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Review

Intersections of Immigration and Sexual/Reproductive Health: An Umbrella Literature Review with a Focus on Health Equity

Violeta Alarcão [1,2,*], Miodraga Stefanovska-Petkovska [2], Ana Virgolino [2], Osvaldo Santos [2,3] and Andreia Costa [2,4]

[1] Centro de Investigação e Estudos de Sociologia, ISCTE—Instituto Universitário de Lisboa (ISCTE-IUL), Avenida das Forças Armadas, 1649-026 Lisboa, Portugal
[2] Instituto de Saúde Ambiental (ISAMB), Faculdade de Medicina, Universidade de Lisboa, Avenida Professor Egas Moniz, 1649-028 Lisboa, Portugal; mpetkovska@medicina.ulisboa.pt (M.S.-P.); avirgolino@medicina.ulisboa.pt (A.V.); osantos@medicina.ulisboa.pt (O.S.); andreiajsilvadacosta@gmail.com (A.C.)
[3] Unbreakable Idea Research, Lda, 2550-426 Painho, Portugal
[4] Escola Superior de Enfermagem de Lisboa, Avenida Professor Egas Moniz, 1649-028 Lisboa, Portugal
* Correspondence: Violeta_Sabina_Alarcao@iscte-iul.pt or valarcao@medicina.ulisboa.pt

Abstract: Identifying the opportunities and barriers of promoting and fulfilling the sexual health rights of migrants remains a challenge that requires systematic assessment. Such an assessment would include estimating the influence of acculturation processes on sexual and reproductive health, and mapping intersectional inequities that influence migrants' sexual and reproductive health in comparison with the native population. The aim of this research was to locate, select, and critically assess/summarize scientific evidence regarding the social, cultural, and structural factors influencing migrants' sexual and reproductive health outcomes in comparison with native population. An umbrella review of systematic reviews and/or meta-analyses, following preferred reporting items for systematic reviews and meta-analysis (PRISMA) standards was undertaken. Medline, Scopus, Web of Science, and the Cochrane Database of Systematic Reviews were searched from their start date until June 2019. The quality of the included articles was determined using the assessment of multiple systematic reviews tool (AMSTAR 2). From the 36 selected studies, only 12 compared migrant with native populations. Overall, the findings indicated that migrants tend to underuse maternal health services and have an increased risk of poor sexual and reproductive health outcomes. Specific intersectional inequities were identified and discussed.

Keywords: immigration; acculturation; sexual health; reproductive health; health equity

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1. Introduction

There is an unprecedented number of migrants in the world that move inside and across borders of countries for reasons that include work, resettlement, and asylum. In 2019, the permanent migration flow accounted for 5.3 million people, similar to the one recorded in 2018 and 2017 (Vearey et al. 2020). Although this is a long-standing global phenomenon, the COVID-19 pandemic imposed an unprecedented consequence on migration flows in the world, with the largest drop ever recorded in issuances of new visas and permits compared to the 2019 (46% and 72% drop in the first half and second quarter of 2020, respectively) (OECD 2020; Vearey et al. 2020).

Regardless of the size of the migrant population, the challenges in categorizing the legal and social status of the migrants remains a key issue that may affect the availability of health services to migrants and relations with providers. These differences risk to be significantly pronounced with the COVID-19 pandemic, especially among certain socioeconomic, racial, and ethnic groups that have continually demonstrated lower healthcare utilization and trust (Armstrong et al. 2007). For example, recent findings

suggest disproportional mortality among certain minority racial and ethnic groups such as the African-American and Latino populations in the USA (Tai et al. 2020), as well as Black and South Asian minorities in the UK (Williamson et al. 2020). Some of the reasons include the living and working conditions that predispose minority groups to worse COVID-19 related outcomes (Greenaway et al. 2020). Additionally, high COVID-19 related risks exist among migrant populations, such as refuges and asylum-Seekers due to overcrowded living conditions in refugee camps, detention centers, or hostels that are characterized with unsatisfactory conditions for following basic hygiene practices (ECDC 2020). Although the provision of inclusive healthcare is critical, most countries do not provide migrants access to healthcare due to fear of increased financial burden (Bozorgmehr and Razum 2015). However, the available research evidence suggests that these fears are unfounded:

- Public health considerations relates to the effect of migration on population health. Poor management of migration can lead to lower utilization of healthcare. The reasons for this are mostly associated with the unresolved legal status of the migrant, poor working conditions, and/or insufficient information, etc. Ultimately, this is reflected on public health, e.g., untreated communicable diseases carry the risk of spread, while undiagnosed and untreated chronic conditions may result in ill health and higher costs. One of the most prominent examples is the natural experiment that resulted from a set of policy changes in Germany in the period 1994–2013. The results indicated that it is less costly to allow refugees and asylum-seekers access to healthcare then to exclude them (Bozorgmehr and Razum 2015).
- Economic contributions: 17% of doctors and 6% of nurses in the Organisation for Economic Co-operation and Development (OECD) countries have been trained abroad. During the COVID-19 pandemic, migrant workers provided an immense contribution by being on the frontline of the crises, with one in four medical doctors, one in six nurses, and more than 30% of key workforce being migrants (OECD 2020; Vearey et al. 2020). An inclusive health system is critical to sustain the health of workers and supporting their participation in the labor market.
- Social integration and cohesion provides an inclusive healthcare system recognized as one of the policies for social integration of migrants (Ledoux et al. 2018).

Based on the above-mentioned arguments, it is essential to establish an inclusive migrant healthcare regardless of migratory status. However, the relationship between health and migration remains dynamic and complex. The migrant population is not uniform and neither are their health characteristics/needs. One of the key aspects that should be considered is gender. According to the latest data, the percentage of male migrant workers is higher than their female counterparts (58.4% and 41.6% respectively) (Vearey et al. 2020). However, regardless of whether women emigrate as wives, partners, or for employment purposes, they tend to face double discrimination—the first being the status of a migrant, and the second being a woman (Llácer et al. 2007). Additionally, they are faced with increased interconnecting weaknesses related to gender, social, and ethnic status, and are more often victims of physical, psychological, and sexual violence. Furthermore, systematic reviews suggest that these vulnerabilities are especially pronounced among female domestic migrant workers due to poor access to sexual and reproductive health (SRH) services. Reasons for this include a combination of social, cultural, and structural factors that pertain to migrants' SRH. More specifically, social level factors include socio-demographic and migratory factors, such as type of migrant, sex, age, country of origin, destination country, epidemiological characteristics, employment, and economic status (Loganathan et al. 2020). Cultural level factors remain complex and diverse, including: language; cultural barriers; traditions related to health; fear of discrimination; influence of immediate family members, social circle, and other community members; sustaining self-control to the point that trust in available healthcare is established; being discriminated and/or stigmatized by the healthcare provider;

receiving inadequate health services to the needs and vulnerabilities of adolescents and unmarried women (Metusela et al. 2017). The findings from a study in Australia suggest that the sustaining of migrants' country of origin cultural norms results in a significant influence on the construct, experience, and understanding of SRH among 1.5 generation migrants who migrated as children or adolescents (Dune et al. 2017). Finally, the structural level factors are located beyond the individual, culture, and community; however, influence individual existence trough the institutions, movement regulation, systems, and policies (Rhodes et al. 2006). Such can include the absence of a suitable and imposed legislative framework concerning female migrants; mobility status; extended working hours; migrant discriminatory practices of local authorities, etc. (UNFPA 2011; Loganathan et al. 2020). Furthermore, available information suggests that, with the exception of some ethnic groups, a lack of data on migrants' health needs remains an open issue (Thomas and Thomas 2004) along with the absence of an internationally standardized approach for monitoring indicators and variables related to the migrants' health. Hence, this results in a multitude of countries not being able to report health statistics or track outcomes on migrant health (Tulloch et al. 2016).

Therefore, improving access to SRH care for migrants remains a central issue. This is highlighted within Target 3.7 of the Sustainable Development Goals (SDGs). This aims to ensure universal access to SRH services, including for family planning, information and education, and the integration of reproductive health into national strategies and programs by 2030 (UNSDSN 2020), as well as centrally positioning the provision of SRH services to migrant communities (Tulloch et al. 2016).

This umbrella systematic review has the objective to locate, select, critically assess, and summarize scientific evidence regarding the social, cultural, and structural factors influencing SRH among migrant and native populations, as well as to identify existing interventions for promoting SRH and gender equality among migrant and native populations.

2. Methods

2.1. Design

To assimilate the research available on this issue, an umbrella systematic literature review (USLR; i.e., systematic review of systematic reviews) was conducted. This methodological approach is suitable for systematically searching, organizing, and evaluating existing evidence from multiple systematic reviews and/or meta-analyses and allows for a higher-level synthesis of the evidence and a stronger identification of the knowledge gaps and biases (Ioannidis 2009, 2017). As such, USLR can be of importance for the understanding of the needs for intervention to specifically address the multicultural landscape of societies.

The USLR was registered with PROSPERO, the international prospective register for systematic reviews, under the following title: "Intersections of immigration and sexual and reproductive health: an umbrella systematic literature review protocol" (registration number: CRD42019139394).

The review was undertaken in accordance with preferred reporting items for systematic reviews and meta-analysis (PRISMA)-Equity 2012 Extension for systematic reviews with a focus on health equity (PRISMA-E) (Welch et al. 2012). A PRISMA checklist is included in Additional file: Supplementary Table S1.

2.2. Search Strategy

Given the interdisciplinary nature of the review objective outlined above, the database search included articles in the areas of psychology, public health, social demography, and sociology. An online systematic literature search was performed using the following electronic databases: Medline (via PubMed), Scopus, Web of Science, and the Cochrane Database of Systematic Reviews. All searches were conducted on 12 June

2019 and tailored to each electronic database, as detailed in Additional file: Supplementary Table S2. No publication date and language restrictions were applied in the search and selection criteria.

2.3. Inclusion and Exclusion Criteria

The SPIDER tool, which stands for sample, phenomenon of interest, design, evaluation, and research type, was used to develop the research question, objectives, and search strategy (Cooke et al. 2012). The SPIDER parameters were designed to incorporate the specificities of the review's objective (Table 1). Systematic literature reviews and meta-analyses of intervention studies with international migrant and native men and women in reproductive age that reported SRH as the main outcome were eligible for inclusion.

In this review, the UN Migration Agency International Organization for Migration (IOM) definition of migrant ("any person who is moving or has moved across an international border or within a State away from his/her habitual place of residence, regardless of (1) the person's legal status; (2) whether the movement is voluntary or involuntary; (3) what the causes for the movement are; or (4) what the length of the stay is") was followed (IOM 2019). Articles in which the population of interest was consisted solely of migrants in refugee camps, national migrants, or transient individuals were excluded because the authors intended to better understand the SRH experiences of fully established migrants in a given country. Articles with specific health focus, for instance gestational diabetes or hypertensive disorders of pregnancy, were excluded because the findings were topic-specific and not focused on the pregnant migrant population specificities.

Included papers needed to conform to the two mandatory criteria of the Database of Abstracts of Reviews of Effects (DARE), i.e., (i) a clearly defined review question regarding population, interventions, outcomes, or study designs; (ii) the search strategy of literature review/meta-analysis includes minimum one named database, together with reference checking, hand searching, citation searching, or contact with authors in the field. PRISMA guidelines were followed.

Table 1. Scope of the umbrella systematic literature review (research question, objectives, and search strategy).

Sample	Men and women in reproductive age (both migrants and natives)
Phenomenon of interest	Social, cultural, and structural factors influencing sexual and reproductive health
Design	Systematic literature reviews and meta-analyses of any research type. No publication date restrictions. No restrictions on country and location. No language exclusions
Evaluation	Any sexual and reproductive health or health inequity outcomes
Research type	Systematic literature reviews or meta-analyses

2.4. Study Selection and Data Extraction

Two reviewers independently assessed relevant records, screening titles, and, when needed, abstracts and full texts. A final decision was obtained for each record and potential uncertainties or disagreements were resolved in consultation with a third author. Agreement between reviewers was considered excellent ($\kappa = 0.84$).

Data extraction was conducted by the same three authors who assessed eligibility on a standardized data extraction form following PROGRESS-Plus guidelines, which was developed to identify characteristics that stratify health opportunities and outcomes. The framework PROGRESS-PLUS, which has been used in systematic reviews to inform equity analysis through the conceptualization of disadvantages in data extraction, was used to describe dimensions of social inequities (Evans and Brown 2003; O'Neill et al. 2014). PROGRESS-Plus was developed by the Campbell and Cochrane Equity Methods Group, and is comprised of eight dimensions of factors that can contribute to disadvantages and

differences in effects of interventions, namely place of residence (rural/urban/inner city, low- and middle-income countries, race/ethnicity/culture/language, occupation, gender/sex, religion, education, socioeconomic status, and social capital (Evans and Brown 2003; O'Neill et al. 2014). The PLUS extension was then proposed to incorporate other factors with possible impact on health equity, i.e., disability, sexual orientation, and age (Kavanagh et al. 2008).

Only the information from the systematic review (and any relevant Supplementary Materials) was utilized during the process of data extraction; no extraction was conducted of data from the original primary studies. Data extraction comprised information on author and date, type of review, number of individual publications included in the umbrella review, continents of destination, continents of origin, study design, sum of the size of the included samples, review aim, SRH outcomes, determinants/PROGRESS-PLUS, female gender (%), age range or mean years, overall results of the review, overall limitations of the study, and overall recommendations of the study (Additional file: Supplementary Table S4).

2.5. Quality Appraisal and Data Synthesis

The AMSTAR 2 checklist (A MeaSurement Tool to Assess systematic Reviews 2) was used to assess the methodological quality of the included reviews (Shea et al. 2017). Most of the responses were collected in a "yes"/"no" response scale. However, some of the items include a "partial yes" option. All references were designated in one of the four categories based on their overall rating of weakness in critical domains: critically low, low, moderate, and high (Additional file: Supplementary Table S5).

The systematic reviews were narratively synthesized using a thematic approach focusing on the SRH subareas and on the identification of relevant themes related to identifying social, cultural, and structural factors influencing SRH outcomes, i.e., access to healthcare, biases in the delivery of healthcare, and quality of healthcare.

3. Results

A total of 733 papers were identified from the four databases searched. Once duplicates were removed, 591 articles remained for screening. Of these, 527 were excluded because they were not a systematic review (in accordance with the DARE criteria, did not focus on SRH outcomes, insufficient detail was given regarding outcomes/health inequity data, were not conducted among migrant populations, or were only among children or adolescents). The reasons for exclusion are available in Supplementary Table S3.

In total, 36 systematic reviews were analyzed—28 systematic literature reviews and 8 meta-analyses, reporting on 1712 unique primary studies. The earliest reviews were published in 2009 (Bollini et al. 2009; Gagnon et al. 2009; Gissler et al. 2009) and the latest in 2019 (Dzomba et al. 2019; Ghimire et al. 2019; Scamell and Ghumman 2019; Turkmani et al. 2019).

Using the AMSTAR 2 tool, 9 reviews were considered low quality (Urquia et al. 2010; Yu 2010; Barnes et al. 2013; Alhasanat and Giurgescu 2017; De Jong et al. 2017; Villalonga-Olives et al. 2017; Winn et al. 2017; Rade et al. 2018; Scamell and Ghumman 2019), 22 moderate quality (Gagnon et al. 2009; Gissler et al. 2009; Weine and Kashuba 2012; Almeida et al. 2013; Alvarez-Del Arco et al. 2013; Heaman et al. 2013; Merry et al. 2013; Platt et al. 2013; Balaam et al. 2013; Nilaweera et al. 2014; Higginbottom et al. 2015; Maria da Conceição and Figueiredo 2015; Blondell et al. 2015; Du and Li 2015; Fakoya et al. 2015; Michalopoulos et al. 2016a, 2016b; Mukherjee et al. 2016; Mengesha et al. 2016; Kyung Kim et al. 2017; Ivanova et al. 2018; Dzomba et al. 2019; Ghimire et al. 2019), and 5 high quality (Bollini et al. 2009; Small et al. 2014; Anderson et al. 2017; Denize et al. 2018; Turkmani et al. 2019). (Additional file: Supplementary Table S6). Only 12 of the systematic reviews included a comparison between migrant and native populations (Bollini et al. 2009; Gagnon et al. 2009; Gissler et al. 2009; Urquia et al. 2010; Heaman et al. 2013; Merry et al. 2013; Platt et al. 2013; Small et al. 2014; Villalonga-Olives et al. 2017; Anderson et al. 2017; Denize

et al. 2018; Dzomba et al. 2019), and given the general aim of mapping intersectional inequities influencing migrant's SRH in comparison with native population, the present umbrella review focused on summarizing scientific evidence from those reviews. In accordance with PRISMA guidelines, a flow diagram detailing the number of studies included and excluded at each stage is provided in Figure 1.

The first emerging issue was the diversity of both migrant and host populations. The overarching term "migrant" covers several subgroups, including asylum-seekers, refugees, undocumented or irregular migrants, and diverse levels of vulnerability to poor health outcomes. This made it more challenging to compare and summarize findings (Table 2).

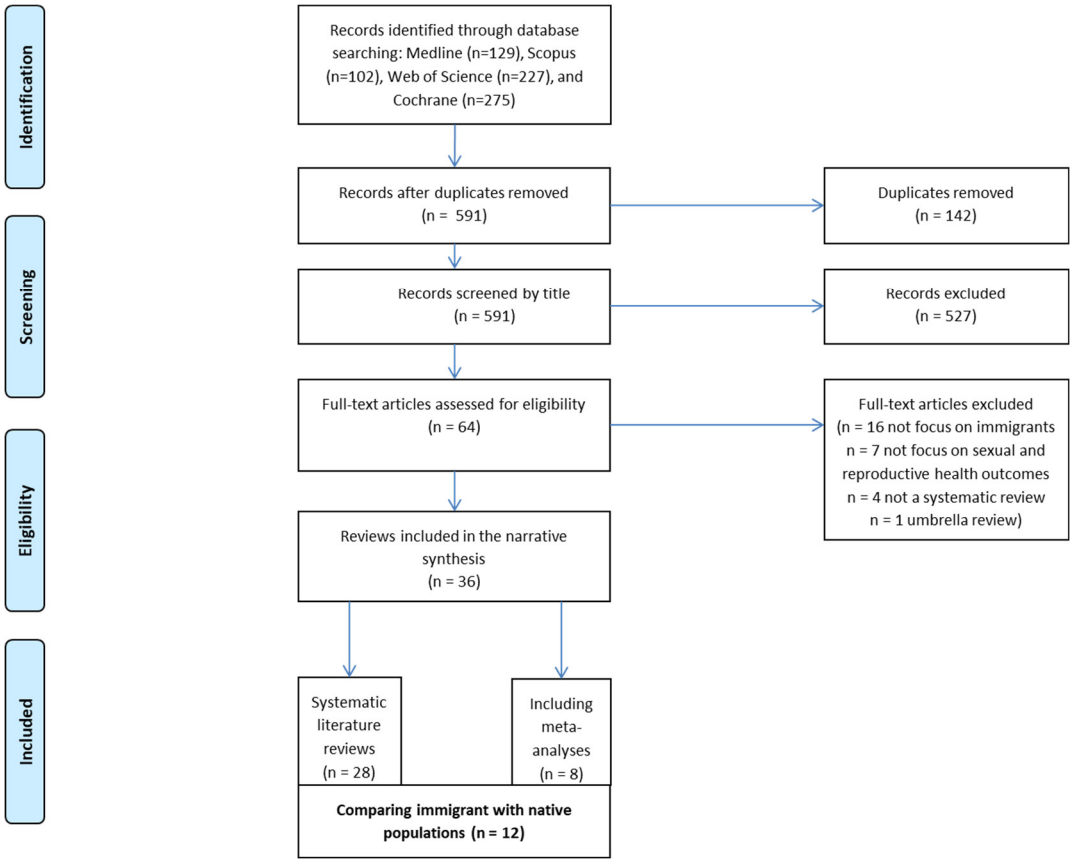

Figure 1. Preferred reporting items for systematic reviews and meta-analysis (PRISMA) flow-chart of study selection procedure.

3.1. Who Is Being Studied?

The review of the literature revealed that the term "migrant" is defined through an inclusivist and residualist approach (Carling 2020). The first refers to the term "migrant" as including all forms of movements. Under this definition, the term migrant would include refugees, asylum-seekers, foreign workers, trafficking victims, trailing spouses, international students, and many other categories of individuals. The latter approach does not include people who escape wars or oppression as migrants. The inclusivist definition was operationalized by the majority of studies (Gagnon et al. 2009; Heaman et al. 2013; Merry et al. 2013; Small et al. 2014; Anderson et al. 2017; Villalonga-Olives et al. 2017), while few studies were omissive about it (Bollini et al. 2009; Urquia et al. 2010; Platt et al. 2013; Denize et al. 2018; Dzomba et al. 2019).

The majority of the identified reviews included wee only conducted in high-income countries, mostly in North America, in the United States in particular, followed by European countries. Only one systematic literature review (SLR) reported studies with male and female migrants in South Africa and compared them to non-migrants (Dzomba et al. 2019). In addition, a large proportion of the studies categorize migrant populations by to

their ethnic belonging or their country of origin. However, the country of destination was far less present, with certain exceptions (Bollini et al. 2009; Urquia et al. 2010; Platt et al. 2013; Villalonga-Olives et al. 2017). Regarding gender, from the 12 systematic reviews under analysis, all except one (Dzomba et al. 2019) included only migrant women.

3.2. How Is It Being Studied?

The majority of the 12 SLR under study used quantitative methods, and six included meta-analysis. One of the SLR used mixed-methods, combining both quantitative and qualitative analyses (Small et al. 2014). One was a qualitative review (Villalonga-Olives et al. 2017) and one produced a narrative synthesis (Platt et al. 2013).

3.3. What Is Being Studied?

Individual SRH is influenced at multiple levels. In order to identify and discuss the range of factors that impact SRH outcomes, separated syntheses were conducted by SRH main area—sexual health or reproductive health, and by social-structural factors. The details of the included systematic literature reviews are provided in Table 3.

Table 2. Systematic literature reviews and meta-analyses characteristics.

Author, Date	Number of Individual Papers Included in the Review	Year of Publication (Range)	Continents of Destination	Continents of Origin	Methods	Population Included	Search Strategy Conducted in the Paper (Databases and Supplementary Searches)
Anderson et al. 2017	53	1986–2015	North America (United States, Canada), and Australia	NR	Quantitative with meta-analysis	Migrant women (including refugees and asylum-seekers versus non-migrant women	PsycINFO, CINAHL, EMBASE, MEDLINE, Maternal and Infant Care and Cochrane Register of Controlled Trials (CENTRAL). Supplementary searches: Backward and forward citation tracking of papers included
Bollini et al. 2009	65	1966–2004	Europe (mostly United Kingdom and France)	NR	Quantitative	Migrant women in European countries versus native women	Medline. Supplementary searches: reference list
Denize et al. 2018	86	1963–2018	North America (mostly United States), Europe, Asia, and Africa	NR	Quantitative with meta-analysis	Pregnant women with different ethnicity/nationality/race/language/immigration status	Ovid MEDLINE; EMBASE; Clinicaltrials.gov; Cochrane Central Register of Controlled Trials; CINAHL; PsycINFO; Sociological Abstracts; Literature Latino-Americana e do Caribe em Ciencias da Saude (LILACS), IBECS; and Cuba Medicina (CUMED). Supplementary searches: Canadian Agency for Drugs and Technologies in Health (CADTH's) Grey matters and citations of relevant systematic reviews and trials
Dzomba et al. 2019	29	2000–2017	South Africa	NR	Quantitative with meta-analysis	Male and female migrants in South Africa compared to their non-migrant counterparts	PubMed Central, Sage Publications, Google Scholar, Web of Science, and J-STOR. Supplementary searches: contents of specific journals and citing articles

Gagnon et al. 2009	133	1995–2008	North America, Europe and Australia	NR	Quantitative with meta-analysis	International migrant women versus native-born women of the receiving countries	Medline, Health Star, Embase, and PsychInfo. Additional searches: reference list
Gissler et al. 2009	34	1983–2002	North America (United States) and Europe (Italy, Norway, The Netherlands, Serbia, Croatia, Sweden, Belgium, Spain)	Japan, North Africa, Pacific Islands, Mexico, Surinam/Antilles, Republic of Serb Krajina and Serb Republic, Morocco, Turkey, Suriname, Antilles	Quantitative	International migrant or refugee women versus native-born women of the receiving countries	Medline, Health Star, Embase, and PsychInfo. Supplementary searches: reference list
Heaman et al. 2013	29	1996–2010	North America (mostly United States) and Europe	NR	Quantitative	Women who migrated to Western industrialized countries versus non-migrant women	Medline, Embase, and PsychInfo. Supplementary searches: an existing database of the Reproductive Outcomes and Migration international research collaboration, known experts, and reference list
Merry et al. 2013	76	1956–2010	Europe (68%), Australia (11%), the US (11%), Canada (6%), and Israel (4%)	Latin America and Caribbean (39%) 'origin unspecified' (11%), and South Asia (7%)	Quantitative with meta-analysis	International migrant women versus native-born women of the receiving countries	Embase, PsycInfo, CINAHL, Medline, Health Star, Sociological Abstracts, Web of Science, Proquest Research Library, Proquest Dissertations and Theses, POPLINE, Global Health, and PAIS. Supplementary searches: reference list, website searches and contact with authors
Platt et al. 2013	26	1985–2009	Europe, Australia, Southeast Asia, Sub-Saharan Africa, Central, and South America	Europe, South America, and Asia	Narrative synthesis	Migrant versus non-migrant female sex workers	Social Science Citation Index, Medline, Embase, Popline, CINAHL, Global Health, African Healthline, Index Medicus for the Eastern European Region, Latin American and Caribbean

							Centre on Health Sciences Information, Index Medicus of the South-East Asian Region, and Western Pacific Region of the Index Medicus.
Small et al. 2014	34	1990–2012	Australia, North America, and Europe	Asia, America	Mixed methods	Migrant (or refugee) and non-immigrant women	Medline, CINAHL, Health Star, Embase and PsychInfo. Supplementary searches: undefined sources
Urquia et al. 2010	24	1996–2006	North America (United States) and Europe	NR	Quantitative with meta-analysis	International migrant women versus native-born women of the receiving countries	Medline, Health Star, Embase, and PsychInfo. Supplementary searches: reference list and relevant articles referred to the authors
Villalonga-Olives et al. 2017	68	1964–2011	North America (United States) and Europe	NR	Qualitative	Migrant women	Pubmed and Embase.

Table 3. Systematic literature reviews and meta-analyses goals and results.

Author, Date (Type of Review)	Review Aim	SRH Outcomes	Determinants/PROGRESS-PLUS	Overall Results of the Review	Overall Limitations of the Study	Overall Recommendations of the Study
Anderson et al. 2017 (MA)	To evaluate the prevalence and risk of mental disorders in the perinatal period among migrant women	Perinatal mental health	(1) Ethnicity/language (2) Country of destination (3) Discrimination (4) Socioeconomic status	No evidence for an overall increased risk of antenatal or postnatal depression among migrant women compared to non-migrant women was found. Migrant women in Canada were at increased risk of antenatal and postnatal depression compared to native-born, whereas migrant women in America and Australia were not.	There were no studies conducted in low- and middle-income countries, which reduces generalizability. Only English language papers were included. Lack of high-quality studies, as most studies had risk of selection and measurement bias.	1. Future research should look to address other disorders besides depression. 2. Studies should look to reach hard to access groups. The broader social implication is the urgent need to address the stressors that migrant women face, such as discrimination, poverty and social isolation, in a global environment that is increasingly hostile towards migrants.
Bollini et al. 2009 (SLR)	To make a synthesis of available evidence on the association between pregnancy outcomes and integration policies	Pregnancy/birth outcomes	(1) Socioeconomic conditions (2) Racism	Migrant women are clearly disadvantaged as compared to native women, their pregnancies ending up significantly more frequently with unfavorable outcomes. In countries where a definite effort to establish strong integration policies has been made, there is a sizeable significant reduction in the gap between native and migrant women. Overall, living in a country with a strong integration policy represented a powerful protective factor for adverse pregnancy outcomes.	Collapsing all migrant groups into a single category of migrants may obscure the differences existing among ethnic groups.	1. Public action is needed to promote and sustain a societal change towards greater integration and respect of migrant communities. 2. Additional research is necessary to explore mechanisms behind worse pregnancy outcome, and to implement effective interventions aimed at providing support and removing barriers

Denize et al. 2018 (MA)	To systematically review the literature and describe the discrepancies in achieving the 2009 Institute of Medicine (IOM) gestational weight gain (GWG) guidelines across cultures.	(1) Inadequate or excessive GWG, as defined by the IOM; (2) maternal-fetal health outcomes (such as large-for-gestational-age, macrosomia, gestational diabetes mellitus, and all pregnancy-induced hypertension disorders).	(1) Culture (ethnicity/nationality/race/language/immigration status) (2) Mean/median age (3) Socioeconomic covariates (highest level of education, mean household income).	Most women experienced discordant GWG; this was culturally dependent, wherein minority groups such as black, Hispanic and Asian women are more likely to gain below current recommendations, and Caucasian women to exceed them. Studies among Black women indicated they were at risk of both inadequate and excessive GWG. Less acculturated women (mainly to the US), were at a greater risk of inadequate GWG.	87% of the included articles were carried out in North America (especially the US), most of which compared a small number of racial/ethnic groups (Black, White, Hispanic and Asian). The limited literature present on cultural differences in secondary outcomes did not provide clear trends of which groups are more at risk of pregnancy-related complications than others.	1. Culturally diverse GWG guidelines are needed to individualize antenatal care and promote optimal maternal-fetal health outcomes across cultural groups. 2. Future research should place a special focus on acculturation due to the increasing migration and cultural globalization. 3. To achieve optimal GWG, individual needs must be evaluated when discussing prenatal behaviors.
Dzomba et al. 2019 (MA)	To understand the role of migration in HIV risk acquisition and sexual behavior	Risk of HIV acquisition; unprotected sexual intercourse; sex work	(1) Migration (2) Socioeconomic (3) Gender	Mobility is highly associated with increased prevalence of HIV risk behaviors and confers up to 69% increase in the risk of HIV acquisition. Studies included in this review documented increased multiple sexual partnering, unprotected sexual intercourse, visiting sex workers and engaging in sex work in migrants compared to non-migrants. Escalation of this sexual behaviour and risk of HIV acquisition among migrants in comparison to non-migrants calls for increased reliance on the targeted and best-combination HIV prevention strategies.	Several the existing studies examining multiple partnering did not collect data on the characteristics of the sexual partnerships, such as the length of overlaps between and the type of sexual partners. This information is particularly important in determining transmission during concurrent partnerships	1. More cohort studies on migrant HIV risk to rigorously estimate the effect of mobility on new infections are needed. 2. The implications of this study include monitoring and tracking key trends of the epidemic in migrants to evaluate country level success towards the UNAIDS's focus on optimizing the reduction of new HIV infections. 3. Effective combination HIV prevention strategies that target migrant

						populations are urgently required
Gagnon et al. 2009 (MA)	To understand why migrant women have poorer perinatal health outcomes than receiving country women	Perinatal health outcomes (preterm birth, low birthweight and health-promoting behavior)	(1) Place of origin	Being a migrant was not a consistent marker of risk of poorer perinatal health outcomes; migrants did as well as or better than host-county women for all outcomes in a large proportion of studies. However, Asian, North-, and other-African migrants were at greater perinatal health risk than their receiving-country counterparts in the small number of studies that could be included in meta-analyses for each subgroup.	Insufficient data to do a meta-analysis by receiving country. Despite the large number of studies of migration and perinatal health, only limited data were available to shed light on why certain groups of migrants were at higher risk. There is an absence of data on other key notions correlated with migration, such as language ability, length of time in receiving country or immigration status.	1. Future analyses should refine the approach based on country of origin in order to clarify the appropriate unit of analysis (e.g., region, country) and to shed light on the reasons that migration can result in poor perinatal health for some groups. 2. This review found differences according to health outcome, with more negative effects for fetal, neonatal or infant deaths overall than for preterm birth or low birth weight, yielding a hypothesis for future research.
Gissler et al. 2009 (SLR)	To determine (1) if migrants in western industrialized countries have higher risks of stillbirth, neonatal mortality, or infant mortality, (2) if there are migrant subgroups at potentially higher risk, and (3) explanations for risk differences found.	Feto-infant mortality including stillbirths, early neonatal deaths (a death occurring 0–6 days after birth), perinatal deaths (stillbirths and early neonatal deaths), neonatal deaths (a death occurring 0–27 days) and infant deaths (a death occurring 0–364 days)	(1) Country of origin (2) Destination country (3) Maternal age (4) Marital status (5) Insurance type (6) Cohabitating (7) Social security	Mortality risk among migrant babies born is not consistently higher, but appears to be greatest among refugees, non-European migrants to Europe, and foreign-born blacks in the US.	Limitations in the available data on potentially important risk factors.	1. It is essential to have more information on the type of migration in order to be able to identify the potentially high-risk groups, such as refugees. 2. No mortality studies analyzing the reason(s) for migration were found.

Heaman et al. 2013 (SLR)	To determine whether migrant women in Western industrialized countries have higher odds of inadequate prenatal care (PNC) compared to receiving-country women	Prenatal care access; health disparities between migrants and non-migrants	(1) Language/ethnicity (2) Age (3) Education	Migrant women were more likely to receive inadequate PNC than receiving-country women. The odds of inadequate PNC were greater among migrant women younger than 20 years, multiparous, single, with poor or fair language proficiency, less than 5 years of education, unplanned pregnancy, and no health insurance.	Most included studies (70%) were from the US. A consistent definition of inadequate PNC was missing. Another limitation was the comparison groups used in the included studies: most US studies used white receiving-country-born women as the comparison group, while the European studies usually used all country-born women. In addition, studies did not control consistently for potential confounders.	1. To increase the use of PNC by migrant women and to ensure early access to care actions are needed. 2. Further investigations needs to be done on the availability, accessibility, acceptability, and quality of PNC for migrant women and the impact of these factors on PNC use. 3. Variations in the utilization of PNC among migrant sub-groups, defined according to their race/ethnicity and world region of origin, and disparities in PNC access by host country, requires further investigation. 4. Additional studies should also explore the association between birth outcomes and inadequate PNC in migrant women.
Merry et al. 2013 (MA)	To determine if migrants in Western industrialized countries have different rates of caesarean than host-country-born women and to identify associated factors	Caesarean rates disparities between migrants and non-migrants; birth outcomes	(1) Language (2) Socioeconomic (3) Maternal Health	Meta-analyses revealed consistently higher overall caesarean rates for Sub-Saharan African, Somali, and South Asian women; higher emergency rates for North African/West Asian and Latin American women; and lower	The web searches, although extensive, did not include all the government and professional agency websites from all OECD countries. Most included studies were rated as 'fair' quality for not controlling for confounding	1. There is inadequate empirical evidence to explain observed differences in caesarean rates; more focused research is urgently needed.

			overall rates for Eastern European and Vietnamese women. Evidence to explain the consistently different rates was limited. Frequently postulated risk factors for caesarean included: language/communication barriers, low SES, poor maternal health, gestational diabetes /high BMI, feto-pelvic disproportion, and inadequate prenatal care.	or due to some ambiguity in their definitions of the study groups. There was heterogeneity for the meta-analysis due to variation in the migrant populations studied or how source countries were grouped to represent regions.	2. Future work using a combination of quantitative and qualitative approaches may be valuable in more fully expounding the processes.
Platt et al. 2013 (SLR)	To assess the evidence of differences in the risk of HIV, sexually transmitted infections (STI), and health-related behaviors between migrant and non-migrant female sex workers (FSWs).	HIV, STIs, and risk behavior (practicing of anal sex with clients and accepting of extra money for unprotected sex, vaginal douching with an over the counter medication, undergoing a cervical smear test, termination, and use of contraceptives, use of alcohol or illegal drugs).	(1) Age (2) Migrant status (3) Country of origin	The lack of consistent differences in risk between migrants and non-migrants highlights the importance of the local context in mediating risk among migrant female sexual workers. The higher prevalence of HIV among some FSWs originating from African countries is likely to be due to infection at home where HIV prevalence is high.	Search was limited to literature written in English. Lack of a standardized definition of sex work. Similarly, inconsistency in the behavioral outcomes and the wide range of STI outcomes reported prevented any meta-analysis.	1. There is a need for ongoing monitoring and research to understand the nature of risk among migrants, how it differs from that of local FSWs and changes over time to inform the delivery of services.
Small et al. 2014 (SLR)	To compare what it is known about migrant and non-migrant women's experiences of maternity care	Migrant women's experiences of maternity care (overall expectations regarding maternity care: pregnancy care, intrapartum care, postpartum care)	Migrant women vs. non-migrant women	Migrant and non-migrant women desire similar things from maternity care: safe, high quality, attentive and individualized care, with adequate information and support. Migrant women are less positive about their care than non-migrant women. Lack of familiarity with care systems and communication problems impacted negatively on migrant	Globally, relatively few countries have undertaken population-based studies of women's experiences of their maternity care. Of these, only the Canadian study has used a multi-language strategy in an attempt to address the under-representativeness of migrant women in population studies, and the Australian	1. Culturally sensitive care, based on cultural competency training for maternity services staff. 2. Equity and non-discriminatory attitudes in care provision, along with strategies aimed at improving communication (including training in working effectively with interpreters), and

			women's experiences, as did perceptions of discrimination and disrespectful care. In sum, women want: Q = Quality care that promotes wellbeing for mothers and babies with a focus on individual needs. U = Unrushed caregivers with enough time to give information, explanations and support. I = Involvement in decision-making about care and procedures. C = Continuity of care with caregivers who get to know and understand women's individual needs and who communicate effectively. K = Kindness and respect.	research involved a companion study of three migrant groups in tandem with one of the three population surveys undertaken there. Recent waves of migration in the European Union and of refugee and asylum-seeking arrivals are not yet well represented.	recognition of the need to familiarize migrant women with how maternity care is provided, so that they can more actively participate in decisions about their care and feel less anxious and disempowered about giving birth in their new country. 3. Maternity staff need to be supported—with time, resources and training—to enable them to provide appropriate and non-discriminatory care to migrant women. 4. More inclusive approaches to enable the involvement of migrant women in future population-based would also ensure that care improvements for migrant women can be appropriately evaluated over time.
Urquia et al. 2010 (SLR)	To clarify the relation between migration and these birth outcomes by determining the differences in low birth weight (LBW) and preterm birth	Birth outcomes disparities between migrants and non-migrants; international disparities	(1) Race/ethnicity (2) Place of residence (3) Region of origin of prenatal healthcare	The association between foreign-born status and birth outcomes varies according to the migrant subgroup, either defined by a combination of maternal race/ethnicity and migrant status or by the world region of origin	As the social and historical complexity involved in each migrant population was not explored in a meta-analysis, findings should be regarded as global tendencies which may not apply to migrant	1. Inequalities in the risk of adverse birth outcomes within migrant groups according to place of migration requires further investigation.

	(PTB) between migrants and non-migrants by migrant subgroups			and actual destination. Sub-Saharan African and Latin-American and Caribbean migrants were at higher odds of LBW in Europe but not in the USA, and south-central Asians were at higher odds in both continents.	subgroups settling countries, regions, or cities. Another potential source of bias results from self-reported race/ethnicity and country of birth and nationality in birth certificates.	2. Why some migrant groups experience poor outcomes while others do not and what are the dynamics leading to worse outcomes among the offspring of some migrant groups but not of others needs further research.
Villalonga-Olives et al. 2017 (SLR)	To review the literature regarding health and migration in US and Europe to observe which features can influence reproductive health outcomes among migrants	Pregnancy outcomes; migrant health disparities between US and Europe	(1) Receiving country (2) Country of origin (3) Migration regime	The differences in migrant health between the US and Europe could be due to US migrants being typically labor migrants, although this is a changing aspect, while migrants in Europe are more heterogeneous. The social environment of the receiving country is an important factor for health outcomes, but also the migration regime, meaning certain people arriving in migration waves (like refugees) could have poorer health outcomes.	US articles study health related outcomes of Latinos and do not consider the reasons for migration, which makes the comparisons between countries more difficult.	There is a need to understand migration trends and reasons as they heavily contribute to health outcomes.

3.4. Social-Structural Domain

This study did not identify any SLR covering specifically social-structural factors, such as factors related to cultural and social norms around gender, sexuality, and socio-economic inequities, human rights, and policies or laws. However, structural factors were cross-sectional issues present and discussed with more or less detailed.

- Demographic, Social, and Migratory Factors

Countries have specific histories of migration flows, related to factors such as historical links between countries of origin and destination, established networks in destination countries, and labor migration (Villalonga-Olives et al. 2017). Nonetheless, most studies do not present sufficient information to characterize the migrant populations under study, such as reasons for migration, which makes the discussion of the differences and similarities between countries and health outcomes more difficult. Another major difficulty is the fact that countries define migrants differently.

Refugee and asylum-seeker populations are found to have higher risks of poor SRH outcomes, also related to the insecure migrant status itself and/or to the asylum process (Gissler et al. 2009). However, not all studies included hard-to-reach vulnerable migrants, meaning that the risk difference between migrant and non-migrant could not be measured properly (Anderson et al. 2017). The evidence points to the importance of investigating race/ethnicity and migration as combined factors for poor SRH outcomes, comparing differences in the migrant and non-migrant groups in terms of exposure to poverty, exclusion, discrimination, language proficiency, legal status, and social support (Anderson et al. 2017; Bollini et al. 2009; Small et al. 2014).

- Cultural Level

Low level of social support is one major risk factor for poor SRH indicators, such as depression in the perinatal period for migrant women (Anderson et al. 2017) or higher caesarean rates (Merry et al. 2013). This is influenced by the changes in social networks through the migration process, although social isolation varies between countries of destination and origin. Lower social participation and integration in the country of destination was found to be a contributor to poor SRH outcomes. Further understanding of social support as a protective mechanism for adverse pregnancy outcomes (such as living in a country with a strong integration policy) is needed to improve empowerment of populations (Bollini et al. 2009).

- Structural Level

Villalonga-Olives et al. states that the main contributor of migrant health is the "migrant regime'' (system of laws, regulations, policies, and institutions) in different host countries at specific periods of time (Villalonga-Olives et al. 2017). This regime is shaped by more or less restrictive attitudes towards immigration within each country, and impacts the citizenship rights of migrants, and illustrate their case comparing the USA to the European region and focusing on reproductive health outcomes. This study argued the case for changing the migrant regime, for improving future health outcomes of migrant populations.

Bollini et al. studied the association between pregnancy outcomes and integration policies by considering the rate of naturalization as a measure of the integration and participation in a receiving society (countries with high naturalization rates were considered to have strong policies promoting the integration of migrant communities) (Bollini et al. 2009). The results point to a challenging issue in Europe regarding equity in perinatal health, with migrant women showing a clear disadvantage in the reproductive health outcomes considered: low birth weight, pre-term delivery, perinatal mortality, and congenital malformations. Their results also indicate that countries where a clear effort to establish strong integration policies has been made, there is a significant reduction in the inequities in reproductive health outcomes.

3.5. Sexual Health Domain

Considering that the WHO (2006) working definition of sexual health is "a state of physical, emotional, mental, and social well-being in relation to sexuality and not merely the absence of disease, dysfunction or infirmity", this study focused on the prevention of disease and dysfunction, as well as on the active promotion of positive sexual health and general well-being. This umbrella review identified SLR covering the topic of prevention and control of HIV/STIs, revealing understudied areas that intersect with migration via-comprehensive education and information; gender-based violence prevention, support, and care; and sexual function and psychosexual counselling.

- Prevention and Control of HIV/STIs

Studies included in the meta-analysis of Dzomba et al. (2019) analyzed how migration affects risk in sexual behavior and HIV acquisition in South Africa. The results documented that the respondents who were more mobile had a higher chance of engaging in HIV risk behaviors, including increased multiple sexual partnering, engaging in sexual intercourse without protection, having sexual intercourse with sex workers, and engaging in commercial sex practices. This resulted in a 69% increase in the risk of HIV infection. The authors concluded that further research is needed to determine if new infections are related to risky sexual behavior and therefore offer the opportunity to establish potential risk patterns that can predict future risk patterns. In addition, it is important to identify key populations (including migrants) to be targeted with tailored HIV prevention activities treatment options, as well as services that provide care and support based on the recipients' different backgrounds and needs.

A systematic literature review conducted by Platt et al. assessed the differences between female sex workers who are migrants and non-migrants, in their HIV/STIs risk and associated behaviors (Platt et al. 2013). The findings highlighted that consideration of the local context plays a significant role in risk mediation since migrants who work in lower income countries have higher HIV infection risk compared to domestic population. In addition, gender plays a significant role in mediating risk, with transgender migrant facing higher risk of HIV/STI infection. The authors highlight the need for on-going monitoring of risk behaviors, STIs, and accessing services among female sex workers, as well as further research to help understand the intersecting inequities among female migrants who engage in sex work compared to natives.

3.6. Reproductive Health Domain

This domain was based on the definition of reproductive health and rights of the WHO, such as the right make a free and responsible decision on the number, spacing, and timing of their children; ability to obtain the appropriate information and means to make such a decision; and the right to decide on reproduction without threat of discrimination, coercion, and violence (WHO 2006). Research under this domain fell into the following three areas: antenatal, intrapartum and postnatal care; contraception counselling and provision; fertility care; safe abortion care. This study identified 10 SLRs, all of which covered the first topic.

- Antenatal, Intrapartum, and Postnatal Care

In total, 10 of the 12 SLR focused on antenatal and postnatal care issues related to migration, although with different aims and through utilization of different research approaches. Three SLR studied maternal-fetal health outcomes (Gagnon et al. 2009; Merry et al. 2013; Denize et al. 2018); one SLR studied stillbirth, neonatal mortality, and infant mortality (Gissler et al. 2009); one SLR specifically evaluated the occurrence and threat of mental disorders among perinatal migrant women (Anderson et al. 2017); one SLR focused on prenatal care access (Heaman et al. 2013); one SLR presented female migrants' expectations and experiences of maternity care (Small et al. 2014); one SLR presented a summary of existing evidence on the relationship between outcomes in pregnancy and available integration policies (Bollini et al. 2009); one SLR determined the differences in

low birth weight and preterm birth between migrants and non-migrants, by race/ethnicity and actual destination (Urquia et al. 2010); the final SLR compared pregnancy outcomes between the United States and Europe to study the effect of social environment of the receiving country on health outcomes (Villalonga-Olives et al. 2017).

The international research collaboration ROAM (reproductive outcomes and migration) involved over 30 researchers from 13 countries, including Canada, Australia, and Europe, for a range of systematic reviews related to migration and reproductive health. This effort sought to construct an empirical base that would assist the identification of relevant research questions and policies. Four of the included reviews draw explicitly on the sources included in the ROAM collaboration (Gagnon et al. 2009; Gissler et al. 2009; Urquia et al. 2010; Merry et al. 2013).

- Maternal-Fetal Health Outcomes

The SLR conducted by Denize et al. (2018) aimed to investigate the cultural differences in reaching gestational weight gain targets. The results revealed that optimal gestational weight was related to cultural influence, including race, nationality, ethnicity, and language or migration status. When comparing immigrant vs. non-migrant populations, the former was more at risk of inadequate gestational weight gain. Moreover, considering secondary outcomes, non-migrants had a lower percentage of caesarean rates than all migrants irrespective of status. The authors suggested that culturally diverse guidelines are needed to individualize antenatal care and promote optimal maternal-fetal health outcomes across cultural groups.

Moreover, the meta-analysis of Gagnon et al. (2009) assessed inequities in perinatal health and showed that migrants in western industrialized countries did not increase risk of poorer perinatal health outcomes. In most studies, migrant women scored equal or better in all analyzed perinatal health outcomes than native women, such as preterm birth, low birth weight, and health-promoting behavior. The impact of immigration was found to relate to geographical origin. Asian, North-African, and other-African migrants were at greater perinatal health risk than their receiving-country counterparts, European migrants had equivalent risks of both preterm birth and feto-infant mortality, and Latin American migrants had a lower risk of preterm birth.

Merry et al. (2013) conducted a SLR to evaluate the differences in caesarean rates and related explanations between migrants and non-migrants in Western industrialized countries. Although evidence suggested difference in caesarean rates between certain groups of international migrants and receiving country-born women, it was not sufficient to provide an explanation for the findings. In fact, meta-analyses revealed consistently higher overall caesarean rates for Sub-Saharan African, Somali, and South Asian women. Further, findings also indicated higher emergency rates for North African/West Asian and Latin American women, as well as lower overall rates for Eastern European and Vietnamese women. The authors suggested that migrants' caesarean risk is related to a combination of factors and mechanisms that include: barriers in language and communication, low SES, poor maternal health, gestational diabetes/high BMI, feto-pelvic disproportion, and inadequate prenatal care. Furthermore, the variation in caesarean outcomes across countries can also reflect policies and/or healthcare delivery and cultural factors, as it can also relate to differences in the migrant populations.

- Stillbirth, Neonatal Mortality, and Infant Mortality

Gissler et al. (2009) conducted a study to investigate the difference in rates of stillbirth and neonatal or infant mortality between migrant and native-born women in industrialized western countries. The evidence from the research should be used to understand the existence and determinants of these difference. Findings suggest that although mortality risk among babies born to migrants is not consistently higher, it is more prevalent among refugees, non-European migrants to Europe, and foreign-born blacks in the US. Possible explanations include cultural attitudes as well as access to screening and termination of

pregnancy. To better understand inequalities based on health related, demographic, socioeconomic risk, and bio-medical risk factors, further research is needed.

- Perinatal Mental Health

Anderson et al. investigated the prevalence and risk of mental disorders in the perinatal period among migrant women, yet found no evidence to suggest that migrant women are at an overall increased risk of depression compared to non-migrant women. However, within the population of migrant women, depression and posttraumatic stress disorder (PTSD) were more common in the pregnancy and postpartum period, as well as among refugee and asylum-seeking women (Anderson et al. 2017).

Considering the comparison of the risk factors for antenatal and postnatal depression between migrant women and non-migrant women, most of the identified risk factors were the same, such as socioeconomic difficulty, inadequate social support, and marital disharmony. Nonetheless, the authors also identified risk factors unique to migrant women, such as lack of proficiency in the host country language, precarious legal status, and time in host country; this last factor had contradictory findings (Anderson et al. 2017). Further research is needed to cover the heterogeneity of migrant populations and investigate the intersecting factors related to poor perinatal mental health that surpass depression.

- Prenatal Care Access and Maternity Care Experiences

Regarding the disparities in prenatal care utilization between migrants and non-migrants, a study found that receive of inadequate prenatal care was more common among migrant women (Heaman et al. 2013). However, demographic characteristics were treated as primary factors, while insufficient knowledge is available the role of other social and cultural factors that contribute to adequate prenatal care. More specifically, a systematic review compared what it is known about migrant and non-migrant women's experiences of maternity care in five countries and found that both groups desire and individualized safe, informed, supportive, and high-quality care (Small et al. 2014). Furthermore, the perceptions of migrant women were found to be influenced by their experience in ability to communicate their issues with the health provider, knowledge of the healthcare system, and perceptions of discrimination and lack of respect.

- Perinatal Outcomes and Social Context

A quantitative synthesis of available evidence with data from more than 18 million women from several Western European host countries investigated the relationship between pregnancy outcomes and integration policies, highlighting a perinatal health equity problem across European countries (Bollini et al. 2009). Results of this SLR suggested a clear disadvantage in all considered pregnancy outcomes for migrant women in European countries as compared to native women. The highlighted issues included, higher risks for low birth weight, pre-term delivery, perinatal mortality, and congenital malformations. Moreover, results of this SRL show that this gap between native and migrant women is reduced in countries with a strong integration policy.

One relevant finding of the systematic review performed by Urquia et al. was the link between foreign-born status and birth outcomes. This relationship is dependent on the migrant subgroup that may be characterized by the maternal race/ethnicity and migrant status or by region of origin and destination. Indeed, Latin American, Caribbean, and sub-Saharan African migrants were at higher odds of in low birth weight in Europe but not in the USA, and south-central Asians were at higher odds in both continents (Urquia et al. 2010). This was also verified by Villalonga-Olives et al. (2017), who showed that the frequency of low birth weight among migrants is dependent on the characteristics of the receiving country and also the regional composition of migrants. In other words, this would translate into the importance of host countries' social characteristics to health outcomes of migrants.

3.7. Interventions for Promoting SRH and Gender Equality

Although none of the included SLR were intervention studies. Some recommendations for promoting human rights in SRH and gender equality were identified based on their findings. Anderson et al. and Bollini et al., for example, highlighted the need for public action to promote the integration and respect of migrant communities and combat discrimination and social isolation (Anderson et al. 2017; Bollini et al. 2009). More specifically, Anderson et al. emphasized the need to address the intersecting stressors faced by migrant women (minority ethnicity, insecure legal status, poor language proficiency, low SES, and social isolation) and the subsequent necessity to address these specific vulnerabilities (Anderson et al. 2017)

Heaman et al. and Small et al. provided good recommendations for reproductive justice in healthcare (Heaman et al. 2013; Small et al. 2014). A special focus was placed on the additional factors that underline the variations in utilization of prenatal care among migrant women, as well as the link between prenatal adequate utilization and birth outcomes (Heaman et al. 2013). The poorer ratings of care must be understood in light to the intersecting challenges immigrant women face due to language difficulties, lack of familiarity with care systems, discriminatory attitudes, and disrespectful care (Small et al. 2014).

Dzomba et al. and Platt et al. referred to the importance of monitoring inequalities to better understand the nature of risks among migrant population in comparison to non-migrant population, and use this information to adjust the delivery of services (Platt et al. 2013; Dzomba et al. 2019).

4. Discussion

To the best of our knowledge, this is the first USLR devoted specifically to summarizing scientific evidence regarding the social, cultural, and structural factors that influence SRH among migrant and native populations. It also identified existing interventions that promote SRH and gender equality among migrant and native populations. The study aimed to organize potential interventions from the identified studies to allow for a clearer understanding of their usefulness and value. In addition, it aimed to identify existing gaps in research that could serve as subjects of further investigation.

In order to identify and discuss the range of factors that impact SRH outcomes, this study analyzed three main domains related to SRH: social-structural factors, sexual health, and reproductive health.

This study did not identify any SLR with specific goals of covering social-structural factors, such as factors related to socio-cultural norms of sexuality, gender, socio-economic inequities, human rights, and laws or policies. However, these were cross-sectional issues present and discussed with more or less detail (Anderson et al. 2017; Bollini et al. 2009; Small et al. 2014). Additionally, SRH outcomes need to be analyzed in relation to the migrant subgroup and to the level of social participation and integration of migrant communities in the host countries (Bollini et al. 2009; Villalonga-Olives et al. 2017).

This study identified SLRs covering the topic of prevention and control of HIV and other sexually transmissible infections. The topic of prevention and control of HIV and other sexually transmissible infections revealed findings that mobility was highly associated with increased prevalence of HIV risk behaviors and infection (Dzomba et al. 2019). Additionally, local context was found to mediate the HIV risk among migrants. Migrants working in lower income countries have higher risk for HIV infection compared to their non-migrant counterparts or to migrants living in higher income countries. Transgender migrants and migrants who engage in sex work also face higher risk for HIV infection (Platt et al. 2013). These findings are in line with the UNAIDS Gap Report, which highlighted how HIV positive people are affected and have access to services. Additionally, the characteristics of country of origin and destination (such as a lack of access to healthcare, social protection, and social exclusion) was found to influence migrants' risk

of HIV infection. (UNAIDS 2014). Additionally, migrants who engage in sex work face a double stigma because of their immigration status and their engagement in sex work. Adding the stigma and discrimination of living with HIV amplifies their risk of experiencing violence, the barriers to accessing services (UNAIDS 2014).

Within the reproductive health domain, this study identified 10 SLRs, all of which covered the topic of antenatal, intrapartum, and postnatal care. Four of the included reviews drew explicitly on the material identified by the ROAM collaboration. The maternal-fetal health outcomes subdomain indicated that culturally diverse guidelines are needed to individualize antenatal care and promote optimal maternal-fetal health outcomes across cultural groups. Part of the issues that support this recommendation indicate that migrant populations were more at risk of inadequate gestational weight gain and higher caesarean birth rates compared to non-migrants (Denize et al. 2018; Merry et al. 2013). However, it is important to note that this risk seems to be related to geographical origin, with Asian, North African, and other African migrants being at greater perinatal health risk than their receiving-country counterparts—i.e., European migrants, who have equivalent risks of both preterm birth and feto-infant mortality, and Latin American migrants, who have a lower risk of preterm birth (Gagnon et al. 2009).

The studies focusing on stillbirth, neonatal mortality, and infant mortality did not reveal a consistently higher mortality risk among babies of migrants; however, a higher risk was found among refugees, non-European migrants to Europe, and foreign-born blacks in the US (Gissler et al. 2009). Possible explanations include restricted cultural approaches to screening and termination of pregnancy, yet further studies are needed to provide for improved understanding.

Regarding perinatal mental health, refugee and asylum-seeking women were at higher risk of depression and greater PTSD symptoms levels (Anderson et al. 2017) due to factors as language proficiency, unresolved legal status, and duration of stay in host country. A similar set of factors were found to be relevant for prenatal care access and maternity care experience. More specifically, migrant women were less positive about the healthcare they received than non-migrant women (Small et al. 2014). The research about perinatal outcomes and social context subdomains highlighted the relevancy of host country characteristics, meaning that migrants' health depends on societal characteristics of host countries (Urquia et al. 2010; Villalonga-Olives et al. 2017).

Finally, regarding the interventions for promoting SRH and gender equality, none of the included SLR were intervention studies. However, this research did include a section in which it summarized the overall recommendations of the studies. These ranged from raising awareness to the need to integrate and respect migrants, build better reproductive justice, and highlight the importance of monitoring inequalities.

4.1. Strengths and Limitation of the Research

This umbrella systematic literature review has several strong points. It was conducted with broad and inclusive inclusion criteria. Additionally, no publication date and language restrictions were applied in the search and selection criteria. Nevertheless, it still resulted in very few SLR studies that were eligible for the analysis. One of the possible explanations for this is the shortage of studies that compared SRH outcomes for migrants and non-migrants. Another valuable strength of this USLR was its contribution to the identification of indicators that require more attention in the promotion of healthy migrants.

However, some limitations should be considered when interpreting our findings. Overall, the studies lacked a homogeneous conceptualizing and measuring of immigration, which is linked to the comparison groups used. While US studies usually used white country-born participants, i.e., the comparison group, European studies tended to use all country-born participants. Another difficulty with synthetizing information from this SLR was the wide diversity of migrant groups under analysis, as well as missing information needed in different contexts. In fact, additional variables, such as immigration status,

length of time in receiving country, language ability, and experiences of discrimination, were rarely examined. The majority of the reviews were conducted in high-income countries in North America (especially the US) and Europe, which limits the evidence concerning the reality in low- and middle-income countries and reduces generalizability. Additionally, recent waves of migration in the European Union and of refugee and asylum-seeking arrivals are not yet well represented. Finally, USLR are limited by the methodological quality of a relevant number of systematic reviews that were located and included for analysis.

4.2. Recommendations for Research and Action

To overcome the complications in interpreting the literature on migration and SRH outcomes (perinatal health in particular) that resulted from the inconsistency in the definition and measurement of migration, the ROAM international research collaboration and EURO-PERISTAT project convened in 2007 for an international cross-disciplinary expert panel to endorse migration indicators for national and international monitoring. A strong consensus was attained to include country of birth in core perinatal health indicator sets; length of time in country was a second indicator for routine data collection. In addition, specific studies were recommended to complement routine data collection on three other indicators of migration—immigration status, receiving-country language capacity, and using maternal parents' place of birth as proxy for ethnicity (Gagnon et al. 2010). The uptake of these recommendations remains up to date as it needs to be reinforced and expand to other SRH outcomes and subgroups (people with diverse sexual orientations and gender identities, hard-to-reach populations, older adults etc.) to allow for comparisons to be made across countries and over time, and to effectively reduce SRH inequities between migrant and receiving-country populations. Additionally, Marmot Review 2020 highlighted the importance of "building back fairer" while accounting for several lessons learned during the COVID-19 pandemic. One particular relevant for this research regards those who keep society functioning. More specifically, during the COVID-19 pandemic, although there has been a high correlation between low pay and continued work in front-line occupations, these workers (of which migrants constitute a significant part of the workforce) maintained their contribution to keep society functioning (Hu 2020; Marmot et al. 2020).

Research into the health of the diverse migrant populations is increasing in relevancy as the number of displaced persons around the world grows. Based on the findings of this USLR, the following recommendations are summarized:

- To improve identification of migrants at increased risk for poor SRH outcomes.
- To implement multi- and inter-sectorial interventions, to fulfil the specific needs of increasingly heterogeneous populations, namely poverty, discrimination, and exclusion.
- To provide culturally sensitive healthcare that adjusts its provisions to cultural differences.
- To ensure that the healthcare system is easily accessible to migrants by promoting accessibility on the same terms as the general population.
- To improve patient-care provider communication that provides interpreting and translation assistance.
- Provide equitable SRH treatment of migrants by designing programs that offer partnerships between the doctor and the patients, as well as between the healthcare and minority community.

The basis for this can be set in the early stages of educational and professional development by providing future healthcare workers with programs for knowledge and experience for providing greater health equity for diverse ethnic and racial communities. Finally, the authors would like to highlight the importance of moving beyond the provision

of specific care interventions towards addressing the social determinants of health inequities that lead to the observed disproportionately higher SRH risks among ethnic/racial minorities and migrant groups. Understanding the true origin and consequent impact of these health inequalities holds the potential to raise awareness design appropriate interventions both in terms of access to healthcare, as well as to the tailoring of SRH services.

5. Conclusions

For a long time, countries have avoided the discussion of healthcare among migrants due to the risk of a financial burden. However, experience has shown that this not only increases public health risks to the host country but undermines a whole range of potential social, demographic, and economic benefits. The identified issues regarding social, cultural, and structural factors influencing SRH among migrant and native populations are not entirely new. However, the results of this USLR confirm the importance of addressing SRH disparities between these two population groups. Ensuring the voices of most marginalized groups is one way to address disparities in realizing gender equality and SRH and rights, leaving no one behind (WHO 2016). Available evidence suggests that by promoting and sustaining a societal change towards greater integration, increased participation in social life, and respect of migrant populations, it is possible to assure wellbeing and health for all people across the life course. Ultimately, this will benefit the health of all migrants and support the achievement of a universal health coverage that ensures countries can benefit from the social, demographic, and economic advantages of a healthy and recognized migration.

Supplementary Materials: The following are available online at www.mdpi.com/2076-0760/10/2/63/s1, Table S1: PRISMA-E 2012 Checklist, Table S2: Search strategy, Table S3: Reasons for exclusion of full-text articles, Table S4: Data extraction summary table, Table S5: Quality assessment of the included reviews using AMSTAR 2 checklist, Table S6: AMSTAR 2 rating for all included studies.

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