

REVIEW

Stigmatizing and inaccessible: The perspectives of female sex workers on barriers to reproductive healthcare utilization – A scoping review

Lior Birger  | Einat Peled  | Yael Benyamini 

The Bob Shapell School of Social Work,
Tel-Aviv University, Tel-Aviv, Israel

Correspondence

Lior Birger, The Bob Shapell School of
Social Work, Tel-Aviv University, Tel-Aviv,
6997801, Israel.

Email: liorbirger@gmail.com

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Abstract

Aim: To systematically map the extent, range and nature of qualitative studies that explored female sex workers' own perspectives on barriers to accessing reproductive healthcare services.

Design: A scoping review of the literature utilizing Arksey and O'Malley's method.

Data Sources/Review Methods: A search of the electronic databases MEDLINE/PubMed, PsycNET, Sociological Abstracts, ProQuest, ScienceDirect, HeinOnline, Scopus, Web of Science and Google Scholar was conducted for items published in English between 2001 and 2021.

Results: Twenty-one studies were included in the review, the majority of which were conducted in lower-middle-income countries. RHC themes studied were diverse, with a few more studies focusing on STI/HIV, contraceptive use and pregnancy than those focusing on childbirth and postnatal care. The findings indicate barriers in four main domains: socio-legal barriers, health services-related barriers, interpersonal barriers and personal history-related barriers. Stigma was a major multifaceted barrier.

Conclusion: Female sex workers experience exclusion in utilizing reproductive healthcare services globally. As such, healthcare services are advised to adopt a nonjudgemental approach, to enhance physical accessibility and to train nurses and other healthcare professionals on reproductive health needs of female sex workers. Finally, knowledge production processes on the RHC of FSW should adopt a holistic view of FSW, by exploring their needs and barriers related to childbirth and maternity care and by including the perspectives of FSW in high-income countries.

Impact:

- The review offered an in-depth understanding of female sex workers' own perspectives regarding needs and barriers in utilizing reproductive healthcare services.
- Findings indicated socio-legal barriers, health services-related barriers, interpersonal barriers and personal history-related barriers.
- The review could inform the training of nurses and other healthcare professionals in reproductive healthcare services globally.

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- Researchers should adopt a holistic view of female sex workers, by exploring their family planning needs, including barriers related to childbirth, maternity and postpartum care.

Reporting Method: We adhered to the EQUATOR guidelines *PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation*.

KEYWORDS

qualitative, reproductive healthcare, scoping review, sex industry, sex work, sex trafficking

1 | INTRODUCTION

This scoping review centres on the barriers encountered by female sex workers in utilizing reproductive healthcare (RHC) services. States are obliged to protect women's reproductive rights by providing available, accessible and good-quality RHC services (Office of the High Commissioner for Human Rights, [n.d.](#)). Yet sex workers around the globe encounter significant obstacles in accessing and utilizing RHC services (Schwartz & Baral, 2015). Their right to make decisions concerning reproduction free of discrimination, coercion and violence is severely restricted (OHCHR, [n.d.](#)). RHC includes information, education and services surrounding reproductive tract infections and sexually transmitted diseases, abortion, family planning, prenatal care, safe delivery and postnatal care in the first 6 weeks of the baby's life (World Health Organization, 2004, 2015). We use the term female sex workers (hereinafter FSW) to refer to women who exchange sex for money, drugs or goods in various settings (e.g. street, brothels, discrete apartments, strip clubs and online) (Showden, 2011). For the purpose of this review, we refer to women as those assigned as females at birth, not including transwomen. Women's involvement in the sex industry is largely viewed as occurring across a continuum from agency/choice to victimization/force (Pederson & Gerassi, 2022). Existing terminologies are often conflating, context dependent and are impacted by global and national policies, sex industry-related legislations and public opinions (Thiemann & Shamir, 2022). Although we use the umbrella term FSW, throughout this review, other terminologies – such as women who sell sex or trafficking survivors – are used in accordance with the terminology used by cited authors.

Existing research on RHC for FSW centres mainly on STI/HIV prevention and treatment (e.g. Desai et al., 2020; Febres-Cordero et al., 2020; Ippoliti et al., 2017) or on the prevention or the termination of pregnancies (e.g. Madeiro & Diniz, 2015). Studies on prenatal care, childbirth and postnatal care are scarce. Yet, most FSW experience full-term pregnancies and bear children and many of them become mothers via intended pregnancies (Zemlak et al., 2023) with clients or intimate partners, before or after entering sex work (Yam et al., 2017). For example, the majority of FSW in sub-Saharan Africa are mothers (Beckham et al., 2015; Scorgie et al., 2013), many of whom conceive while engaged in sex work and continue to engage in selling sex during their pregnancies

(Beckham et al., 2015; Scorgie et al., 2013; Yam et al., 2017). Other FSW wish to have children in the future (Cernigliaro et al., 2018; Yam et al., 2019), despite the challenges of combining sex work with pregnancy and motherhood (du Plessis et al., 2019; Ma et al., 2019).

The main risk factor for unintended pregnancy among FSW is the inconsistent use of condoms (Ippoliti et al., 2017). Additional risk factors include substance use, many clients and exposure to sexual and physical violence (Marlow et al., 2014; Oza et al., 2015). Unintended pregnancies tend to be detected late by sex workers, resulting in several crucial months with no antenatal care (Pardeshi & Bhattacharya, 2006; Parmley et al., 2019). Antenatal and postpartum healthcare is essential for maternal health and infant development, particularly so for FSW due to coinciding risk factors such as substance abuse, HIV and poor work conditions. Lack of antenatal and postpartum healthcare leads to poor pregnancy outcomes, such as higher rates of stillbirths and severe health problems, including neonatal mortality, low birth weight, prematurity, neonatal abstinence syndrome and developmental problems (Willis et al., 2016). More so, nurses and other healthcare professionals often lack knowledge regarding FSW's needs and may hesitate to directly discuss women's involvement in the sex industry or trafficking situations (Ruiz-Gonzalez et al., 2022).

Despite the increased risk factors, very little is known about the access of FSW to RHC services and supportive interventions related to pregnancy and birth. A few scoping reviews, systematic reviews and meta-analyses previously explored FSW barriers in obtaining health services (Platt et al., 2018) and mental healthcare (Reynish, Hoang, Bridgman, Easpaig, & B., 2021). Barriers to FSW's utilization of RHC services were explored only as part of research on general healthcare services (Armstrong & Greenbaum, 2019), or on other vulnerable groups such as transgender women and women living with HIV (Schwartz & Baral, 2015). In recent years, a growing number of qualitative studies explored FSW's perspectives on barriers to accessing RHC, yet no review has been conducted on the matter as reported in qualitative studies. A review of qualitative studies could offer an in-depth understanding of women's subjective perspectives and experiences on this matter. Thus, we sought to systematically map and examine the extent, range and nature of this qualitative data, identify knowledge gaps in the existing literature and draw recommendations for research and practice.

2 | METHOD

We follow the five stages of the methodological framework that Arksey and O'Malley (2005) proposed for conducting a scoping review. This framework is highly suitable for qualitative scoping reviews in health studies (e.g., Dassah et al., 2017; Lange et al., 2020).

2.1 | Stage 1: Identifying the research question

The research question guiding this scoping review is 'What are the perceptions of FSW regarding barriers to obtaining RHC as reported by them in qualitative studies?'

2.2 | Stage 2: Identifying relevant studies

We searched the electronic databases: MEDLINE/ PubMed, PsycNET, Sociological Abstracts, ProQuest, ScienceDirect, HeinOnline, Scopus, Web of Science and Google Scholar for items published in English between 2001 and 2021. An initial search, screening and extraction of the databases for published items between 2001 and 2019 was conducted in parallel by the first author (LB) and a research assistant. Their results were then compared. A complementary search, screening and extraction for items published between 2019 and 2021 was conducted by the first author.

FSW-related search terms included: prostitution, prostitutes, sex work, sex workers, sex trafficking, sex-trafficked, sex industry, adult entertainment and strippers. RHC search terms included: obstetrics, pregnancy, pregnant, gynaecology, fertility, childbirth, family planning, reproductive health, health care, health services, maternity care, prenatal care and abortion. We further checked the bibliographies of studies found through the database searches – especially systematic reviews and literature reviews – to ensure that we identified all relevant items in the database search.

2.3 | Stage 3: Study selection

We defined the eligibility criteria for inclusion in the review based on our increasing familiarity with the literature. We included empirical research studies in the corpus if they were as follows: (a) published in English in peer-reviewed journals or as book chapters; (b) based on qualitative methodology (including mixed-methods studies that employed qualitative methods); (c) focused on FSW as study participants; (d) explored FSW's utilization of RHC (including STI/HIV, contraception use, abortions, pregnancy, childbirth and postnatal care); and (e) reported barriers in the utilization of RHC.

The initial search yielded 287 citations. After the removal of duplicates, the first author (*Initials*) screened a total of 231 citations based on the title and abstract. A total of 178 articles were

removed for not meeting the inclusion criteria. The remaining 53 articles were retrieved and read in full. Thirty-two studies were excluded since a full text in English was not available, they focused only on STI/HIV prevention among FSW and did not address barriers in relation to RHC utilization, focused only on minor girls or utilized mixed methods but offered limited qualitative findings. In cases of doubt regarding eligibility, additional researchers (*Initials* and *Initials*) were consulted. This screening procedure yielded a final set of 21 studies for the current review (see Figure 1 for Prisma flowchart).

2.4 | Stage 4: Charting the data

Data of the 21 items included in the review corpus were charted, including author(s), year of publication, country (where the research was conducted), study aim(s), research methodology and data collection method, study population and sample and main population characteristics (see Table 1) and the study's RHC focus (see Table 2).

2.5 | Stage 5: Collating, summarizing and reporting the results

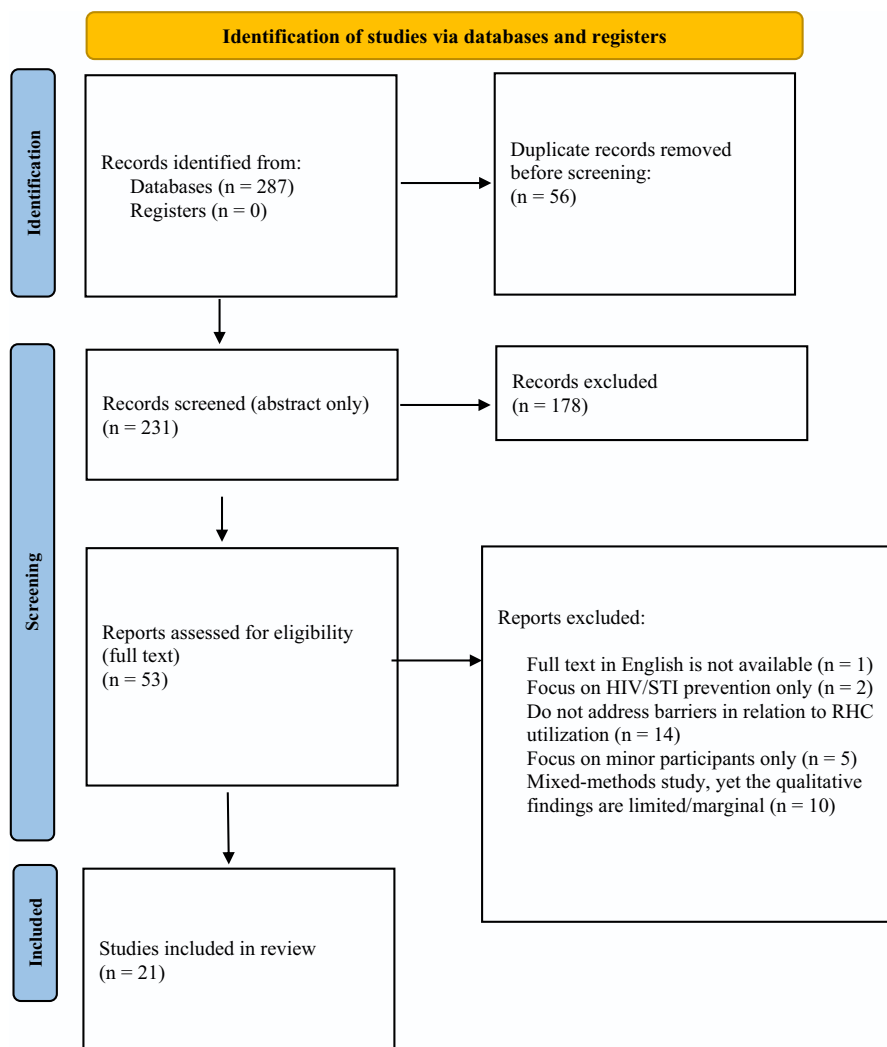
As suggested by Levac et al. (2010), we analysed the data using qualitative thematic content analysis (Braun & Clarke, 2006). Central barriers were identified, named, categorized inductively and conceptualized into four themes (see Figure 2). Next, two narrative accounts of the results were formulated: First, a quantitative description of the corpus's main characteristics. Second, a description of the four thematic clusters of barriers to RHC among FSW.

2.6 | General description of studies

All 21 studies were published between 2014 and 2021, except for 1 that was published in 2008. In terms of the income level of the countries where the studies took place, as offered by the World Bank classification: 1 study was in a low-income country (Uganda); 10 studies were in lower-middle-income countries (Iran [$n=1$], Bangladesh [$n=2$], Tanzania [$n=2$], Kenya [$n=3$] and Zimbabwe [$n=2$]); 5 studies were in upper-middle-income countries (Guatemala [$n=1$], Mexico [$n=1$], Mexico-Guatemala border [$n=1$], China [$n=1$] and South Africa [$n=1$]) and 5 studies were in high-income countries (United States [$n=3$], United Kingdom [$n=1$] and Canada [$n=1$]).

The methodology of most of the studies was qualitative ($n=16$), while the remaining ($n=5$) used a mixed-methods design. Data collection in 19 studies was based on in-depth (semi-structured/qualitative) interviews, and 2 utilized focus groups. Four of the studies combined several qualitative data collection methods,

FIGURE 1 Prisma flowchart.



including a qualitative internet-based survey and participant observations. The sample size of FSW ranged from 8 to 198, with an average of 51. The terminology used in the studies to define the study population was diverse. The majority of studies used the term *sex workers* ($n=15$), two studies used the term *women who sell sex*, two focused on *sex-trafficked women*, one study targeted *substance-using women in the street sex trade* and another used the terminologies *women with high-risk sexual behaviours/sex workers* interchangeably. In terms of age, participants in most of the studies were older than 18 years ($n=15$); four studies also included minor girls (<18), although participants' mean age was above 18, and two studies focused on young women (16–24 years old). Participants in most studies ($n=15$) were FSW only, while samples from six studies also included service providers (whose data were not considered in this review). Sex worker participants were all female, except for one study, which included one male and one non-identified participant. RHC themes studied were diverse: HIV/STI prevention ($n=9$), contraception use ($n=13$), abortions ($n=8$), pregnancy ($n=12$), childbirth ($n=7$) and postpartum ($n=5$). Two studies reported on RHC in general, without mentioning specific themes (see Table 2).

2.7 | Main barriers to RHC

We sorted the various barriers to RHC identified by FSW participants in the reviewed studies into four main domains: socio-legal barriers, health services-related barriers, interpersonal barriers and personal history-related barriers.

2.8 | Socio-legal barriers

2.8.1 | Social stigma surrounding sex work

The most common barrier identified in this review is stigma. Stigma on the societal level affected FSW's decision-making regarding RHC service utilization. For example, Bangladeshi sex workers mentioned that disclosing their occupation could damage their reputation and relationships with family and community, and lead to physical abuse (Katz et al., 2016). In Tanzania, women suffered from stigma related to being a sex worker, often coinciding with HIV-related stigma and stigma surrounding being a single mother (Beckham et al., 2015). In Zimbabwe, the social stigma attached to being a young woman

TABLE 1 Overview of studies.

Author(s), year and country	Study aim(s)	Methodology and data collection method	Study population and sample	Population characteristics
1. Porras et al. (2008) Guatemala	To examine understandings of sexual and reproductive health and healthcare, and perceptions of health services among women who regularly or occasionally sell or transact sex in Escuintla, Guatemala	<ul style="list-style-type: none"> Qualitative Semi-structured interviews 	Sex workers, $n = 35$	<ul style="list-style-type: none"> Age 18–47 years (mean = 27) 22 off-street sex workers (16 worked in bars, 6 in bar shows) and 13 street-based workers Half were born in Guatemala 63% were unmarried 91.4% were mothers with a mean of 2.0 children per woman, but only 17% lived with their children
2. Marlow et al. (2014) Guatemala	To understand sex workers' experiences with induced abortion services or post-abortion care (PAC)	<ul style="list-style-type: none"> Qualitative In-depth interviews 	Sex workers, $n = 9$	<ul style="list-style-type: none"> 18 years or older All but one had children, with an average of two children each (range: 1–4) Four of nine dropped out of school when they were in primary school or the first year of secondary school. The other women did not mention their level of education
3. Youchun et al. (2014) China	To identify appropriate elements to include in sexual health interventions for FSW in different types of work environments, and assess through which channels these interventions might be most effectively delivered	<ul style="list-style-type: none"> Qualitative In-depth interviews 	Female sex workers, $n = 48$	<ul style="list-style-type: none"> Age 16–48 years (mean = 25.8) Women working in entertainment venues
4. Beckham et al. (2015) Tanzania	To explore FSW's experiences with intended pregnancy and access to antenatal care and HIV testing in two regions of Tanzania	<ul style="list-style-type: none"> Qualitative In-depth interviews, focus groups 	Sex workers (interviews $n = 30$, focus groups $n = 22$)	<ul style="list-style-type: none"> Women who reported exchanging sex for money; some self-identified as sex workers
5. Oza et al. (2015) Mexico	To explore experiences during childhood and adolescence that influenced reproductive and sexual health among women who had entered the sex industry in adolescence	<ul style="list-style-type: none"> Qualitative Semi-structured interviews 	Sex workers, $n = 36$	<ul style="list-style-type: none"> Were aged at least 18 years Reported entering the sex industry when younger than 18 years Had traded sex in the past month Reported having used illicit drugs at some point in their lifetime Had a male intimate partner
6. Corneli et al. (2016) Kenya	To identify barriers to accessing contraceptive services among FSW and preferences for contraceptive service delivery options among FSW and healthcare providers	<ul style="list-style-type: none"> Qualitative Focus groups 	Female sex workers, $n = 172$ (16 focus groups discussion) Healthcare providers, $n = 23$	<ul style="list-style-type: none"> Age 18–49 years (mean = 27) 94% had been previously pregnant 29% reported having had an abortion
7. Katz et al. (2016) Bangladesh	To understand the implications of an unintended pregnancy and barriers to contraceptive use	<ul style="list-style-type: none"> Qualitative In-depth interviews 	Sex workers, $n = 20$ (10 hotel based and 10 worked on the streets)	<ul style="list-style-type: none"> Age 20–30 years Most were in an intimate relationship with either a husband or a boyfriend Only two were single but both had boyfriends Six are currently married Of the 12 who were either separated or divorced, 9 had a boyfriend

(Continues)

TABLE 1 (Continued)

Author(s), year and country	Study aim(s)	Methodology and data collection method	Study population and sample	Population characteristics
8. Bick et al. (2017) UK	To explore health care needs, service use and challenges among women who became pregnant while in the trafficking situation in the United Kingdom (UK) and clinicians' perspectives of maternity care for trafficked persons	<ul style="list-style-type: none"> Mixed-methods Cross-sectional survey and qualitative interviews 	Trafficking survivors, <i>n</i> = 28 Maternity care clinicians, <i>n</i> = 9	<ul style="list-style-type: none"> Age 18–41 years Reported one or more pregnancies 18 (62.3%) were trafficked for sexual exploitation 9 countries of origin; around three-quarters of women were from Albania (11, 39.3%) and Nigeria (9, 32.1%)
9. Ravi et al. (2017) US (NY)	To identify experiences of domestically sex-trafficked women regarding healthcare access, reproductive health, and infectious diseases while trafficked	<ul style="list-style-type: none"> Qualitative Audio-recorded interviews 	Domestically Sex-trafficked women, <i>n</i> = 21	<ul style="list-style-type: none"> Age 19–60 years (mean = 35.5) Self-identified as African American or Caribbean American 42.9% (<i>n</i> = 9), White 28.6% (<i>n</i> = 6), Hispanic 23.8% (<i>n</i> = 5), and mixed White-Hispanic 3.8% (<i>n</i> = 1)
10. Toquinto (2017) US (San Francisco)	To introduce the street-based sex workers' lived experiences of pregnancy, highlighting their voices and encounters with a health care system unfit to provide quality supportive-care services to this community	<ul style="list-style-type: none"> Qualitative In-depth interviews 	Street-based sex workers, <i>n</i> = 8	<ul style="list-style-type: none"> Age 32–45 years (mean = 40.8) 4 white, 4 African-American All reported at least one pregnancy, during which they were both unstably housed and participating in street-based sex work All used drugs during at least one of their pregnancies 5 were using at the time of the research, homeless or unstably housed
11. Wahed et al. (2017) Bangladesh	To identify the barriers female sex workers (FSW) in Bangladesh face with regard to accessing sexual and reproductive health (SRH) care, and assess the satisfaction with the healthcare received	<ul style="list-style-type: none"> Mixed methods Survey, in-depth interviews 	Female sex workers, <i>n</i> = 14 Service providers, <i>n</i> = 9	<ul style="list-style-type: none"> The majority under 25 years old 9 completed 6 or more years of schooling 8 were married 10 were using some type of modern contraceptive 8 undergone an abortion, 6 given birth and 4 experienced an STI in the last year
12. Ochako et al. (2018) Kenya	To explore the experiences of female sex workers with using existing contraceptive methods, assess individual and health facility-level barriers and document inter-partner relationship in the use of contraceptives	<ul style="list-style-type: none"> Qualitative Focus groups 	Female sex workers, <i>n</i> = 81	<ul style="list-style-type: none"> Age 15–49 years
13. Rocha-Jiménez et al. (2018) Mexico–Guatemala border	To explore international migrant sex workers' experiences and narratives pertaining to the unmet need for and access to sexual and reproductive health (SRH) at Mexico–Guatemala border	<ul style="list-style-type: none"> Qualitative Ethnographic fieldwork: participant observation and in-depth interviews 	Female sex workers who are international migrants, <i>n</i> = 31	<ul style="list-style-type: none"> 18 years or older International migrants All except one had at least one child Most were single Most reported working mainly in informal venues
14. Parmley et al. (2019) South Africa	To characterize factors influencing antenatal care (ANC) seeking behaviours in a high HIV prevalence context	<ul style="list-style-type: none"> Mixed methods In-depth interviews, cross-sectional study through respondent-driven sampling 	Female sex workers (pregnant and postpartum), <i>n</i> = 30	<ul style="list-style-type: none"> Age 24–33 years (mean = 28) 8 pregnant 22 postpartum 77% of FSW were mothers; of these, two-thirds were living with HIV

TABLE 1 (Continued)

Author(s), year and country	Study aim(s)	Methodology and data collection method	Study population and sample	Population characteristics
15. Faini et al. (2020) Tanzania	To better understand barriers to contraceptive use through FSW's pregnancy perceptions and experiences of unintended pregnancy	<ul style="list-style-type: none"> Qualitative In-depth interviews 	Sex workers, <i>n</i> = 11	<ul style="list-style-type: none"> Age 18–45 years 5 pregnant 3 had terminated the pregnancy 2 had recently given birth 1 had not been pregnant
16. Gichuna et al. (2020) Kenya	To highlight specific effects of COVID-19 and related restrictions on healthcare access for the sex workers	<ul style="list-style-type: none"> Qualitative Semi-structured interviews 	Female sex workers, <i>n</i> = 117 Healthcare providers, <i>n</i> = 15	<ul style="list-style-type: none"> Age 16–47 years The majority were young: more than half (87) were 33 years and below
17. Chareka et al. (2021) Zimbabwe	To report economic and social influences on abortion decision-making behaviour and abortion practices among a group of young women who sell sex (YWSS) (16–24 years) in Zimbabwe	<ul style="list-style-type: none"> Qualitative In-depth interviews, focus groups 	YWSS, <i>n</i> = 198 (focus group discussions <i>n</i> = 30, IDIs, <i>n</i> = 42) Peer educators, <i>n</i> = 16 Healthcare providers, <i>n</i> = 5 Key informants, <i>n</i> = 4	<ul style="list-style-type: none"> Age 16–24 years
18. Crankshaw et al. (2021) Zimbabwe	To explore the differences in dynamics of SRH vulnerability among YWSS within the 16–24 years age band	<ul style="list-style-type: none"> Qualitative In-depth interviews 	YWSS, <i>n</i> = 72 (IDIs <i>n</i> = 42; FGD = 30) Key informants, <i>n</i> = 4 Healthcare providers, <i>n</i> = 5 Peer educators, <i>n</i> = 16	<ul style="list-style-type: none"> Age 16–24 years (<i>m</i> = 19.5) Were involved in street-based sex work, bars and/or lodges
19. Dewey et al. (2021) US (state non-identified)	To examine how substance-using women in the street sex trade formulate understandings of pregnancy at the intersections of healthcare, social services and family systems in ways that reflect internalized dominant cultural assumptions about substance use, motherhood and the street sex trade	<ul style="list-style-type: none"> Mixed-methods Semi-structured interviews, quantitative analysis of 125 case files from a transitional housing facility 	Women who became pregnant while engaged in substance use and street sex trading, <i>n</i> = 55	<ul style="list-style-type: none"> Mean age 35 A majority (71.2%) of the women who had given birth used substances
20. Ross et al. (2021) Canada	To assess barriers to and facilitators of access to sexual and reproductive healthcare among young adult sex workers, and identify practices suggested by participants to improve services	<ul style="list-style-type: none"> Mixed methods Quantitative internet-based cross-sectional survey, qualitative focus groups and interviews 	Young adult sex workers, <i>n</i> = 17 (FGD <i>n</i> = 14, interviews <i>n</i> = 3)	<ul style="list-style-type: none"> Age 19–45 years (mean age qualitative strand = 25.7) 15 females 1 male 1 not identified
21. Zenouzi et al. (2021) Iran	To identify the concerns of women with high-risk sexual behaviours/female sex workers	<ul style="list-style-type: none"> Qualitative Semi-structured interviews 	Women with high-risk sexual behaviours/female sex workers, <i>n</i> = 20	<ul style="list-style-type: none"> Age 16–45 years (<i>m</i> = 27.6) With 1–3 children Education level ranged from illiterate to bachelor's degree The majority were divorced and the rest were either single or married Participants include women who use drugs

selling sex (Crankshaw et al., 2021) and undergoing an abortion (Chareka et al., 2021) discouraged women's information sharing on where to obtain safe abortions and resulted in hindering their access to tailored sex worker services (Beckham et al., 2015; Crankshaw et al., 2021). Women who were international migrants felt targeted for being sex workers in a foreign country and described the intersecting stigma surrounding sex work and immigration as a barrier to utilization of RHC services (Rocha-Jiménez et al., 2018).

2.8.2 | Restrictive laws and regulations

Restrictive state laws that criminalized sex work and abortion were another barrier to RHC services. For example, in Zimbabwe, the combination of criminalization of sex work with restrictions on abortions halted care seeking around unwanted pregnancies, as women feared being reported to the authorities (Chareka et al., 2021). A young sex worker said:

TABLE 2 Study's RHC focus.

Author(s), year of publication	Study's RHC focus						
	HIV/STI prevention	Contraception use	Abortion	Pregnancy	Childbirth	Postnatal	General / non-specified
1. Porras et al. (2008)	V	V					
2. Marlow et al. (2014)			V				
3. Youchun et al. (2014)	V	V					
4. Beckham et al. (2015)				V			
5. Oza et al. (2015)	V	V	V	V			
6. Corneli et al. (2016)		V					
7. Katz et al. (2016)		V	V	V			
8. Bick et al. (2017)				V	V	V	
9. Ravi et al. (2017)	V	V					
10. Toquinto (2017)				V	V	V	
11. Wahed et al. (2017)	V	V	V	V	V	V	
12. Ochako et al. (2018)	V	V					
13. Rocha-Jiménez et al. (2018)	V	V	V	V	V		
14. Parmley et al. (2019)	V	V		V	V		
15. Faini et al. (2020)		V	V	V			
16. Gichuna et al. (2020)	V	V		V	V	V	
17. Chareka et al. (2021)			V				
18. Crankshaw et al. (2021)							V
19. Dewey et al. (2021)				V	V	V	
20. Ross et al. (2021)							V
21. Zenouzi et al. (2021)	V	V	V	V			

Going to the clinic for abortion is not feasible, especially if you are a sex worker; you can get arrested. Here [in Zimbabwe] you can only abort if you have been raped. I end up going to the traditional healers and abort in the bushes, and bury the aborted baby there...

(Chareka et al., 2021, pp. 125–126)

Migration laws and regulations place specific restrictions on access to RHC services. For Central American women living in Mexico, access to services was frequently restricted. Women had to seek care in low-cost pharmacy services or delay it until the next travel home (Rocha-Jiménez et al., 2018). In the United Kingdom, non-UK residents who were sex-trafficked mentioned they could only access maternity care late in pregnancy or when giving birth. Moreover, trafficking survivors could be relocated by immigration authorities to different areas where they need to re-register with new doctors, which impaired their continuity of care (Bick et al., 2017).

2.9 | Health services' related barriers

2.9.1 | An inaccessible service infrastructure

The second most common barrier identified in this review was the inaccessibility of health services. Overall, sex workers felt that service

delivery did not account for their reality, as manifested in inconvenient operating hours (Corneli et al., 2016; Faini et al., 2020) and long waiting times in health facilities, which caused them to lose clients (Corneli et al., 2016; Faini et al., 2020; Ochako et al., 2018; Parmley et al., 2019; Rocha-Jiménez et al., 2018). For example, sex workers in Tanzania (Faini et al., 2020) missed monthly contraceptive supplies provided by family planning clinics because these were only open during the day when they rested after working at night. Another common issue was a high or unaffordable service fee (Bick et al., 2017; Corneli et al., 2016; Oza et al., 2015; Rocha-Jiménez et al., 2018; Ross et al., 2021; Wahed et al., 2017). A study conducted in Kenya suggested that the inaccessibility of RHC services intensified following COVID-19-related government priorities (Gichuna et al., 2020).

FSW described health services as physically inaccessible due to location and lengthy and costly travel (Gichuna et al., 2020; Oza et al., 2015; Rocha-Jiménez et al., 2018; Wahed et al., 2017). Moreover, women in Guatemala disapprove of locations that make them easily identifiable as sex workers (Porras et al., 2008) or make clients think that they are STI/HIV positive (Rocha-Jiménez et al., 2018). A woman who was sex-trafficked in the United States described the impact of transportation and cost-related travel barriers on her prenatal care. She became pregnant while trafficked, was forced to move to a different state with the trafficker after day 1 of a 2-day abortion and did not have money and transportation to return to the clinic and complete the procedure (Ravi et al., 2017). The lack

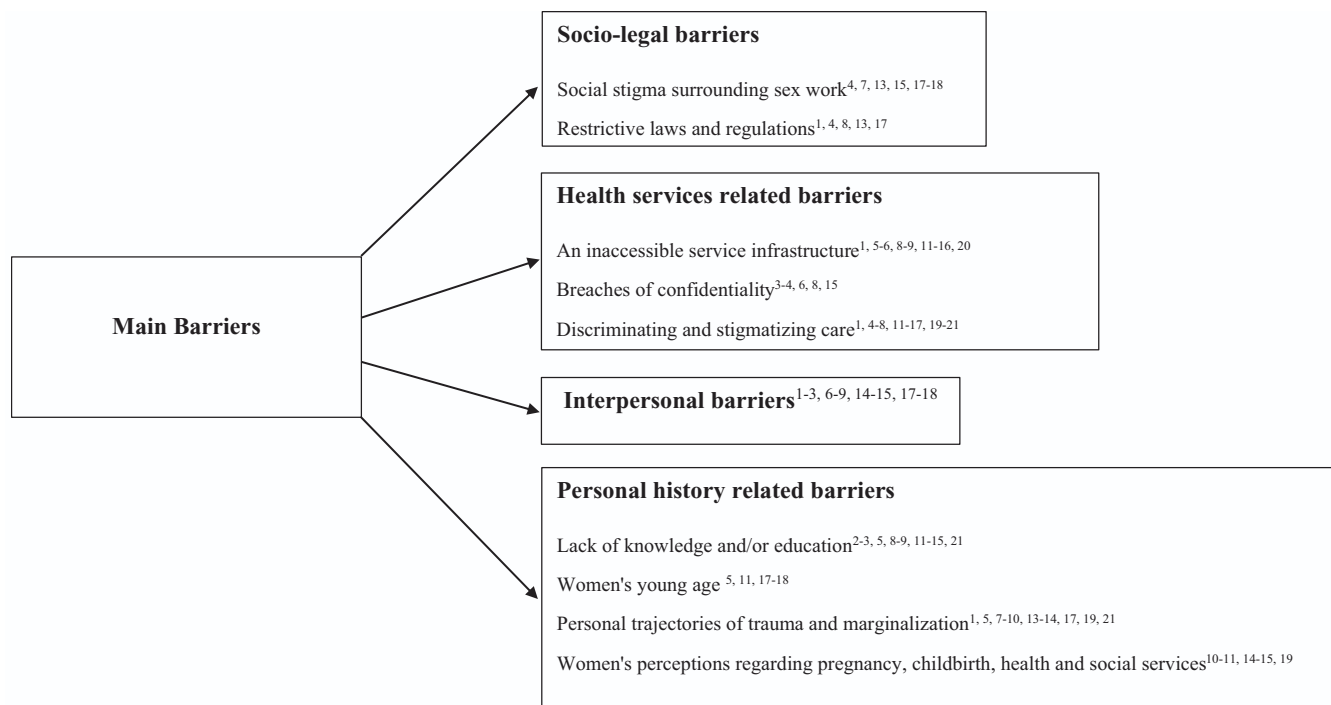


FIGURE 2 Main barriers.

of money for transport to RHC clinics seemed to intensify during COVID-19 (Gichuna et al., 2020).

RHC services' inaccessibility was also related to service regulations. For example, sex workers in Kenya described compulsory HIV testing (Corneli et al., 2016). Sex workers in two Guatemala-based studies (Porrás et al., 2008; Rocha-Jiménez et al., 2018) mentioned that existing services have minimal outreach – health centre personnel only advised using condoms but did not provide information and explanation on prevention, diagnosis and treatment.

2.9.2 | Breaches of confidentiality

FSW's fear that healthcare providers would reveal their personal and medical details was another barrier to RHC utilization. For example, in a study conducted in the United Kingdom, Mercy, who was previously sex-trafficked, was admitted to a hospital to give birth, where she felt that her personal history was not treated sensitively:

The doctors ... were discussing my case but did it in a room with other people and by the door that led onto the corridor, so if I could hear other people could hear.
(Bick et al., 2017, p. 5)

Breaches of confidentiality were especially problematic for women who feared that their details would be provided to immigration authorities or their traffickers (Bick et al., 2017). In a study conducted in Tanzania (Faini et al., 2020), a forced disclosure of women's occupation

as sex workers was linked by some women to the stigma that surrounded sex work:

She (the nurse) started calling her fellow doctor to come and listen to what I was telling her...although I told her alone, in private.... She told all the doctors that I am a sex worker [...] So, I decided to leave.... Telling others that I am a sex worker is that not discrimination?

(Faini et al., 2020, p. 7)

Such experiences deterred women from utilizing public health services, for example, in the case of abortions, in which they preferred the anonymity of small community or private clinics (Youchun et al., 2014). Finally, FSW in Kenya specifically feared breaches of confidentiality from peer educators due to their previous acquaintance and shared background (Corneli et al., 2016).

2.9.3 | Discriminating and stigmatizing care

The common barriers of discrimination and stigma were experienced within RHC services in both service regulations and FSW's encounters with healthcare providers. Here, stigma refers to the strong negative feelings that service providers may link to the women for belonging to a specific group or trait. Such stigmas often lead to discrimination, that is, treating the women unjustly because of this specific trait (Brown et al., 2013). For example, in Kenya, young sex workers were refused services due to their age (Gichuna et al., 2020), and in Tanzania, discriminatory regulations did not

allow single sex workers to receive health services during pregnancy without a husband. This led some sex workers to avoid antenatal care services completely, except when already in labour. In other cases, women were automatically referred to separate HIV-related clinics (Beckham et al., 2015). One woman described it as such:

Straight away they direct you to the HIV [treatment clinic]....Over there, they do not give you any services at all other than AIDS tests... They think straight away you are infected.

(Beckham et al., 2015, p. 64)

Stigmatization seemed to have occurred mainly within client-provider interactions: eight of the studies reported incidents whereby sex workers experienced negative and differential treatment from staff members (Bick et al., 2017; Corneli et al., 2016; Ochako et al., 2018; Parmley et al., 2019; Rocha-Jiménez et al., 2018; Ross et al., 2021; Wahed et al., 2017; Zenouzi et al., 2021). For example, a woman with high-risk sexual behaviour from Iran said:

I don't like to go to health centers. Once I asked a question from a mid-wife, she looked to her colleagues and laughed at me; I will never go there again.

(Zenouzi et al., 2021, p. 6)

Sex workers in Canada reported condescending attitudes, including refusal to take women's self-reported needs seriously, efforts to convince women to leave sex work and intersecting forms of stigma (ageism, sexism and ableism) (Ross et al., 2021):

I never actually told any doctor that I've spoken to that I'm a sex worker for many, many reasons. Including the fact that I live with PTSD, and the minute you tell somebody that you're somebody who suffers from PTSD, and that you're a sex worker, you can no longer make decisions for yourself as an adult in the medical community.

(Ross et al., 2021, p. 487)

Furthermore, sex workers mentioned that due to experiencing stigma in municipal clinics, they seek treatment in private clinics (Ochako et al., 2018; Rocha-Jiménez et al., 2018). Importantly, sex workers felt service providers typically treated them the same as other women when they did not disclose their profession (Parmley et al., 2019).

2.10 | Interpersonal barriers

FSW portrayed relationships with clients, partners, traffickers, fellow sex workers and family members as another barrier to RHC utilization. First, clients' refusal to use condoms affected

women's health risks such as HIV/STI and unwanted pregnancies. For example, in two studies conducted with sex workers in Tanzania (Beckham et al., 2015; Faini et al., 2020), women described negotiation strategies related to condom use that at times were successful. Yet, their economic situation often led them to accept non-condom use, as clients offered higher pay. The women also mentioned avoiding condom-use negotiations with regular trusted clients to maintain a relationship of financial and emotional security. Moreover, clients' and partners' expectations deterred some sex workers' uptake of contraceptive-related services. In a study conducted in Kenya (Corneli et al., 2016), some sex workers said that paying partners believed that contraceptive pills affect a woman's sexual desire and therefore refused to use them and that non-paying partners often expected women to bear their children.

Two studies conducted among sex-trafficked women in the United States (Ravi et al., 2017) and the United Kingdom (Bick et al., 2017) reported trafficker-related barriers. Women said that they hid their pregnancy and STI/HIV status in fear of traffickers' retaliation. Furthermore, they reported that traffickers physically limited their access to care in fear that they would run away or report them. A domestically sex-trafficked woman said:

98.8 percent of the time, I used protection. But that little bit of 1 percent and some change is a big risk and weighs heavily on someone's mind, especially a woman inside the life, when you can't just ask your pimp, can I go to the doctor? And they're like, no, you haven't made enough money yet today, we don't have time to take you out to go to the hospital or go to the doctor.

(Ravi et al., 2017, p. 411)

Another HIV-positive participant reported not receiving treatment while trafficked due to fear of violence perpetrated by the trafficker (Ravi et al., 2017).

FSW's relationship with fellow FSW and with family members was mentioned as barriers in five studies (Chareka et al., 2021; Crankshaw et al., 2021; Katz et al., 2016; Marlow et al., 2014; Parmley et al., 2019). Sex workers in Uganda reported that the person with whom they consulted first had an impact on accessing RHC services; they often turned first to a friend and fellow sex worker, who referred them either to a health clinic or to an alternative carer/herbalist (Marlow et al., 2014). In Zimbabwe, in light of the competition for clients, some young sex workers expressed distrust towards older peer educators. They actively avoided them for fear that the latter would intentionally expose their HIV status (Crankshaw et al., 2021). Additionally, fearing a lack of support or damage to their relationship with partners and family members due to the disclosure of their sex work occupation (Chareka et al., 2021; Katz et al., 2016) or their pregnancy (Parmley et al., 2019), restrained FSW care seeking or delayed it until late into their pregnancies.

2.11 | Personal history-related barriers

2.11.1 | Lack of knowledge and/or education

Women reported insufficient education regarding sexual health, including contraceptive methods, safe abortions, family planning and prenatal care, and lack of knowledge about existing RHC services. For example, South African sex workers thought that they did not need contraceptives when experiencing irregular menstruation or viewed contraceptives as a cause of infertility or cancer (Parmley et al., 2019). In another study, Gabriela, who was originally from Honduras, yet resided and worked in Mexico, related to a lack of education in her upbringing:

Nobody talked to me about my pregnancy, not even my family, not even my mother ... I barely got information about my pregnancy and how to avoid getting pregnant ... When I got pregnant for the first time, I never thought it was painful to have a child.

(Rocha-Jiménez et al., 2018, p. 40)

Sex workers in Tanzania mentioned in retrospect that not being aware of the burdens of unintended pregnancies contributed to their non-utilization of contraceptives and family planning services before becoming pregnant (Faini et al., 2020). Against this backdrop, only one study, conducted in China, addressed the internet as a source of information on RHC. In the study, sex workers who were educated mentioned that their familiarity with and access to the internet led them to seek health-related information online (Youchun et al., 2014).

2.11.2 | Women's young age

Women's young age was closely linked with a lack of knowledge – young women were less aware of sexual health in general and of RHC services in particular and less protective of their health (Crankshaw et al., 2021; Oza et al., 2015; Wahed et al., 2017). For example, young sex workers in Bangladesh disclosed that they did not know how and when to use pills, and were not aware of other contraception methods (Wahed et al., 2017). Moreover, in Zimbabwe (Crankshaw et al., 2021), young sex workers reported feeling vulnerable due to their subordinate social position and exploitation within sex worker hierarchies. Their accessibility to RHC services was hindered by distrust of older peer educators who worked there and lack of the necessary referral networks to link them to safe abortion services (Chareka et al., 2021).

2.11.3 | Personal trajectories of trauma and marginalization

Women's exposure to trauma and adversities such as poverty, early sexual abuse, violence, marginalization, alcohol and substance use,

unstable living conditions and lack of legal status/health insurance was described as hindering their access to RHC. In a Mexico-based study (Oza et al., 2015), sex workers described how the overall trajectories of early sexual abuse, leaving school and family, drug use and involvement in sex work were linked with their limited knowledge and affordability of utilizing RHC services. In South Africa, a pregnant sex worker who was expecting linked her late limited utilization of antenatal care to alcohol and substance use:

I drank a lot at that time, and when I was drunk I would pass out, so maybe I fell on my tummy [and caused a miscarriage], I don't know; because I wasn't stressed or anything.

(Parmley et al., 2019, p. 7)

Two studies (Porras et al., 2008; Ravi et al., 2017) elaborated on barriers related to FSW's unstable living conditions – women's inconsistent access to address or telephone interfered with attending follow-up check-ups and receiving test results. This was amplified for sex-trafficked women in the United States when moving between locations with the trafficker (Ravi et al., 2017). Three studies (Bick et al., 2017; Ravi et al., 2017; Rocha-Jiménez et al., 2018) reported women's lack of legal status and health insurance as critical barriers that deterred healthcare utilization or led women to choose the Emergency Department instead of primary care clinics.

2.11.4 | Women's perceptions regarding pregnancy, childbirth and health services

Women's perceptions towards their pregnancy – unwanted, desired or both – were linked with antenatal care seeking. For example, for some women, unwanted pregnancy and the shame surrounding engaging in sex work while pregnant were often linked with the late discovery of pregnancy, and thus with delayed antenatal care (Faini et al., 2020; Parmley et al., 2019). Moreover, in a South Africa-based study, some sex workers perceived 4 or 5 months of gestation as the right time to seek antenatal care. For some women, their perceptions and experiences during and after intended and unintended pregnancies served as a 'wake-up call' to use contraceptives irrespective of the pregnancy outcome, that is, abortion or live birth (Parmley et al., 2019).

Furthermore, negative perceptions of the healthcare system in general and of RHC in particular, including feelings such as shame, fear, hesitance and distrust in 'the system', as well as internalized stigma, halted or prevented women's care seeking (Dewey et al., 2021; Parmley et al., 2019; Toquinto, 2017). Such perceptions were partly formulated by previous negative experiences, as described above. This has hindered women's pregnancy disclosure to social services or healthcare providers and their attendance of prenatal care appointments. Jo, a mother of four who lost custody of multiple children at birth, explained:

I didn't go to any appointments for anything. So, it was sporadic. You don't want to do it cause you're embarrassed...You can't do anything normal when you're using drugs.

(Dewey et al., 2021, pp. 154–155)

Two studies (Dewey et al., 2021; Toquinto, 2017), both conducted in the United States, mentioned women's negative perceptions of social services as a barrier to RHC utilization. In a study by Dewey et al. (2021), women reported feeling that overall, the health and social systems prioritize foetal and neonatal over maternal well-being. These perceptions were associated for some women with their children being taken from them to custody upon birth. In Toquinto's (2017) study, sex workers feared the involvement of child protection services. For example, Genevieve, a sex worker who used drugs and was pregnant in San Francisco, described her healthcare experience:

They told me if I had any speed or if I came in dirty one more time, they were going to call CPS [child protection services], and they were going to take my baby when he was born And then I ... actually went to jail.

(Toquinto, 2017, p. 27).

Women's fear was often a result of their negative past experiences within the social services, which impaired their future care seeking of RHC.

3 | DISCUSSION

This scoping review aimed to systematically map and describe existing qualitative knowledge on the subjective perspectives of FSW regarding barriers to obtaining RHC services. We found that FSW locate existing barriers to RHC utilization within four primary levels, ranging from the societal to the individual. Stigma was a major multifaceted barrier in women's descriptions. It contributed to their fear of disclosing their sex work identity and to internalized stigma, was expressed in healthcare providers' discriminatory attitudes and practices and affected FSW's access to RHC services.

This is the first comprehensive synthesis of qualitative data regarding adult FSW's perceptions and experiences of this topic. Covering data from various countries and sex work settings, we identified barriers that transcend geographical and cultural contexts, predominantly the stigma surrounding sex work and the inaccessibility of existing RHC services. The findings portray an alarming picture of how FSW are deprived of reproductive rights and access to good-quality reproductive healthcare (OHCHR, n.d.).

The multilevel perspective of the findings aligns with the existing socio-ecological model within the health literature, underscoring how environmental characteristics influence individual health behaviours and outcomes (Harper et al., 2018; Ma et al., 2017). Such a

multilevel approach is used to deliver comprehensive interventions at multiple levels, increase the access of excluded groups to healthcare (Harper et al., 2018) and conceptualize FSW's healthcare access and utilization (e.g. Ma et al., 2017; Moss et al., 2019). Thus, it should guide the planning and delivery of RHC services to FSW.

The most common barrier identified in this review is stigma. The societal stigma towards sex workers, or *whorephobia*, includes 'forms of hatred, disgust, discrimination, violence, aggressive behaviour or negative attitudes directed at individuals who are engaged in sex work' (Sawicki et al., 2019, p. 363). Such stigma is linked with criminalization and repressive policing of FSW, which disrupts their access to healthcare (Platt et al., 2018). Our review demonstrates the interconnectedness of different levels of such stigma, that is, external stigma that FSW experienced as the result of the actions of others, and internalized stigma which they experienced inwardly (Brown et al., 2013). Based on FSW's perspectives, it was demonstrated that societal stigma affects women's everyday lives, is reflected in RHC discriminatory services regulations and manifests in FSW's encounters with healthcare providers. Such encounters, in turn, evoke or strengthen FSW's internalized stigma. This cycle facilitates women's hesitance, delay or withdrawal from utilizing RHC services. Existing literature demonstrates that stigma is a primary barrier to utilizing general healthcare services for sex workers in Vietnam (Huber et al., 2019), India (Ryan et al., 2019), East and Southern Africa (Duby et al., 2018; Scorgie et al., 2013), Brazil (Dourado et al., 2019), the United States (Singer et al., 2021) and Canada (Benoit et al., 2019; Lazarus et al., 2012), and mental healthcare in Australia (Reynish, Hoang, Bridgman, & Giolla Easpaig, 2021; Treloar et al., 2021) and Switzerland (Zehnder et al., 2019). This review contributes a first detailed exploration of how such stigma operates within RHC service settings.

Stigma-related barriers have profound implications for FSW's care seeking and thus for their health and that of their infants (Cauce et al., 2002). We found that internalized stigma delayed FSW from recognizing their health needs and caused them to delay or avoid care seeking; for example, surrounding STI/HIV infections, safe abortions and antenatal care. FSW often seek treatment only for urgent health needs (such as childbirth) instead of preventive care. When they did utilize RHC services, the selection of a help provider was also influenced by stigma – many FSW preferred the anonymity of private clinics, even when public clinics were free of charge. Several studies described these preferences regarding sex workers' general healthcare utilization (Duby et al., 2018; Kaloga et al., 2019; Scorgie et al., 2013). For example, a qualitative study conducted among sex workers in East and South Africa found that discrimination against sex workers was particularly prevalent in public-sector facilities (Scorgie et al., 2013). Furthermore, in their study of FSW in South Africa, Duby et al. (2018) found that when nurses adopted a scolding tone, FSW felt embarrassed and ashamed, which often resulted in a reluctance to return to the clinic.

Another essential aspect of stigma is the question of disclosing sex industry involvement to health practitioners. This review found that women felt entrapped – they might face stigmatization, refusal

of care and even violence in case of disclosure. If they do not disclose – they are barred from receiving care that could be tailored to their needs. Existing literature on sex workers' encounters with healthcare providers demonstrates that women mostly choose non-disclosure (Dourado et al., 2019; Lowe et al., 2019; Ross et al., 2021). And yet, in a Canada-based study, sex workers who chose to disclose being a sex worker to a healthcare provider mainly described receiving non-judgmental treatment and comprehensive care. They stated that the act of disclosure brought further emotional benefits such as affirmation and acceptance (Benoit et al., 2019). Our review demonstrates that the physical risks associated with sex work disclosure may differ according to the country's legal and social norms, women's age and legal status. However, FSW experienced a psychological risk across various countries.

As such, it is advised that training for nurses and other healthcare practitioners will familiarize them with sex work-related stigma, the realities and the often-conflating definitions surrounding sex work across national contexts while respecting the women's right to self-determination. Existing evidence suggests that sensitization training intervention can result in shifts in providers' attitudes, including increased empathy for sex workers, a reduction in stigmatizing and discriminatory moral-based judgements and an increased self-perceived capacity to appropriately assist sex workers (Dubey et al., 2019).

Once offered a non-judgmental and safe environment for disclosure, women's ability to fully discuss their health needs may be enhanced. Moreover, as suggested by Pederson and Gerassi (2022), providing an opportunity for women to disclose sex trading may allow professionals to explore more deeply into the interpersonal, societal and economic circumstances under which women trade sex. This could result in identifying further health and social needs, including situations of coercion and/or control, which may qualify as trafficking (Ruiz-Gonzalez et al., 2022). Importantly, disclosure should not be enforced on FSW, and clinicians should take into account the possibility that some women would choose non-disclosure, and respect this choice.

The majority of the reviewed studies were conducted in the past decade. This may reflect growing scholarly attention to FSW's own views, and a growth in the use of qualitative methods (Benoit et al., 2020), which offer valuable paths to service improvement. Furthermore, most included studies focused on STI/HIV, contraceptive use and pregnancy and its prevention, with less attention paid to childbirth and postnatal care. Emphasizing STI/HIV prevention and overlooking FSW's desires and needs surrounding childbirth and postnatal care may be linked to the stigma surrounding the combination of sex work with motherhood (Beckham et al., 2015; Ma et al., 2019). In addition, most reviewed studies were conducted in lower-middle-income countries (LMIC). This might be explained by an overemphasis on HIV/STI-related issues among sex workers, as HIV is globally more prevalent in less-developed countries. Either way, this picture calls for a critical examination of knowledge production on the RHC of FSW. We contend that future research should adopt a more holistic view of FSW by exploring their needs and

barriers related to childbirth and maternity care and by including the perspectives of FSW in high-income countries.

Lastly, the reviewed studies did not attend to views of FSW working online or to the barriers FSW face when obtaining information and services on the internet. It is surprising in light of the growing use of technology in accessing and providing healthcare (Núñez et al., 2021). A possible explanation is the limited internet access of FSW in some countries. Also, despite a prevailing involvement of welfare regimes in the parenting of FSW (Duff et al., 2015), the role of child protection services in contributing to women's hesitance to utilize RHC was mentioned by only two studies, both conducted in the United States. This may be due to different welfare regulations and fewer child protection interventions in LMIC (Dewey et al., 2021).

3.1 | Limitations

This review focused on studies published in English in peer-reviewed journals or book chapters and on FSW's perspectives on RHC utilization. Therefore, issues that may have arisen in studies conducted in other languages and grey literature are absent. Furthermore, although this was not a predetermined inclusion criterion, the reviewed studies focused on FSW physical access to RHC. They did not pertain to a broader definition of access that includes virtual access via email, text messages, phone, video or a combination (Núñez et al., 2021).

4 | CONCLUSION

Around the globe, FSW are faced with multiple barriers to RHC service utilization. Based on this review's findings, it is advised that RHC services recognize FSW's family planning needs and proactively discuss their potential desire for children, including by enhancing FSW's access to information on RHC within accessible community services. Furthermore, paying attention to the hierarchies among sex workers is important: when employing FSW who are peer educators, women should choose whether they want the assistance of peer educators, and young sex workers should have access to different targeted services. RHC professionals should strive to enable continuity of care by establishing respectful, trusted ongoing relationships with FSW and offering postnatal mental and physical support to them. More so, FSW should be able to choose their preferred method of receiving test results and the time and location of their treatment.

Future research on FSW's access to RHC services will benefit from a holistic view of FSW's health needs. First, we recommend exploring their specific challenges in obtaining care surrounding childbirth and postnatal care. Studies could focus on the first weeks following childbirth, their health needs as well as that of their infants. Moreover, expanding the exploration of the perspectives of FSW in high-income countries will add to current knowledge. Future research could explore the perspectives of general healthcare

providers as well as those of stakeholders that influence service provision. Finally, future studies are advised to investigate FSW's online access to RHC and the specific barriers related to this arena.

AUTHOR CONTRIBUTIONS

Made substantial contributions to conception and design, acquisition of data or analysis and interpretation of data; Lior Birger, Einat Peled, Yael Benyamini. Involved in drafting the manuscript or revising it critically for important intellectual content; Lior Birger, Einat Peled, Yael Benyamini. Given final approval of the version to be published. Each author should have participated sufficiently in the work to take public responsibility for appropriate portions of the content; Lior Birger, Einat Peled, Yael Benyamini. Agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved; Lior Birger, Einat Peled, Yael Benyamini.

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CONFLICT OF INTEREST STATEMENT

The authors have no conflict of interest to disclose.

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DATA AVAILABILITY STATEMENT

The data that supports the findings of this study are available in the supplementary material of this article.

ETHICS STATEMENT

Our study did not require ethical board approval because it is a literature review and did not contain human or animal trials.

ORCID

Lior Birger  <https://orcid.org/0000-0003-1136-5243>

Einat Peled  <https://orcid.org/0000-0002-5540-4366>

Yael Benyamini  <https://orcid.org/0000-0001-5110-8212>

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