risk of developing mental health problems compared with the general population. Among the reasons

underlying this reality, their working conditions (which lead to a higher exposure to several risk factors), barriers to accessing health services, and the stigma surrounding sex work seem to play a key role. Despite the substantial number of SWs, their psychological well-being is often overlooked, which represents a serious threat to their human rights. Therefore, it is imperative to focus on promoting actions to protect SWs and address these issues in a broader social context. Concrete actions could include improving their access to mental health services, increasing their legal protections, and fighting the stigma surrounding sex work.

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CONFLICT OF INTEREST STATEMENT

The authors have no conflict of interests to disclose.

PEER REVIEW

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DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

ORCID

Francisco J. Sanmartín https://orcid.org/0000-0002-2870-8882

Judith Velasco https://orcid.org/0000-0002-1887-3550

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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