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Strategies to Reduce Sexual and Reproductive Health Stigma: A Systematic Review of Interventions to Reduce Abortion, Infertility, Contraceptive Use, and Sexuality Stigma

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Abstract

Strategies to Reduce Sexual and Reproductive Health Stigma: A Systematic Review of Interventions to Reduce Abortion, Infertility, Contraceptive Use, and Sexuality Stigma

By Christine Ruth Cooper

Background: Globally, stigma has been observed around sexual and reproductive health in the areas of contraceptive use, infertility, abortion, and sexuality. Stigma across socioecological levels (internalized, interpersonal, organizational, community, and structural) can cause stress, isolation, depression; affect the quality of life; and avoidance of healthy behaviors and health services, all leading to poor health outcomes. Interventions to reduce stigma associated with SRH are required to avoid these poor health outcomes.

Methods: A systematic literature search in PubMed, PsycINFO and CINAHL was completed to identify articles with the primary or subsequent goal of reducing stigma regarding contraceptive use, abortion, infertility, or sexuality. The search was limited to English-language studies published by December 2019. Data was abstracted on study- and intervention-level characteristics, and populations included. The data was synthesized and relevant gaps were identified.

Results: Forty-six studies met inclusion criteria and were analyzed. The studies were divided into pregnancy related stigma (n=9) – abortion, contraceptive, and infertility stigma – and sexuality related stigma (n=37) – sexual minority status, sexual behavior, and female sex work. Most studies focused on changing attitudes, beliefs, and prejudice among those who hold stigmatizing SRH attitudes (46%) while a third of the studies focused on reducing internalized stigma. More interventions employed a one-time presentation that lasted three-hours or less (41%) and one-third required multiple sessions of four or more hours. Participants were 64% female, 31% male and 5% Transgender. Twenty-six studies provided racial and ethnic demographic data showing participants were 64% White, 14% Black, 9% Hispanic/Latino(a), 6% Asian, 1% Native American, 2% Multi-racial, 1% Other and 4% missing. Sixty-five percent of the studies were conducted in North America.

Conclusion: Published SRH stigma intervention studies over the last 26 years in the literature largely focused on sexuality stigma in North America and relatively less contraceptive use, infertility, and abortion stigma intervention studies were available. There is need for more interventions that incorporate multi-level approaches and integrate several types of intervention that have shown some efficacy. The results of this review point to opportunities for SRH stigma intervention work in less studied pregnancy-related stigma areas and areas outside of high-income countries.

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Chapter One: Introduction

Background and Rationale

Historically, stigma has been observed around sexual and reproductive health (SRH) areas such as infertility, menstruation, abortion, sexual behaviors, and use of contraceptives across the globe (Cleland, Harbison, & Shah, 2014; Rebecca J. Cook & Bernard M. Dickens, 2014; Friedman et al., 2014; Garg & Anand, 2015; Franz Hanschmidt, Linde, Hilbert, Riedel-Heller, & Kersting, 2016; Platt et al., 2018; Rouchou, 2013). Stigma spoils an individual's social character and relegates them to the fringes of society (Goffman, 1963). This can happen as individuals are labeled and linked to negative attributes then separated into groups of "us versus them." Those individuals then experience discrimination or other less obvious negative biases (Link & Phelan, 2001). Stigma can cause stress, isolation, depression, affect the quality of life, and contribute to avoidance of healthy behaviors and health services, all leading to poor health outcomes (Asbo, 2018; Clement et al., 2015; Mark L. Hatzenbuehler, Phelan, & Link, 2013; Link, Struening, Rahav, Phelan, & Nuttbrock, 1997). Research on the significance and impact of stigma on health and health behaviors has created a framework to begin defining stigma as a social determinant of health (Mark L. Hatzenbuehler et al., 2013). Studies have found stigma associated with mental health, HIV/AIDS, infectious diseases such as leprosy, and groups of people such as African Americans (B. A. Pescosolido & Martin, 2015). Over more than 20 years, research has focused on stigma around sexual orientation and behaviors, contraceptive use, abortion, and other SRH areas (R. J. Cook & B. M. Dickens, 2014; Frost, 2011; Hakansson, Oguttu, Gemzell-Danielsson, & Makenzius, 2018; Franz Hanschmidt, Katja Linde, Anja Hilbert, Steffi G. Riedel-Heller, et al., 2016). As this research emerged, a global response developed to

eliminate stigma and discrimination including in SRH settings (Boyer, 2018; Hall, Morhe, et al., 2018; Hussein & Ferguson, 2019; Nyblade, Stockton, Nyato, & Wamoyi, 2017; Starrs et al., 2018).

The stigma connected to infertility, abortion and other areas of SRH has persisted over generations and pervades lives today across the globe. This includes taboo and discrimination associated with the menstrual cycle, the desire to delay a pregnancy, the use of a contraceptive method of choice, and, more obviously, obtaining an abortion (R. J. Cook & B. M. Dickens, 2014; Garg & Anand, 2015; Makenzius, McKinney, Oguttu, & Romild, 2019). For example, women who obtain abortions may conceal their abortion causing anxiety and isolation (Franz Hanschmidt, Katja Linde, Anja Hilbert, Steffi G. Riedel- Heller, et al., 2016). The need for inclusive services for LGBTQ+ individuals has only recently been acknowledged and explored in relation to health services with very little focus on SRH specifically (C. M. Parker, Hirsch, Philbin, & Parker, 2018). In any SRH area with stigma or discrimination attached to it, we see lower uptake in SRH services to avoid stigma and discrimination, and different levels of quality of services based on location and stigmatizing environments ("Do Sexual Minorities Receive Appropriate Sexual and Reproductive Health Care and Counseling?," 2019; Hussein & Ferguson, 2019). Each of these can impact an individual's daily decisions and life.

Stigma around SRH has been documented in a variety of populations across low, middle, and high-income countries. For example, taboos have existed in India for generations around women's menstruation. This can prevent menstruating women from participating in normal activities such as cooking and entering specific rooms because they are socially deemed as "impure" (Garg & Anand, 2015). In Nigeria, the provision and use of contraceptives by unmarried women has been criticized for promoting sex outside of marriage, something the

culture does not support (Ahanonu, 2014). Nigerian youth in turn may not use contraceptives in part because of shame, stigma and embarrassment (Lindberg, Lewis-Spruill, & Crownover, 2006). Similarly in Ireland, contraction of sexually transmitted infections (STIs) is connected to loose morals and stigma among women (Myles Balfe et al., 2010).

Infertility is a mark of shame going back thousands of years that crosses borders from the United States to Nigeria (Dimka & Dein, 2013; Sternke & Abrahamson, 2015). The cultural shame connected to infertility is so strong in some areas that women are ostracized when they are unable to have biological children (Cui, 2010). Globally, abortion and different sexual behaviors are stigmatized. In many societies, there is judgment of unmarried women who obtain an abortion as not taking responsibility for the consequences of having sex outside of marriage, and belief that married women who have an abortion are rejecting motherhood (Peters, 2018). Additionally, sexual behaviors that break “social norms” such as sex work and same sex attraction have historically faced discrimination and stigma (Herek, Gillis, & Cogan, 2015).

Research has documented a number of potential sources of stigma. Different religious teachings have connected sex outside of marriage to sin or an immoral act that goes against divine law ("Sin," 2020). The desire to not be connected to behaviors associated with sin leads individuals to hide aspects of themselves and their history such as sexual behaviors, use of contraceptives, and decision to have an abortion. The Catholic church has a stance that the use of contraceptives and condoms is sinful (Catholic Church, 1994). Despite individual Latin American Catholics' views becoming more accepting of contraceptives and abortion, the Catholic Church actively fights to keep restrictive and conservative laws in place across Latin America (Richardson & Birn, 2011). The Catholic church played a key role in influencing civil and criminal laws that match church values around contraceptive use and abortion, but over time

society has changed to be less aligned with these values while the civil and criminal codes have remained unaffected (Htun, 2009). For example, polls in Uruguay show that 63 percent of the population favor decriminalizing abortion, but the influence of the Catholic church on policy has contributed to the abortion laws not changing (Htun, 2009). The origin of impurity during menstruation in India is connected to myths from the Vedic period and Hindu teachings that advise women not to enter a kitchen, among other things, during menstruation because they are “impure” and unhygienic and can contaminate food and other objects (Garg & Anand, 2015).

Research suggests that abortion and LGBTQ+ stigma are not universal, but rather a social event that occurs locally through identified social and political processes that prompt the normalization of abortion or LGBTQ+ stigma (Epprecht, 2012; A. Kumar, L. Hessini, & E. M. H. Mitchell, 2009). Sexuality stigma looks different across social-cultural contexts, and public expressions of LGBTQ+ stigma may not accurately represent cultural norms (Epprecht, 2012). For example, western media portrays homophobia as a problem specific to the African continent, ignoring the diverse ways many groups have found to practice same-sex relationships under traditional practices such as spirit possession and woman-woman marriage (Epprecht, 2012). An example of this process around abortion stigma is evident in attempts to change abortion laws by state legislatures. For instance, in 2019, several U.S. states passed legislation to limit abortion after six weeks on moral grounds of protecting the life of the unborn fetus. With limits on abortion in the news and the current polarized environment, there is an increased focus on stigma around accessing these services. Additionally, abortion policies have implications for health outcomes as they affect access to health care. As abortion laws and the perception of these laws by the public are evaluated for impact on SRH, understanding how to combat stigma around abortion and other important reproductive health topics will be significant.

The stigmatization of SRH has consequences that affect individuals on multiple levels including the association of stigma with poor health outcomes. Shame around unplanned pregnancies and abortion can lead individuals to search for underground abortion practitioners who may not have proper qualifications or access to necessary tools needed to provide a safe abortion (Rebecca J. Cook & Bernard M. Dickens, 2014). In 2012, it was estimated 6.9 million women in developing regions with abortion restrictions were treated for complications from an unsafe abortion and eight percent of maternal deaths worldwide are estimated to be from unsafe abortions (Bearak, Popinchalk, Alkema, & Sedgh, 2018; Ganatra et al., 2017). Current research shows that more restrictive abortion laws are associated with higher maternal mortality from abortion (Horga, Gerdt, & Potts, 2013), while abortion reform in countries with restriction may lower maternal mortality (Latt, Milner, & Kavanagh, 2019). Even in countries with legal access to abortion, stigma has been found to be a barrier to accessing a safe abortion (A. Kumar, L. Hessini, & E. M. Mitchell, 2009). In many places, the physical presence of a health center is not enough to provide SRH services. In addition to a clinic with trained staff and the necessary resources, stigma needs to be addressed for full access to SRH services to happen and impact key indicators such as maternal mortality and morbidity.

Stigma directly contributes to limited access to SRH services and ability to receive needed information. Health professionals who work in abortion services face more stress and internalized stigma (Lisa A. Martin et al., 2014). Stress comes from the stigmatizing environment that exists around abortion work in the U.S. Health professionals shared feeling marginalized in the medical community, unappreciated by society, and worried about disclosing abortion work, all of which contributed to internalized abortion stigma (Lisa A. Martin et al., 2014). More obstetrics and gynecology residents indicate a desire to provide abortions in the

U.S. than ultimately do. A contributing factor to the limited and small number of practitioners has been stigma and tension with fellow providers once they begin to practice (Freedman, Landy, Darney, & Steinauer, 2010). OBGYNs who intend to provide abortions have found out after hire their private practice would not allow them to provide the service, often because a senior provider was opposed, or during practice have been confronted by fellow providers for referring for abortion or performing an abortion (Freedman et al., 2010). This limits access to an important SRH service. Individuals also choose to not seek health care due to stigma (Rebecca J. Cook & Bernard M. Dickens, 2014). For example, unmarried women do not seek SRH care, especially contraception and abortion because of social stigma in some contexts (Blanc, 2001; Starrs et al., 2018). This can delay important STI or reproductive cancer screenings and treatment of STIs and reproductive cancer leading to poor health outcomes (Starrs et al., 2018)

Addressing stigma related to SRH is important to well-being globally. There is need to synthesize the literature identifying and describe SRH stigma interventions. Reviewing research on the topic will add to the current body of knowledge by identifying and summarizing strategies that have worked to reduce stigma around SRH. Just as important, there is need to identify and summarize what has not worked. Knowledge of successful and less successful approaches can inform the development, adaption and, implementation of SRH stigma interventions, or the redirection of resources elsewhere. In all research and interventions, it is important to establish who has been included and whether any populations have been left out in order to determine how generalizable study information is. Additionally, findings could determine whether any programs have an impact on stigma around infertility, abortion, sexual behaviors, and use of contraceptives.

Problem Statement

Sexual and reproductive health has been declared a human right and important to the well-being of individuals and by extension society (Nations, 2014). Across the globe, social stigma is tied to various SRH needs ranging from shaming infertility, reproach of use of contraceptives, and criminalizing and restricting abortion rights. Stigma can be perceived, experienced, and internalized by both those receiving reproductive services and those performing the services (Rebecca J. Cook & Bernard M. Dickens, 2014). Individuals may feel uncomfortable confronting negative attitudes around SRH and avoid accessing critical services to avoid being stigmatized (Rebecca J. Cook & Bernard M. Dickens, 2014). In addition, practitioners are stigmatized for providing SRH services and, as a result, may seek work they perceive to be less stigmatizing, such as obstetrics and gynecology professionals not integrating abortion services into practice (Freedman et al., 2010). Fewer healthcare professionals in the field of SRH further compounds accessibility issues within local healthcare markets when demand for services remains constant or increases (Norris et al., 2011).

Behavioral interventions to reduce stigma associated with SRH are required to avoid the aforementioned consequences of SRH stigmatization. Evaluation and assessment of interventions to reduce stigma around SRH are needed to understand generalizability, acceptability, and efficacy. Additionally, it is important to identify who has been included or excluded from interventions to ensure all populations are served by interventions. The analysis of current research and interventions will inform future research as to where new or additional focus is needed to better address stigma in SRH. This information could facilitate future interventions for individuals to access SRH services fully and without shame.

Purpose Statement and Research Question

The purpose of this systematic review is to answer the following questions: *What strategies for reducing stigma around sexual and reproductive health have been evaluated for effectiveness within an international context? What distinguishes effective versus ineffective strategies for reducing stigma around SRH within an international context? What populations are included in interventions/programs for reducing stigma around SRH within an international context?* For the purposes of this review, SRH topics will be limited specifically to abortion, contraceptive use, infertility, and sexual behaviors.

Significance Statement

This review of stigma and SRH will be useful for reproductive health programs, policy, practice, and research. Reproductive health practitioners, policymakers, researchers, advocates, and other professionals can benefit from the analysis and synthesis of current literature on stigma and SRH. Systematic reviews have the potential to make research more accessible to a broader audience. The individuals and groups mentioned above may benefit by finding summaries, key insights, and potential applications in one place. Knowing and understanding what behavioral interventions work and in what context will contribute to future work that desires to develop interventions in new contexts.

Definition of Terms

The World Health Organization definition of SRH contains the following, “People are sexual beings all their lives. The purposes of sexual health care should be the enhancement of life and personal relationships, and not merely counselling and care related to procreation or sexually transmitted infections. Reproductive health (RH) implies that people are able to have a responsible, satisfying and safe sex life and that they have the capability to have children and the freedom to decide if, when and how often to do so.

Men and women should have access to the safe, effective, affordable and acceptable methods of fertility regulation of their choice, and to appropriate health care services that will enable women to go safely through pregnancy and childbirth, and provide couples with the best chance of having healthy infants.” (“Sexual and reproductive health,” 2019).

Stigma is described to exist when five factors converge:

- 1) Labeling of human differences
- 2) Prevalent cultural beliefs link labeled individuals to “negative stereotypes,”
- 3) Labeled individuals are separated categorized to create “us versus them” and separation
- 4) Labeled individual experience prejudice and disparate outcomes,
- 5) Differences in social, political and economic power (Link & Phelan, 2001)

Chapter Two: Literature Review

Why We Need Interventions (What is the Big Deal with Stigma?)

Stigma spoils an individual's social character and relegates them to the fringes of society (Goffman, 1963). This can happen as individuals are labeled then linked to negative attributes and separated into groups of "us versus them." Those individuals may then experience status loss, discrimination, or other forms of oppression (Link & Phelan, 2001). Stigma affects an assortment of populations across diverse incomes and educational levels throughout the globe (Mark L. Hatzenbuehler et al., 2013; B. A. Pescosolido & Martin, 2015; B. A. Pescosolido, Medina, Martin, & Long, 2013; Rao et al., 2019). Stigma is not a problem specific to any one population, people face stigma regarding their body size, race/ethnicity, sexual orientation, the use of public benefits, voluntary childlessness, nonnative accents, chronic diseases and many other personal characteristics, behaviors, and health-related areas (B. A. Pescosolido & Martin, 2015). Stigma may be worse for groups who have several stigmatized identities, such as having a mental illness and being HIV positive, than for groups who only have one (Jackson-Best & Edwards, 2018). Additionally, the impact of stigma changes across regions and populations depending on the cultural and social contexts that inform resources and policies that either help fight discrimination and stigma such as the U.S. Supreme Court ruling that guaranteed marriage for same sex couples versus the Kenyan Constitution which does not recognize same sex marriage and supports discrimination and stigma ("Constitution of Kenya," 2010; "Obergefell v. Hodges," 2015; Seckinelgin, 2009). Stigma around any given topic will function differently across regions given the cultural constructs that exist and the intersections of religion, culture, and social norms (Epprecht, 2012; Bernice A. Pescosolido, Martin, Lang, & Olafsdottir, 2008).

Most studies that examine stigma have focused on a single stigmatizing characteristic and outcome at a specific level of the socioecological model, and not on the impact of stigma on multiple domains, levels, and outcomes that compound on one another (Mark L. Hatzenbuehler et al., 2013). This state of the stigma literature led Hatzenbuehler, Phelan, and Link (2013) to argue that stigma should be considered a social determinant of health. Social determinants of health are recognized as social areas in need of research to address disparities in health and healthcare and advance health (Artiga & Hinton, May 10, 2018).

Stigma can cause stress, isolation, and depression; affect the quality of life; and contribute to the avoidance of healthy behaviors and health services. All these results lead to poor health outcomes (Asbo, 2018; Clement et al., 2015; Mark L. Hatzenbuehler et al., 2013; Link et al., 1997). Research has found that stress from stigma breaks down social support systems as individuals isolate themselves to avoid rejection (Link et al., 1997). Researchers found a correlation between stigma and depression, and support that internalized stigma is related to higher levels of depression among adolescents with schizophrenia (Asbo, 2018). Other studies found that quality of life decreased with higher levels of stigma and depression (Charles et al., 2012; G. Li et al., 2020). As people may isolate themselves due to depression, engaging less in relationships and social networks that can be coping mechanisms to decrease stress, population health is negatively impacted (Mark L. Hatzenbuehler et al., 2013).

Poor health outcomes are linked to stigma on several levels of the social ecological model (B. A. Pescosolido & Martin, 2015). At the individual level, we see internalized stigma, for example shame around infertility or body weight. At the interpersonal level, stigma manifests in biases and discrimination from individuals towards stigmatized groups seen in slurs or negative treatment towards immigrants for example. At the community and organizational level, stigma is

observed within group norms that are not accepting of LGBTQ+ individuals, and at the structural level stigma is associated with punitive policies and laws such as laws that criminalize same sex marriage or abortion (Mark L. Hatzenbuehler et al., 2013; B. A. Pescosolido & Martin, 2015).

Reviews of stigma research have proposed several mediators between stigma and population health. Stigmatized populations have less access to resources, more social isolation, and greater internalized stigma. They may form maladaptive coping behaviors and have more stress which are all mediators in the link between stigma and poor health outcomes (Mark L. Hatzenbuehler et al., 2013). Stress is dynamic; for example, stress can come from an event such as a derogatory remark or being passed over for a job, or stress can be a chronic state. Importantly, stigma has the potential to affect an individual's resilience, regardless of its length (Chi et al., 2016).

Most studies focus on a single stigmatizing characteristic and one outcome at a specific level of the social ecological model. We know less about the impact of stigma on multiple domains, levels, and outcomes that compound on one another (Mark L. Hatzenbuehler et al., 2013). There is need to address stigma, a social determinate of health, and to begin to alleviate the adverse health outcomes associated with stigma. Like other social determinants of health, interventions are needed to address stigma at all levels of the social ecological model.

Status of Stigma Interventions (HIV and Mental Health)

Interventions to address stigma exist mostly in the context of stigma related to HIV and mental health. Within HIV, research has found stigma is associated with avoidance of HIV testing (Chesney & Smith, 1999), ART adherence (Katz et al., 2013), continued care and poor

mental health (X. Li et al., 2011), quality of life (Arias-Colmenero et al., 2020), health behaviors, and disclosure of HIV status (Vanable, Carey, Blair, & Littlewood, 2006). Each of these spheres are important to the care of people living with HIV, and to lowering HIV transmission rates at the population-level. As the body of evidence has found HIV stigma associated with these different domains of the HIV care continuum, calls for interventions to address HIV stigma have emerged. HIV/AIDS non-profit and non-governmental organizations such as GLAAD, The Elizabeth Taylor AIDS Foundation, and Greater than AIDS all indicate that reducing stigma around HIV is an essential step in initiatives to end the HIV/AIDS epidemic.

Out of this research and community movement, interventions to reduce stigma among people living with HIV and their families were developed and evaluated for effectiveness (Ma, Chan, & Loke, 2019). Other interventions have focused on reducing stigma towards people living with HIV among health care workers (Ekstrand et al., 2020; Ikeda, Nyblade, Srithanaviboonchai, & Agins, 2019). Overall, HIV stigma interventions in published literature have a positive impact on reducing negative attitudes towards people living with HIV (Mak, Mo, Ma, & Lam, 2017).

Mental health is another area that has focused on reducing stigma. Internalized mental health stigma has a strong negative relationship with hope, self-esteem, and empowerment and is positively associated with the severity of psychiatric symptoms (Livingston & Boyd, 2010). Research has found that mental health stigma, including discrimination, has negatively affected access to mental health care and help-seeking behaviors (Clement et al., 2015). Not only does stigma affect individuals seeking care, but it can affect patient engagement in mental health treatment programs (Tsang, Fung, & Chung, 2010). Perceived stigma is also a predictor of discontinuing outpatient depression treatment programs among older patients (Sirey et al., 2001).

Mental health stigma also plays a role in poor healthcare services from health care professionals. An example is diagnostic overshadowing when health-care professionals connect physical complaints from patients to pre-existing mental health issues versus looking for physical health issues ("The health crisis of mental health stigma," 2016).

As with HIV stigma, interventions aiming to reduce internalized stigma regarding mental health conditions have been developed and evaluated and found to have an impact on reducing internalized mental health stigma (Alonso, Guillen, & Munoz, 2019). For example, a peer education intervention for reducing internalized stigma among older depressed adults (Conner, McKinnon, Ward, Reynolds, & Brown, 2015). Other interventions have focused on reducing mental health stigma in medical and nursing students at the interpersonal level. In low and middle-income countries, contact interventions showed the most effect on lowering stigma among health professional students (Heim et al., 2019). At the institutional level, workplace anti-stigma interventions showed improvement in employee knowledge and behavior towards individuals with mental-illness issues (Hanisch et al., 2016). Large-scale mental health stigma campaigns have suggested social marketing can improve knowledge and attitudes and lower discrimination (Henderson, Evans-Lacko, & Thornicroft, 2013).

Stigma and Sexual and Reproductive Health

The stigma around sexual and reproductive health is cross-cultural and observed across different life stages (Ergin et al., 2018; Farmer et al., 2015; Hall, Manu, et al., 2018; Franz Hanschmidt, Katja Linde, Anja Hilbert, Steffi G. Riedel- Heller, et al., 2016; Makenzius et al., 2019). Examples include stigma found around pregnancy decision in unplanned pregnancy in the U.S. South (women 18-24 years-old) (Rice et al., 2017), prejudice from providers giving

contraceptive counseling to young people (15-24 years-old) in Uganda (Paul, Näsström, Klingberg-Allvin, Kiggundu, & Larsson, 2016), and social stigma among Turkish couples with infertility (men 29-42 years-old and women 26-38 years-old) (Ergin et al., 2018). Often labeled as a women's issue, SRH is shaped by broader social norms around expectations of men and women, and religious teachings about sex and family structure (Lucal, 2005). An example is provided by traditional values in Kenya that define a respectable woman in terms of having and nurturing children in marriage and caring for the home (Izugbara, Ochako, & Izugbara, 2011). SRH stigma varies significantly across regions and can be less obvious but is ever-present. Sexual and reproductive health stigma can include taboo and discrimination associated with the menstrual cycle, the need to prevent unplanned pregnancy, the desire to use contraceptive methods of choice, and, more obviously, obtaining an abortion. As many of these examples show, SRH stigma can impact women's health by creating barriers to needed health services such as contraceptive and abortion counseling.

The need for inclusive SRH services for LGBTQ+ individuals has only recently been acknowledged and increasingly explored within the SRH literature (Hoskin, Blair, & Jenson, 2016; Schmitz, Robinson, & Tabler, 2019; Wingo, Ingraham, & Roberts, 2018). Current research demonstrates discrimination and non-inclusive practices in SRH, especially around client priorities and LGBTQ individuals' fear of discrimination from providers. Research has started to document the experiences and barriers of SRH services to sexual minorities such as experiences among LBQ+ Latina young adults (Schmitz et al., 2019) or LGBTQ individuals (Hoskin et al., 2016). One study found LGBTQ individuals avoid visiting a provider for a sexual health exam because of their sexual and gender identity and anticipate prejudice from providers (Hoskin et al., 2016). Other studies have found that providers lack knowledge of LGBTQ patients'

reproductive health needs, and have made discriminatory comments, actions, and assumptions (Wingo et al., 2018). Clinicians in Canada reported feeling unprepared and incompetent to provide sexual health services to LGBTQ youth (Hoskin et al., 2016). Medical students in the U.S. and UK reported lack of LGBTQ health care education and lack of confidence or future intent to clarify sexual and gender identity terms with patients (Hayes, Blondeau, & Bing-You, 2015; Parameshwaran, Cockbain, Hillyard, & Price, 2017). These medical students also expressed not knowing how to assign transgender patients to a male or female ward for care (Hayes et al., 2015; Parameshwaran et al., 2017).

Reducing stigma associated with SRH is essential not just for “women's” health, but population health. While menstruation and pregnancy more directly affect women, STIs, HIV, infertility, and reproductive cancers affect the whole population (Keller & Sonfield, 2019). Stigma that limits or prevents access to health services that provide STI and reproductive cancer screenings affects the population health by preventing the timely treatment of health conditions that may lead to poor health outcomes such as sterility and even death (Keller & Sonfield, 2019). It is important to look at the impacts of SRH stigma on families and adolescents of all genders and conceptualize access to SRH as a human right. Comprehensive sex education for adolescents is an example of an SRH service that impacts population health and has stigma attached to it in many contexts. Stigma related to SRH can be perceived and internalized by both those in need, those accessing services as well as those providing services (Rebecca J. Cook & Bernard M. Dickens, 2014).

Contraceptive stigma has been found to exist globally. Research has documented social stigma towards adolescent use of contraceptives in Nicaraguan communities (J. J. Parker, Veldhuis, Hughes, & Haider, 2019) and women or girls’ use of contraceptives in the southern

Kayonza district of Rwanda (Farmer et al., 2015). The reasoning is often tied to cultural or social norms that adolescents should not be having sex and perceptions that women who use contraceptives are prostitutes (Farmer et al., 2015; J. J. Parker et al., 2019). Unmarried women and adolescents in Kenya also experience stigma from healthcare providers when trying to access contraceptives (Hakansson et al., 2018) and some women and adolescents in the United States have expressed stigma around contraceptive use (James-Hawkins, 2015; L. James-Hawkins & M. Broaddus, 2016; Laurie James-Hawkins & Michelle Broaddus, 2016). Adolescents interviewed in the U.S. had perceptions that parents' disapproval of them having sex was synonymous with their disapproval of using contraceptives (James-Hawkins, 2015). The providers in Kenya expressed beliefs that girls who use contraceptives will be encouraged to be promiscuous (sexually immoral) and will have problems with infertility in the future (Hakansson et al., 2018). These fears of disapproval or labeling by their community create hesitancy in uptake of contraceptives. These examples show that stigma can be a barrier to contraceptive access and use for adolescents and adults in multiple contexts.

Abortion stigma is documented in multiple reviews. Most studies found that women who had an abortion perceived stigma from multiple sources, including society, the community, and in some situations, significant others and medical personnel (Franz Hanschmidt, Linde, Hilbert, Riedel- Heller, & Kersting, 2016). The assignment of stigma to abortion has influenced many women to hide their abortion history. This is especially concerning because covering up stigma is associated with higher levels of stress and mental and physical health issues (Shellenberg, Hessini, & Levandowski, 2014). Abortion stigma is associated with depression and anxiety just before getting an abortion (Steinberg, Tschann, Furgerson, & Harper, 2016). It is important to note that the connections between feelings of depression and anxiety were linked to the stigma

around getting an abortion. The abortion itself is not associated with adverse mental health outcomes (Foster, Steinberg, Roberts, Neuhaus, & Biggs, 2015). Abortion stigma has also been found to discourage and isolate abortion providers (Bommaraju, Kavanaugh, Hou, & Bessett, 2016).

Stigma regarding sexual behaviors such as sex work, sexual orientation, or exposure to a sexually transmitted disease has been associated with delays in seeking or accessing care (Bradford, Reisner, Honnold, & Xavier, 2013; Platt et al., 2018; Tsadik, Lam, & Hadush, 2019). Delays in care or complete avoidance of health care services to avoid stigma can impact poor health outcomes such as increased morbidity, susceptibility to HIV infections, and infertility (L. Lazarus et al., 2012; Lisa Lazarus et al., 2012; Lichtenstein, 2003; Liu, Detels, Li, Ma, & Yin, 2002). Sexual minority youth report higher levels of anxiety and depression and higher rates of unmet mental health needs compared to their peers (Williams & Chapman, 2011). Some research has also found unmet medical need such as access to and utilization of health care among sexual minority women (Everett & Mollborn, 2014). Delays in access and in unmet need are barriers to timely use of healthcare services important for managing good physical and mental health (Ayanian, Weissman, Schneider, Ginsburg, & Zaslavsky, 2000).

Social and internalized stigma are also associated with infertility, affecting both partners in multiple ways (Daibes, Safadi, Athamneh, Anees, & Constantino, 2018; Fu et al., 2015; Rouchou, 2013; Ying, Wu, & Loke, 2015). Women experiencing infertility stigma have been found to have higher levels of depressions and anxiety (Begum & Hasan, 2014; Yilmaz & Kavak, 2019). Additionally, social health risks, marginalization, and social stigma have been found in developing nations around infertility stigma (Dierickx, Rahbari, Longman, Jaiteh, & Coene, 2018; Rouchou, 2013). A study in Nigeria found that infertility was perceived to be “the

worst thing” that could happen to a person among 69% of participants (Umezulike & Efetie, 2004).

While the need for interventions to address stigma related to SRH has emerged, outside of sexual behavior stigma (which is often linked to key populations such as men who have sex with men, sex workers, and transgender individuals for HIV prevention efforts ("WHO Guidelines Approved by the Guidelines Review Committee," 2016)), there is little focus to develop or evaluate interventions comparatively for infertility, contraceptive use or abortion. For example, many interventions to address stigma related to sexual orientation and sex work are developed to address key populations in HIV prevention (Bauermeister et al., 2019; Duby, Fong-Jaen, Nkosi, Brown, & Scheibe, 2019; Geibel et al., 2017; Krishnaratne et al., 2020; Mackenzie, Michels, & Chang, 2019; "WHO Guidelines Approved by the Guidelines Review Committee," 2016). Abortion stigma interventions have seen more attention compared to contraceptive stigma interventions in the literature, but mostly focused on individuals who had an abortion and not on preventing the social stigma connected to abortion that continues to permeate many contexts (F. Hanschmidt, Linde, Hilbert, Riedel-Heller, & Kersting, 2016).

The goal of this review is to highlight what interventions exist and have been evaluated to reduce stigma related to abortion, contraceptive use, infertility, and sexuality (including sexual behavior and sexual identity). The review will examine the effectiveness of current interventions and the regions and populations included in the studies. In addition to drawing attention to existing interventions, this review will provide data to inform where more focus is needed and what populations are engaged or missed by current interventions. This information can inform reproductive health programs, organizations, research, and funders.

Purpose Statement and Research Question

The purpose of this systematic review is to answer the following questions: *What strategies for reducing stigma around sexual and reproductive health within an international context have been evaluated for effectiveness? What distinguished effective versus ineffective strategies for reducing stigma around SRH within an international context? What populations are included in interventions/programs for reducing stigma around SRH within an international context?* For the purposes of this review, SRH topics will be explicitly limited to abortion, contraceptive use, adoption, infertility, and sexuality.

Chapter Three: Methods

This review examined published literature describing interventions to reduce stigma regarding abortion, contraceptives, infertility, and sexuality. The protocol was submitted for registration in the International Prospective Register of Systematic Reviews before data collection and followed guidelines from the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA)(Moher, Liberati, Tetzlaff, & Altman, 2009).

Search Strategy

Previous published systematic review protocols that assess abortion stigma and other health-related stigma literature were reviewed to aid in the development of search terms. Additionally, multiple consultations with an information services specialist in the library at the authors' academic institution were completed to refine the search strategy. The four concepts that we developed search terms to identify within relevant articles were: intervention, the SRH topic (abortion, contraceptives, infertility, or sexual behaviors), mitigation, and stigma. The search terms developed for use in PubMed, PsycINFO and CINAHL are available in Appendix B. Searches were completed in the above databases for articles published in English by December 2019. Database searches produced 799 articles in PubMed, 343 in CINAHL, and 889 in PsycINFO. All 2031 references were imported into Covidence ("Covidence systematic review software,") which identified 654 duplicates.

Study Selection

Eligible studies described and assessed interventions with the primary or subsequent goal to reduce stigma regarding contraceptive use, abortion, infertility, or sexuality. Our conceptualization of sexuality encompassed both sexual behavior and identity. Thus, studies that reported on interventions to reduce stigma associated with sexual orientation, having sex, female sex work (FSW) and gender identity were included. Studies with a focus on reducing HIV stigma only were excluded due to the large amount of research already focused on reducing HIV stigma and availability of multiple systematic reviews covering different facets of HIV stigma interventions. Inclusion and exclusion criteria were created with the intent for this systematic review to be more holistic and comprehensive. Thus, we did not exclude articles on the basis of disciplinary boundaries, population focus, study design, and setting. The included studies could have either qualitative, quantitative, or mixed-methods measurement of change in stigma. Studies that only described SRH stigma rather than evaluate interventions to produce change in stigma were not included.

Two authors (Christine Cooper and Janice D'souza) blindly and independently completed the title and abstract screening of the identified 1377 articles remaining after duplicates were removed. A third author (Whitney S. Rice) resolved all conflicts from the title and abstract screening. The title and abstract screening eliminated 1315 articles that did not meet inclusion criteria or met exclusion criteria, mainly articles that were not interventions with an outcome of reducing SRH stigma or only reduced HIV stigma. Prior to full text screening, 62 were eligible for inclusion. Two authors (CC and WSR) independently and blindly completed full text review leaving 46 articles for inclusion in the review. Nine disagreements for inclusion were resolved through discussion between two authors (CC and WSR). These two authors discussed criteria

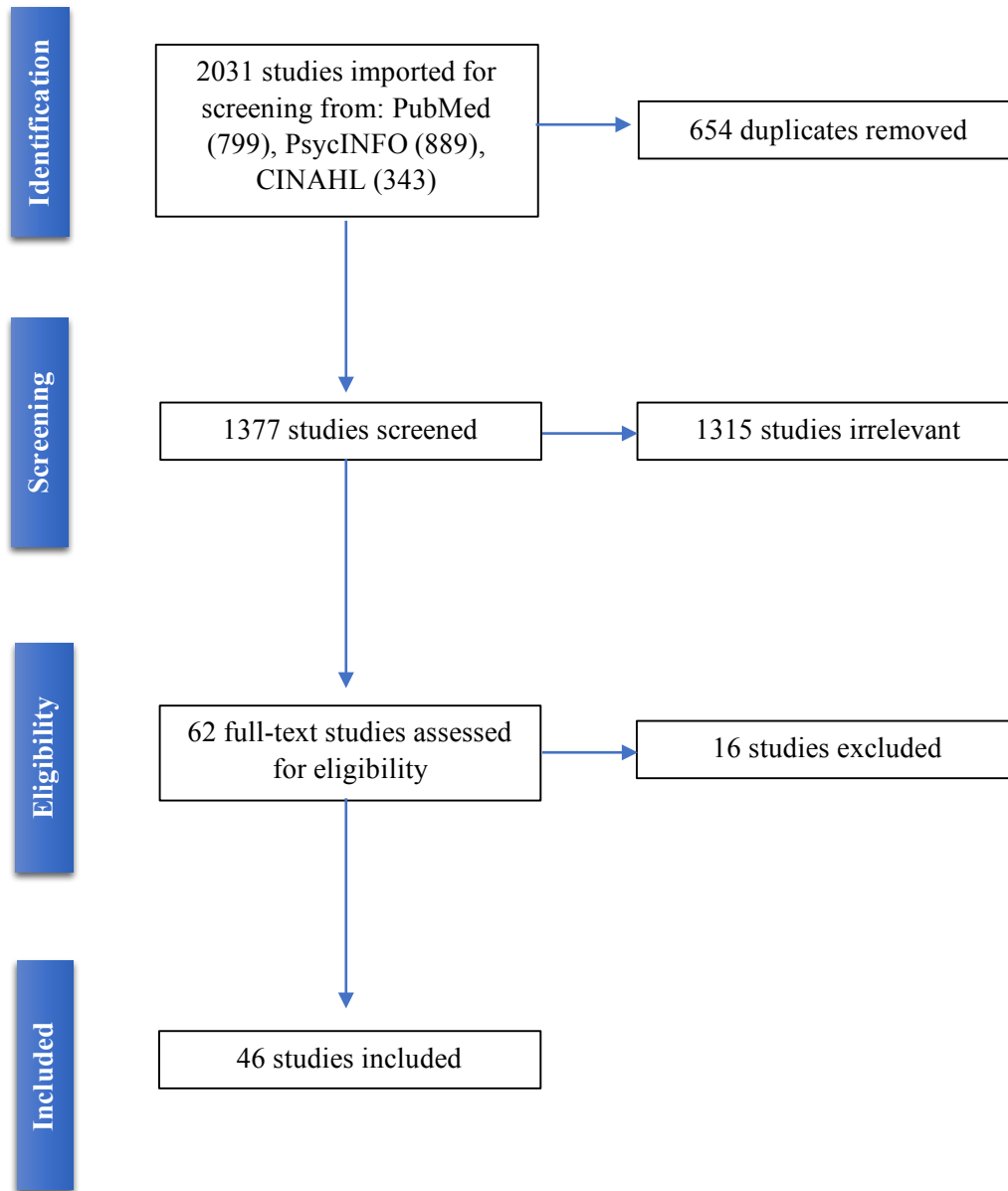
they used for inclusion or exclusion and referenced current research on sexual orientation, gender identity and current definitions of stigma to determine if studies met inclusion criteria. The selection process was completed in Covidence and the PRISMA flow diagram can be found in Figure 1.

Data Abstraction

Two authors (CC and WSR) discussed and agreed on the study characteristics to be collected from the 46 studies included in the systematic review. For each study, the name, author(s), year of publication, stigmatizing behavior (for example internalized binegativity), study design, region, population, sample size, ethics, strategy of stigma intervention (for example, information or contact), level of intervention (for example, individual versus community), time, measurement instruments or evaluation of interventions, outcomes, limitations, and notes were collected. The strategy of stigma intervention identifies the study strategies that were intended to change stigma, for example, contact with stigmatized individuals. The categories for strategy of stigma interventions were: information/education, skill development, counseling/support, contact events, structural (policy), and emotional which were determined before the review from previous research (Stangl, Lloyd, Brady, Holland, & Baral, 2013). In addition, specific target population demographics were recorded if a study provided the data to better analyze populations included in current interventions. Demographics recorded were age, gender identity, sexual orientation, race/ethnicity, education, religion, SES, rural/urban, political party, parenting status, job type/occupation, and relationship status.

Figure 1

PRISMA Flow Diagram



Chapter Four: Results

Study Characteristics

The 46 studies included in the sample were published between 1994 and 2019. The median publication year was 2015 (Table 1). The studies utilized different study designs; the design most commonly used was a non-randomized pre/post questionnaire without control (24%), followed by randomized control trial (20%), literature reviews (13%), non-randomized control trial (11%), mixed methods (9%), cross-sectional (7%), cohort (4%), non-randomized pre/post with control (4%), qualitative (4%), and other (4%). The reviewed studies can be divided into stigma related to pregnancy (n= 9)—which consists of abortion (n=7), contraceptives (n=1), and infertility stigma (n=1)—and stigma related to sexuality (n= 37)—encompassing sexual minority status (n=33), sexual behavior (n=1), female sex work (n=3). Most of the studies took place in North America (65%) and within the United States (57%). Five studies did not specify their geographic location, of which three were reviews.

The study target populations for these interventions can be divided into populations that hold stigmatizing attitudes, such as stigma from providers of health services and teachers, or populations who experience internalized stigma such as shame related to being an FSW or having a sexual minority status. The majority of the studies in the review focused on changing attitudes, beliefs, and prejudice among those who hold stigmatizing SRH attitudes (46%) while a third of the studies focused on reducing internalized stigma (33%). The sample sizes ranged from 5 to 21,075 with a median of 112. Most of the studies had sample sizes under 150 (64%), and almost a quarter had samples from 151-900. There were four studies with large samples between 901-10,000 and 2 population-level studies with samples of over 10,000.

Table 1*Study Level Description*

Median Publication Year (Range)	2015	(1994-2019)
Study Design	Total (n=46)	%
Cohort	2	4
Non-randomized control Trial	5	11
Cross-sectional	3	7
Mixed methods	4	9
Non-randomized pre/post with control	2	4
Non-randomized pre/post without control	11	24
Other	2	4
Qualitative	2	4
Randomized control trial	9	20
Review	6	13
Stigma topic	Total (n=46)	%
Abortion	7	15
Contraceptives	1	2
Infertility	1	2
FSW	3	7
LGBT/MSM/sexual minorities	33	72
Pre-marital sex	1	2
Region	Total (n=46)	%
North America	30	65
Canada	4	9
U.S. total	26	57
US (non-specific)	6	13
Across U.S. regions	5	11
Mid-Atlantic	1	2

Midwest	2	4
Northeast	3	7
Pacific Northwest	2	4
Southeast	3	7
Southwest	2	4
West	2	4
Africa	1	2
Central America	1	2
Europe	2	4
Multi-country	2	4
South America	2	4
South Asia	3	7
Did not specify	5	11

Target Population	Total (n=46)	%
Holders of stigmatizing attitudes		
Community	20	43
Providers	7	15
Teachers	2	4
Stigmatized individuals	15	33
Multiple	2	4
Sample Size		
Range	5-21075	
Median	112	
	Total (n=46)	%
(1-49)	13	32
(50-150)	13	32
(151-900)	9	22
(901-10,000)	4	10
10,000+	2	5

Intervention Characteristics

There were nine different types of stigma intervention strategies identified. The most common was a combination approach (30% of studies), which consisted of multiple strategies for stigma reduction. For example, Geibel et al. 2016 combined the use of information and skill development to reduce stigma from healthcare providers towards young, marginalized people in Bangladesh, and Eke et al. 2019 used peer support and skill-building to increase comfort with being gay, social diffusion of safer sex messages, social support, and social norms regarding safer sex practices. The other common stigma interventions were educational or information based (22%) strategies only, followed by counseling and support strategies (15%), contact (11%), skill development (9%), emotional (4%), spiritual (4%), policy (2%) and behavior change communication strategies (2%), see Table 2. Our sample identified a new strategy for stigma intervention that Stangl et al. 2013 had not in spiritual interventions. The intervention level of focus was mainly individual (46%), followed by multi-level approaches (41%). Of the multi-level approaches, most (n=13) were focused on the individual and interpersonal levels. A few included the community in addition to the individual and interpersonal levels.

Most of the interventions employed a one-time presentation or training that lasted three-hours or less (41%) and one-third required multiple sessions of four or more hours, such as a 16-hour abortion stigma reduction intervention, which took place over a weekend or for two-hours per week over eight-weeks (Layer et al. 2004). One study met monthly for a year or more to lower abortion stigma (Cockrill and Biggs 2018). Five of the programs were interventions with structural changes or community level interventions that did not specify the duration of exposure to the intervention from their sample. One study (Arístegui et al. 2017) focused on stigma reduction produced by change in law and had focus groups a year after the law was signed. The

other four monitored program activities or campaigns that happened daily. These programs were ongoing for 1-5 years such as a behavior change communication (Banerjee et al. 2013) or were community-level interventions (Benoit et al. 2017). The remaining six studies were reviews and none compared length of intervention in studies included in the literature review. Of the 40 studies that were not literature reviews, 36 had no long-term follow-up and four followed up after 3-months or longer to measure sustainability of the intervention. Pachankis and Goldfried (2010) measured after three-months, Bauermeister et al. (2018) re-measured at three, six and 12-months, Geibel et al. (2016) at six-months, and Martin et al. (2014) after one year.

The tools used in the interventions to measure changes in stigma varied. We found that 65% of the studies used validated scales or tools from previous research. Some studies were evaluating interventions at higher levels of the socio-ecological level (community, organizational, or structural) and accordingly used population-level surveys for evaluation, such as Burk et al. 2018. Two studies used qualitative research methods solely, and two studies created new questionnaire tools in their assessment. Three studies used mixed methods evaluation approaches involving qualitative data and questionnaires. There were six reviews included in the sample. Of the reviews, only two looked at study efficacy while the remaining four did not address this.

Table 2

Intervention Level Characteristics

Type of Stigma Intervention	Total (n=46)	%
Behavior change communication	1	2
Contact	5	11
Counseling/Support	7	15
Educational/Information	10	22

Emotional	2	4
Policy	1	2
Skill development	4	9
Spiritual	2	4
Combination	14	30

Intervention Level	Total (n=46)	%
Individual	21	46
Interpersonal	1	2
Organizational	1	2
Community	3	7
Structural/Public policy	1	2
Multi-level	19	41
Individual + interpersonal	11	24
Individual + community	1	2
Individual + interpersonal + organizational	1	2
Individual + interpersonal + community	1	2
Individual + organizational + community + structural	1	2
Reviews that covered multiple levels	4	9

Time	Total (n=46)	%
Single presentation/training (3 hrs. or less)	19	41
Two + sessions (4 hrs. or more)	15	33
Program monitoring and evaluation over 1+ year	6	13
n/a	6	13

Measurements	Total (n=46)	%
Used validated scales/previous research	29	63
Population-level survey/Impact evaluation	4	9
Qualitative (focus groups or in-depth interviews)	2	4

Created questionnaire for the study	2	4
Mixed (qualitative and questionnaire)	3	7
Review: did not evaluate for quality/efficacy	4	9
Review: evaluated for efficacy	2	4

Populations Included

Reported participant demographics varied across the review sample of 46 studies. Thirty-eight studies included sample demographics and eight did not, five of which were reviews. Thirty-eight reviewed studies provided gender identity characteristics; participants were 64% female, 31% male and 5% Transgender, Queer or Other. Eight studies did not report gender identity characteristics of their sample. Of those eight, five were reviews that did not look at study participant characteristics in any detail. Twenty-six studies provided racial and ethnic demographic data for their sample showing participants were 64% White, 14% Black, 9% Hispanic/Latino(a), 6% Asian, 1% Native American, 2% Multi-racial, 1% Other and 4% missing. The studies that provided racial and ethnic data were mainly based in the US (n=22). Twenty-one of the studies provided data on sexual orientation, including one of the reviews. Among these studies, the population included was 53% heterosexual, 34% non-heterosexual, and 13% missing. Seventy-eight percent of the studies provided some data on the age of participants. Of 23 studies, the mean age was 26.93. Additionally, 16 studies provided more detailed age data, and the population was 17% teenagers (13-18), 49% young adults (18-30), 31% adults (30-60), 2% older adults (60+), and 1% missing. See Table 3 for population-level characteristics. Of note, 10 studies used convenience samples comprised of university students.

Table 3*Population Level Characteristics*

Gender Identity	Percent (%)
Female	64
Male	31
Transgender female/male/queer/other	5

Race/Ethnicity	Percent (%)
White	64
Black	14
Hispanic/Latino/a	9
Asian	6
Native American	1
Multi-racial	2
Other	1
Missing	4

Sexual Orientation	Percent (%)
Heterosexual	53
Non-heterosexual	34
Missing	13

Age	Percent (%)
Mean age*	26.93
Teenagers (13-18)	17
Young adults (18-30)	49
Adults (30-60)	31
Older Adults (60+)	2
Missing	1

*of 23 studies that reported mean age

Pregnancy Related Stigma Studies

There are nine studies in the pregnancy-related category, with the majority (78%) focusing on abortion stigma. The abortion stigma studies (n=7) included a review of three interventions (Franz Hanschmidt, Katja Linde, Anja Hilbert, Steffi G. Riedel- Heller, et al., 2016), two of which focused on stigma experienced by providers, and one looked at stigma experienced by women who had an abortion. Among the remaining six abortion stigma studies, four focused on addressing stigma among women who had an abortion (Belfrage, Ortíz Ramírez, & Sorhaindo, 2019; Cockrill & Biggs, 2018; Jaramillo, 2018; Layer, Roberts, Wild, & Walters, 2004), one on community perceptions and knowledge surrounding abortion (Banerjee, Andersen, Warvadekar, & Pearson, 2013) and one on stigma experienced by abortion providers (Martin, Debbink, Hassinger, Youatt, & Harris, 2014). All but one abortion stigma study focused on reducing stigma for individuals versus addressing the public attitudes that created the stigma around abortion. Two of the studies on abortion stigma, by Banerjee et al. 2013 and Belfrage et al. 2009, occurred outside of the United States (India and Mexico) while the remaining five occurred in the U.S. All but the community-level intervention by Banerjee et al 2013, which took place in India, had smaller sample sizes of 18-109 with no controls and limited generalizability. The five abortion stigma interventions at the individual level only included women, and only the Martin et al. (2014) study of provider stigma followed participants up to determine the sustainability of intervention effect.

The single infertility stigma reduction study included 92 women in a controlled clinical trial in Portugal (Galhardo, Cunha, & Pinto-Gouveia, 2013). The intervention to address the stigma around contraceptive use was based in Peru and used a quasi-experimental design with control groups (Caceres, Rosasco, Mandel, & Hearst, 1994). A sample of 1,213 teenage students

from 14 schools were engaged in a multi-level intervention targeting organizational, interpersonal, and individual levels. This was the only study in the pregnancy-related stigma studies to include boys or men with 50.2% female and 49.8% male in the sample. Among the pregnancy related stigma studies, the study designs included randomized control trial (n=1), control trial (n=1), cross-sectional (n=1), mixed methods (n=1), non-randomized pre/post without control (n=3), cohort (n=1), and review (n=1).

Sexuality Related Stigma Studies

Most of the SRH stigma studies were specific to stigma around sexuality (including sexual behaviors and sexual identity). Of the 46 studies identified in total, 37 fell in this category. Overall the studies in this group encompassed interventions at multiple levels of the socio-ecological model and used combined approaches to stigma intervention, such as information-sharing strategies, skills building, and peer support. These studies more comprehensively reported population demographics and had greater utilization of control groups. Three of the studies in this category focused on stigma related to FSW. Each of these studies focused on a different target population related to FSW. One addressed health care provider attitudes and behavior with key populations in South Africa (FSW, MSM, and drug users) (Duby et al., 2019), the second was a structural intervention to address stigma and discrimination from the community towards FSW in south India (Gurnani et al., 2011) and the last was an intervention based in Canada that engaged individuals employed in FSW as peer educators and addressed internalized FSW stigma (Benoit et al., 2017).

The remaining 34 studies address different types of stigma related to sexuality. These remaining studies can be further broken into interventions that that address stigma among

providers or teachers (n=7), interventions to change stigma and discrimination among those that hold stigmatizing attitudes in communities (n=14), interventions to address internalized stigma (n=8), and reviews of sexual minority stigma and prejudice (n=5). The sexuality stigma intervention studies used several study designs including randomized control trials (n=8), control trials (n=5), cross-sectional (n=2), mixed methods (n=3), non-randomized pre/post with control (n=2), non-randomized pre/post without control (n=8), qualitative (n=2), cohort (n=1), other designs (n=2), and reviews (n=5).

All the provider and teacher focused interventions (Bristol, Kostelec, & MacDonald, 2018; Dessel, 2010; Duby et al., 2019; Geibel et al., 2017; Henry, 2017; Hopkins Shah, 2001; Lelutiu-Weinberger & Pachankis, 2017; Pearson, 2003) were designed at the individual and interpersonal-level. These seven studies used mostly a non-randomized pre/post without control design (n=4), followed by cohort (n=1), mixed-methods (n=1), randomized control trial (n=1), and one post-survey.

The largest group of studies were those focused on reducing stigma and discrimination among those who may hold stigmatizing attitudes in communities. Of the 14 studies in this category, ten of the study samples consisted of undergraduate students at either universities in the United States (n=7) (Case & Stewart, 2013; Finken, 2002; Hussey & Bisconti, 2010; Kwon & Hugelshofer, 2012; LaCosse & Plant, 2019; Tompkins, Shields, Hillman, & White, 2015; Walters, 1994), Canada (n=2) (Hodson, Choma, & Costello, 2009; Rye & Meaney, 2009), or Jamaica and Cyprus (n=1) (West, Husnu, & Lipps, 2015). Of these studies with undergraduate samples (n=10) were individual-level interventions (n=8), and combination individual and interpersonal-level interventions (n=2).

The remaining four studies focused on reducing stigma and discrimination among individuals in the community with populations that were not undergraduates. A structural level study evaluated the impact of a gender identity law in Argentina, including changes in stigma and discrimination (Aristegui et al., 2017), and a community-level intervention looked at the impact of a social marketing campaign to reduce homophobia in Milwaukee (Hull et al., 2017). Another study focused on LGBT stigma in teenage Latino communities through a film-based educational intervention in the United States, which can be categorized as a community and individual-level intervention (Ramirez-Valles, Kuhns, & Manjarrez, 2014). And finally, an organizational-level intervention looked at the impact of a media-based school intervention in Canada to lower sexual orientation prejudice among high school students (Burk, Park, & Saewyc, 2018).

There were eight studies focused on reducing internalized stigma or shame among LGBT individuals, including young men who have sex with men (YMSM) or young black men who have sex with men (YBMSM). All occurred in the U.S., and six were individual-level interventions. This sub-set of the studies included three that tested web-based technology tools within larger sample sizes of 238-935. They each had more specific populations of YBMSM (Bauermeister et al., 2019), of cisgender bisexual men and women (Israel et al., 2019) and of young men who have sex with men (Christensen et al., 2013). The remaining three individual-level interventions studies were comprised of acceptance and commitment therapy for self-stigma (Yadavaia & Hayes, 2012), cognitive-behavioral group therapy (Ross, Doctor, Dimito, Kuehl, & Armstrong, 2007), and an expressive writing intervention (Pachankis & Goldfried, 2010). Of the remaining two studies, one focused on trans men who have sex with men and was

an intervention at the individual and interpersonal level (Reisner et al., 2016). The last study in this category was a community-level for YBMSM in the United States (Eke et al., 2019).

Five reviews in the current study sample focused on sexuality-related stigma. These reviews gave context to research focusing on sexual minorities. One identified the lack of evaluated interpersonal level interventions for family-based stigma and discrimination against LGBTQ youth (C. M. Parker et al., 2018). Another focused on transgender stigma and health, by identifying current interventions in this area (White Hughto, Reisner, & Pachankis, 2015). The third discussed the evidence surrounding a relationship between sexual orientation prejudice and gender identity prejudice, and evaluated current studies with a focus on reducing blatant and subtle sexual orientation- and gender identity prejudice (Cramwinckel, van der Toorn, & Scheepers, 2018). A review of interventions to reduce sexual minority stress evaluated the efficacy of interventions at all levels of the socio-ecological model (Chaudoir, Wang, & Pachankis, 2017). The final review was a study-space analysis and meta-analysis of interventions to reduce sexual prejudice (Bartos, Berger, & Hegarty, 2014). A study-space analysis is a rigorous method for identifying where the areas of a research topic are concentrated (including the type of research and populations) or neglected that allows for quantification of studies in a systematic review (Malpass et al., 2008).

The sexuality interventions were also grouped by geographic region. Removing the literature reviews there were 32 studies in total that were sexuality interventions. Of these 32, 30 provided information on the region in which the intervention took place. We divided the regions into North America (Canada and the United States) and those outside North America (South America, Asia, Africa, and Eastern Europe) and then looked at sexuality topics by region. We broadly grouped the stigma topics of the interventions into sexual minority stigma, FSW alone

and MSM, FSW, adolescent sexuality stigma*. We also recorded the income group that each country belonged to, see Table 4.

We found that 24 of the interventions occurred in North America. There were 20 sexual stigma interventions in the United States and three in Canada. In addition, there was one FSW stigma intervention in Canada. Outside of North America there were six sexuality interventions. In Argentina there was a study that analyzed the impact of a new gender identity law on transgender women (Arístegui et al., 2017). There was an intervention to address anti-gay prejudice in Cyprus and Jamaica that utilized imagined contact with a gay man (West et al., 2015) and a LGBT mental health practice training for mental health professionals in Romania (Lelutiu-Weinberger & Pachankis, 2017). There was a large scale multi-level intervention for FSW stigma in India (Gurnani et al., 2011) and two interventions to address provider stigma and discrimination toward HIV key populations of FSW, MSM, and sexually active young people in South Africa (Duby et al., 2019) and Bangladesh (Geibel et al., 2017). A full list of studies and characteristics can be found in Appendix A.

Table 4*Geographic Region by Sexuality Topic*

Region	Sexual minority stigma	FSW stigma	MSM/FSW/ adolescent sexuality stigma*	Total	Income Group
North America	23	1		24	--
Canada	3	1		4	High-income
United States	20			20	High-income
South America, Asia, Africa, Eastern Europe	3	1	2	6	--
Argentina	1			1	Upper-middle- income group
Bangladesh			1	1	Lower-middle- income group
Cyprus and Jamaica	1			1	High-income and Upper- middle-income group
India		1		1	Lower-middle- income group
Romania	1			1	Upper-middle- income group
South Africa			1	1	Upper-middle- income group

Chapter Five: Discussion, Conclusion, Recommendations

Discussion

This systematic review took a holistic and comprehensive approach to defining “SRH stigma interventions” in order to be inclusive in scope. This perspective comes from extensive research that shows SRH services are important for development and complete health of individuals across age, gender, gender orientation, or sexual orientation groups (Starrs et al., 2018). Additionally, this approach is consistent with the principles set by key SRH stakeholders globally that everyone has a right to SRH services free of stigma and discrimination (Starrs et al., 2018). This definition provided data on 46 different intervention studies and reviews that ranged in study design, target populations, types of interventions, measurements, and populations.

The division of SRH stigma into pregnancy related stigma (contraceptive use, abortion, and infertility) and sexuality (sexual minorities, FSW, and sex related stigma) brought attention to the breadth and depth of existing intervention research. A greater focus on sexual behaviors was suggested by the quantity of sexual behavior stigma studies and reviews relative to pregnancy-related stigma (i.e., four times as many studies). This group of studies used more approaches to address stigma by utilizing more intervention strategies such as contact, skill development, and combination designs that combined several strategies in a program. Looking at the sample, we see the greatest need to develop interventions reducing stigma around infertility, contraceptive use, and pre-marital sex as there has been little focus on these topics. One possible reason there are fewer interventions to address infertility, contraceptive use, and pre-marital sex is these require a focus on gender norms, and specifically on gender-equality, which differs significantly across countries, and few interventions addressing gender equality were identified

in our sample (Blanc, 2001; Htun & Weldon, 2010, 2011; Inhorn & Patrizio, 2015; Razavi & Jenichen, 2010; Starrs et al., 2018; Sternberg & Hubley, 2004).

There were other meaningful distinctions between sexuality and pregnancy related stigma studies. Of the studies focusing on abortion, we found that most addressed abortion stigma at the individual level. While reducing internalized abortion stigma is important, more interventions at higher levels of the socioecological model need to be developed to address social norms.

Abortion stigma contributes to unsafe abortions globally, and only one intervention identified in India, Banerjee et al. (2013), addressed community and interpersonal abortion stigma (Franz Hanschmidt, Katja Linde, Anja Hilbert, Steffi G. Riedel- Heller, et al., 2016; Anuradha Kumar et al., 2009; Oginni, Ahmadu, Okwesa, Adejo, & Shekerau, 2018; Starrs et al., 2018). Provider-level abortion stigma interventions were represented in the U.S., however there is need for interventions targeting providers outside the U.S. In Sub-Saharan Africa and Southeast Asia stigma and negative attitudes toward abortion limit the number of providers willing to do the procedure and women's access to safe abortion (Rehnstrom Loi, Gemzell-Danielsson, Faxelid, & Klingberg-Allvin, 2015; Starrs et al., 2018). The six abortion studies were more descriptive as indicated by the limited use of randomized control trials, fewer control groups, and the smaller sample sizes. The studies concerning sexuality had more studies, diverse study designs, and larger sample sizes overall.

The sexuality stigma studies inclusion of interventions that address stigma at the community, organizational, and structural-level shows a progression beyond internalized stigma and interpersonal relationships to address the different socioecological levels at which individuals will experience stigma and that have a cumulative effect on lives and health (Golden & Earp, 2012; Mark L. Hatzenbuehler et al., 2013). The use of innovative tools such as video

games, online formats, and mobile phones shows the use of digital technology which has potential for promising interventions for SRH stigma (Adhikari & Rijal, 2018; Guse et al., 2012; Ippoliti & L'Engle, 2017; John, Samson-Akpan, Etowa, Akpabio, & John, 2016; L'Engle, Mangone, Parcesepe, Agarwal, & Ippoliti, 2016; Rathbone & Prescott, 2017; Starrs et al., 2018). Several studies in this group also focused on providers showing greater awareness of need to work on attitudes of prejudice in clinical settings to address barriers to healthcare that have been documented in previous research (Hayes et al., 2015; Hoskin et al., 2016; Parameshwaran et al., 2017; Schmitz et al., 2019; Wingo et al., 2018).

More than half of the studies developed interventions on a single socioecological level, for example individual-level interventions, and the majority of multilevel interventions were individual plus interpersonal interventions for teachers and providers. These interventions are important, but we see a predominant focus on interventions at lower levels of the socio-ecological model. This was not surprising, considering that existing literature suggests that most social and behavioral interventions focus at the individual and interpersonal levels (Golden & Earp, 2012). Only eight studies intervened at the organizational-level or higher, suggesting a need for interventions to be developed beyond individual and interpersonal levels. This is consistent with needs identified in the broader social and behavioral interventions literature, outside of stigma (Golden & Earp, 2012). Higher level interventions could have a greater impact on the sustainability of stigma reduction, as they work to change not just attitudes of individuals but also social norms (Paskett et al., 2016).

A goal of this review was to determine what strategies have been evaluated for reducing SRH stigma. While all the interventions in the review were evaluated on some level, there was a range of rigor and ability to determine effectiveness of interventions. Our review found nine

RCTs and five control trials. While often considered the gold standard in research, RCTs are not always the most appropriate or just standard (Grossman & Mackenzie, 2005). Instead, the utility of drawing causal inferences about an intervention may depend on the context, topic, intervention approach, and the background knowledge of casual pathways (Cartwright, 2007). RCTs have value, but also a complicated and inequitable history that is often overlooked, and today, funding for RCTs are often provided to those who have the privilege and access to the infrastructure needed to execute a RCT (Bothwell, Greene, Podolsky, & Jones, 2016; Jones & Podolsky, 2015). The studies could have utilized more mixed methods approaches. SRH stigma is a complex and contextual issue. While pre/post surveys allow us to measure changes in stigma, less was explained in the research of acceptability or social or cultural validity of the intervention (Nastasi & Hitchcock, 2009; Nastasi et al., 2007).

Only four studies measured the sustainability of intervention effects: Pachankis and Goldfried (2010), Bauermeister et al. (2018), Geibel et al. (2016), and Martin et al. (2014). Most studies measured changes at the end of the intervention without long-term follow-up. We cannot fully understand whether interventions produce prolonged change in attitudes or reduction in stigma if we do not know if and for how long the effects last (Nastasi & Hitchcock, 2009). While it is important to address SRH stigma with interventions that work, it is also importance to understand the sustainability of effects on participants, especially with so many focused on the individual and interpersonal level which do little to effect the environment people continue to live (Paskett et al., 2016) or structural stigma (M. L. Hatzenbuehler, 2016). With most programs not focused on structural or community attitude changes, therefore not removing the stressor or influence from the community that perpetuates stigmatizing attitudes, understanding how individuals feel over time in unchanged environments is important for understanding efficacy.

For example, understanding how long an internalized binegativity intervention lasts as that individual continues to hear negative dialogue from society about bisexual individual or how long provider's attitudes and behaviors are changed could be helpful for planning frequency of the intervention or trainings at health centers.

A variety of measurement approaches were represented in the present review. Most studies used at least one validated scale or measure from previous research such as Case and Steward, 2013, Finken 2002, Henry 2017 and, Yadavaia and Hayes, 2012, the lack of use of the same scales across studies makes it harder to compare outcomes. The most commonly used scales were the Positive and Negative Effect Schedule (PANAS) and the Rosenberg Self-esteem scale (RES) used by four studies and three studies respectively. The large number of validated scales used to measure provider attitudes and knowledge, attitudes toward SRH stigma topics, and internalized shame show the quality of research that is available in the North American context to describe and measure SRH stigma. Validated scales created in North America have been successfully adapted to new contexts in Latin America, Nigeria and Turkey (Cetinkaya, Ozmen, Uyar, & Tayhan, 2019; Oginni et al., 2018; Paz, Mascialino, Proano, & Evans, 2020). The continued use of validated scales for a specific context will be important to further comparison across studies and create best practices (implementation science) (Bauer, Damschroder, Hagedorn, Smith, & Kilbourne, 2015). With clear need for interventions, having evidence-based strategies is important for both funding of projects and ensuring resources are going towards impactful programs and can be adapted to new contexts (Bauer et al., 2015).

A second goal of this review was to examine patterns in the regions represented within the reviewed intervention studies. Most of the interventions were in the U.S. (57%) and North America (65%). The studies identified outside of the U.S. were in Canada, Mexico, Peru,

Argentina, Portugal, Romania, India, Bangladesh, and South Africa. This shows a need to develop interventions in South America, Europe, Asia, and Africa. These interventions will need to build on current research that has identified SRH stigma in a specific region and potentially complete formative research to better understand the context (Balfe, Brugha, O'Donovan, O'Connell, & Vaughan, 2010; Cousineau & Domar, 2007; Makenzius et al., 2019; Rehnstrom Loi et al., 2015; Starrs et al., 2018). The interventions that need to be developed outside of North America must take into consideration the specific context that is influenced by culture, religion, politics, migration to cities, traditional practices, and other influencing factors. For example, abortion stigma is present in Ireland (M. Balfe et al., 2010), Sub-Saharan Africa, and Southeast Asia (Rehnstrom Loi et al., 2015), but for very different reasons. For example, in Ireland the stigma has been influenced by the Catholic church (Bloomer, Pierson, & Claudio, 2019), and in Southeast Asia stigma is influenced by beliefs around fetal spirithood (Cohen, 2012; Oaks, 1994). Therefore, in each region and context the interventions will be informed by different sources of stigma that must be addressed in an effective intervention.

Most of the research in the U.S. encompassed abortion stigma and sexual minority stigma. There were no interventions to address stigma around contraceptive use, infertility, or sex work in a U.S. context. The only intervention to address infertility identified was in Portugal and the one intervention to address stigma around contraceptive use was in Peru (Caceres et al., 1994; Galhardo et al., 2013). There was also one intervention in Bangladesh to address provider attitudes serving young, unmarried individuals in need of SRH services (Geibel et al., 2017). This pattern suggests that, even within the United States where the bulk of the intervention studies exist, there is more work that needs to be done around infertility, contraceptive use, and sex work, all of which have documented stigma in the U.S. (James-Hawkins, 2015; Laurie

James-Hawkins & Michelle Broaddus, 2016; Koken, 2012; Koken, Bimbi, Parsons, & Halkitis, 2004; Noone & Young, 2009; Whiteford & Gonzalez, 1995; R. L. Wright, Fawson, Frost, & Turok, 2017)

This review sought to synthesize information about the populations included in and excluded from current SRH interventions. The population level data extracted showed several trends. There were a lot of college student samples, often convenience samples with self-selection bias and generalizability issues, among interventions to address prejudice and discrimination towards sexual minorities (11 of 32). As pilot studies the necessity to use such convenience samples is understandable, especially when determining if a strategy could be associated with a desired outcome.

The diversity of samples is also of note. Young people, individuals that are white, and women were most represented. This review found no studies or intervention that included men in infertility or abortion stigma. However, abortion stigma affects men as both partners of women who have had an abortion and providers who perceive, internalize, endorse, and perpetuate abortion stigma (Hakansson et al., 2018; Franz Hanschmidt, Katja Linde, Anja Hilbert, Steffi G. Riedel- Heller, et al., 2016; Norris et al., 2011; Starrs et al., 2018). The same is true of infertility, men experience, internalize, endorse, and perpetuate infertility stigma (Inhorn & Patrizio, 2015; Rouchou, 2013; Starrs et al., 2018). Current research of abortion and infertility stigma appears to only ask individuals if they are male or female, and experiences of individuals who don't identify with those gender binaries does not appear to be known, and this is likely a place for future research to explore. Many of the minority populations were included in interventions that focused only on one population group such as Latino teenagers or young black men who have sex with men. These have benefits of creating interventions that are specific for a population

(Agurs-Collins et al., 2019; Lau, 2006; Okamoto, Kulis, Marsiglia, Steiker, & Dustman, 2014) that address more specific barriers minority populations face (Cooper, Hill, & Powe, 2002; Hwang, 2009), but should not be the only way diversity is addressed.

The population data from the reviewed studies suggest the need for stigma interventions that include men, are more diverse in race and ethnicity, target older adults and teenagers, and include populations outside of North America. All but one study that took place outside the U.S. did not provide demographic data on race and ethnicity, and the studies based outside the U.S. also provided less overall detail regarding the populations included. One potential reason for this could be that several of the studies that took place in such settings used population level data with sampling techniques to be representative of the population, and therefore, there was not a need to collect detailed demographic data (Barreiro & Albandoz, 2001; Omair, 2014). Another potential reason is there may be cultural differences with collecting demographic data especially around race and ethnicity. Countries collect racial, ethnic, and tribal data in different ways or potentially not at all based on policies and differences in definitions (Simon, 2012; Simon & Piché, 2012).

Our data showed that almost all the sexuality studies occurred in North America in a high-income context. This is problematic for several reasons. We do not currently have interventions to address stigma around sexuality in many of the places with the highest levels of stigma (*Human Rights Watch Country Profiles: Sexual Orientation and Gender Identity*, September 23, 2019). Additionally, interventions developed in the U.S. and Canada cannot simply be translated to other contexts, especially middle and low-income contexts. One reason is psychological studies frequently have shown considerable differences in result when conducted with American versus non-American participants (Henrich, Heine, & Norenzayan, 2013).

Additionally, sexuality and gender norms are contingent and contextual to culture and therefore the stigma associated with is as well (Epprecht, 2012; Oyèrónké Oyěwùmí, 1997; Bernice A. Pescosolido et al., 2008). For example, current definitions of LGBTQ+ are centered around a western context and not relatable or even desired by individuals living outside of this context (Epprecht, 2012; Seckinelgin, 2009). Additionally, current interventions in the U.S. are barely addressing the intersectionality of stigmatizing identities of individual's in the context they are designed for, and would not have the ability to address this in other places (Mark L. Hatzenbuehler et al., 2013; Oyèrónké Oyěwùmí, 2001).

Countries outside of the U.S. have their own history and culture for explaining sexuality that influences their beliefs and actions around sexual behaviors. These beliefs are influenced by religion, colonialism, and language among other things (Htun, 2009; Oyèrónké Oyěwùmí, 1997). Additionally, these cultures are not static, but change and adapt to current needs (Nyanzi, Nassimbwa, Kayizzi, & Kabanda, 2008; Underwood, 1999). There is necessity to design interventions specifically for a context, and our data shows there is a conspicuous need for interventions to address sexuality stigma in both non-North American contexts and low and middle-income contexts. Instead of exporting interventions that create a default western sexual construct, work needs to be done to understand how sexuality exists in each system and develop specific interventions (Epprecht, 2012; Seckinelgin, 2009). This work can best be done and should be done by and with the individuals and communities that these interventions will target (Roundtable on the Promotion of Health, the Elimination of Health, Board on Population, Public Health, & Institute of, 2013).

Only a few studies mentioned that SRH stigma were influenced by a specific context and religion. Interestingly, in the seven studies that provide some of the context in the background,

five were outside the U.S. (South Africa, India, Bangladesh, and Peru). The two in the U.S. were spiritual based abortion stigma interventions, Layer et al. (2004) and Jaramillo (2018). These were the only two interventions to directly work within a specific set of religious views and use a spiritual strategy. Given the connection between abortion stigma and religiosity in the U.S. it surprising that more interventions did not address the influence and affect religious beliefs and values have on abortion stigma (Frohworth, Coleman, & Moore, 2018). The other five, Belfrage et al. (2019), Caceres et al. (1994), Duby et al. (2019), Geibel et al. (2016), and Banerjee et al. (2013) had varying levels expressed of incorporation of cultural context and religion's influence on norms that created stigma around SRH topics. Given the impact in some regions of religious beliefs and values on SRH stigma this seems like a large blind spot in current literature.

Limitations and Strengths

A limitation of this review is the search was completed for studies published and written in English. This could have excluded studies written in other languages or valuable grey literature, however the study team did not have the capacity for translation at the time that the review was completed. It is likely there are more interventions than identified that have not been evaluated or created within the context of academia or shared in peer-reviewed journals and therefore were beyond the scope of the review criteria. This systematic review was broader in scope and chose more liberal inclusion criteria, such as inclusion of literature reviews, to better capture what interventions exist. This broadness makes clear comparison between studies included more difficult. Despite these weaknesses, we believe this systematic review can be used as a tool to easily identify peer-reviewed interventions for future research and practice. The consolidation of 46 studies provides researchers with data of what interventions and what

contexts have been evaluated and what worked. Additionally, having this much research in one place can benefit practitioners by creating a resource for reference of evaluated stigma interventions. We hope this will be a tool and push stigma interventions forward.

Conclusions

We found that the SRH stigma interventions represented in the literature over the last 26 years largely focus on sexuality stigma reduction in North America and less so contraceptive use, infertility, and abortion stigma intervention. Multi-level interventions that combine several strategies to reduce stigma were rare, with a few examples including one around sex work stigma reduction. More interventions that incorporate these multi-level approaches and integrate several types of intervention that have shown promise are needed. Additionally, the results of this review point to opportunities for SRH stigma intervention work in less studied pregnancy-related stigma areas and areas outside of North America and high-income countries.

Public Health Implications

In addition to the recommendations identified above, we want to highlight several here. More SRH stigma intervention research is needed to develop interventions for several regions. No interventions for FSWs, contraceptives, or infertility in the U.S., Asia, and Africa were represented in the present review. While formative research has found SRH stigma across these regions (Alhassan, Ziblim, & Muntaka, 2014; Daibes et al., 2018; Farmer et al., 2015; Fu et al., 2015; Gbagbo & Nkrumah, 2019; Jansen & Onge, 2015; Whiteford & Gonzalez, 1995; Yilmaz & Kavak, 2019), there is need to take the next step and begin developing culturally and

structurally relevant interventions on these topics. Interventions for infertility and contraceptive stigma were the least represented topic of intervention focus in our review. As mentioned above there is need for contraceptive stigma interventions globally (Starrs et al., 2018) and for infertility stigma interventions across genders, considering that these stigmas affect men and women, although women experience the brunt of the effect of stigma (Dyer, Lombard, & Van der Spuy, 2009; Inhorn & Patrizio, 2015; Starrs et al., 2018).

In addition, while many interventions for sexuality stigma were identified, most took place in the U.S. There is need to develop interventions to address sexuality stigma in contexts outside of the U.S (Lamontagne et al., 2018; Scheim et al., 2019; Starrs et al., 2018). Sexual minorities have specific SRH needs and issues such as a higher burden of STIs and depression compared to the general population, combined with increased barriers including prejudice from providers (Blondeel et al., 2016; Institute of Medicine Committee on Lesbian, Transgender Health, Research, & Opportunities, 2011; Nagata, 2018; Scheim et al., 2019; Starrs et al., 2018) Special considerations need to be taken for sexuality stigma internationally (Starrs et al., 2018), especially in contexts that have laws or policies that outlaw or punish same sex relationships (Hagopian, Rao, Katz, Sanford, & Barnhart, 2017; Tadele & Amde, 2019). Gender identity and sexual orientation acceptance or rejection looks very different internationally based on the culture and context that has helped define sexuality (Epprecht, 2012; Seckinelgin, 2009; T. Wright, 2000). Individuals living in contexts outside of the U.S. may be less likely to identify with LGBTQ+ labels (Epprecht, 2012; Seckinelgin, 2009; T. Wright, 2000). Therefore, formative research specific to such contexts is important to the development of interventions. Additionally, the work should be done by and with the individuals and communities that these interventions will be developed for (Roundtable on the Promotion of Health et al., 2013).

As new interventions are developed and evaluated, steps should be taken to address the weaknesses identified in this review to provide needed evidence-based programs and practices (Melnyk et al.). For example, self-selection bias and convenience samples should be limited to increase internal validity and generalizability of studies (Porta, 2008). This could help draw attention and funding towards needed stigma interventions by providing additional evidence-based programs and practices (Melnyk et al.; Metz & Albers, 2014). While the use of RCTs could help with internal validity (Melnyk et al.), the complexity of stigma and many ways that people experience stigma make mixed methods approaches helpful for understanding the issues and a better fit (Halcomb & Hickman, 2015). Additionally, mixed methods could provide needed data on acceptability or social or cultural validity of the intervention (Nastasi et al., 2007; Wisdom & Creswell).

Future interventions development should consider making plans to measure intervention effects over time. Understanding how long interventions lower stigma allows us to better understand their effectiveness and plan for the future (Jorm, 2020; Mehta et al., 2015; Thornicroft et al., 2016). For example, how often a training to lower SRH stigma should happen for health providers or teachers. Additionally, there could be value in evaluating interventions over time for other reasons. Stigma and the social norms that are a part of developing stigma happen over time and can shift (Clair, Daniel, & Lamont, 2016). These shifts can be towards destigmatization or not based on many factors that influence social norms including changes in perceptions of what separates stigmatized individuals at “others” (Clair et al., 2016; Schomerus & Angermeyer, 2017). Additionally, overt discrimination may simply become subtle as structural changes are imposed (Clair et al., 2016) or as a reduction in stigmatization may not affect attitudes toward that same group (Angermeyer, Matschinger, Carta, & Schomerus, 2014).

Interventions that are evaluated over time can be useful for measuring these shifts if they happen. SRH stigma has developed over time in complex ways, understanding intervention effects over time could give us more insight into how to change these ingrained views.

More diverse samples should be included in future SRH stigma interventions (Allmark, 2004; Konkel, 2015). Targeted studies for minorities will help to address specific needs of minorities (Escribà-Agüir, Rodríguez-Gómez, & Ruiz-Pérez, 2016), but efforts should also be made in recruitment of more minorities into samples (Konkel, 2015; Lau, 2006). Stronger partnerships with minority organizations and inclusion in research could help (Bediako & Griffith, 2008; Roussos & Fawcett, 2000; Scott, Bray, & McLemore, 2020). Funding research from minority communities could also provide healthy avenues (Ruffin & Flagg-Newton, 2001). An example in the U.S. would be funding for historically black colleges and universities that already have the perspective and understanding of black Americans as a member of that community and the academic structure that research is completed (Ruffin & Flagg-Newton, 2001; Treadwell, Braithwaite, Braithwaite, Oliver, & Holliday, 2009). This may require leadership development and addressing other barriers including bias in funding (Ruffin & Flagg-Newton, 2001; Shavers et al., 2005; Treadwell et al., 2009).

Our final recommendation is for future research to focus on stigma as a social determinant of population health (Mark L. Hatzenbuehler et al., 2013) and as such, interventions should utilize multilevel interventions to improve population health (Agurs-Collins et al., 2019; Paskett et al., 2016), especially at the organizational, community and structural level (Golden & Earp, 2012). Stigma does not affect people on only one level of the social ecological model and often one stigmatizing identity or behavior intersects with another and the effect can be compounded (M. L. Hatzenbuehler, 2016). Additionally, people do not live in vacuums, but

dynamic environments that may hold social norms or structures that enforce SRH stigma. These social norms will be unique to each region and interventions should be developed to address the local, contextual etiology for SRH stigma. This should include addressing underlying norms related to religious beliefs that contribute to SRH stigma that seemed to be overlooked in our sample. This will also require complex evaluation of several outcomes to understand impact of these multilevel interventions. Evaluations will need to be designed to capture how the interaction of variables at multiple levels affects outcomes to determine impact, and mixed methods approaches are likely the most appropriate (Nastasi & Hitchcock, 2009). Ultimately, addressing stigma through multilevel interventions (Paskett et al., 2016) in these higher levels of the social ecologic model is needed to prevent stigma and create better environments for positive health outcomes (Agurs-Collins et al., 2019; Golden & Earp, 2012; M. L. Hatzenbuehler, 2016).

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Appendix A. Studies Included in Review

Authors	Stigmatizing Behavior	Study Design	Region	Study Population	Sample Size	Strategy of Stigma Intervention	Intervention Level	Measurement Instruments	Outcomes
Arístegui, Inés; Radusky, Pablo D.; Zalazar, Virginia; Romero, Marcela; Schwartz, Jessica; Sued, Omar (2017)	Sexual behaviors - trans	Qualitative	Argentina	Stigmatized	20	Policy	Structural	Qualitative	Participants shared the law had a positive impact by creating a tool to deal with stigma and discrimination and reported reduced internalized stigma
Banerjee, S. K.; Andersen, K. L.; Warvadekar, J.; Pearson, E. (2013)	Pregnancy - abortion	Cross-sectional	Bihar and Jharkhand, India	Community	1400	Behavior change communication	Community	Survey for community level measures of behavior change communication intervention	Increased women's knowledge of abortion and improved perceived social support for abortion within their family

Bartos, S. E.; Berger, I.; Hegarty, P. (2014)	Sexual behaviors - review	Review	North America, Western Europe, Middle East, South Asia, Australia and Africa	community	92	Combination	Individual and interpersonal	Evaluates effectiveness of included (159) interventions	Educational interventions had moderate effect in improving attitudes. Contact with LGB had a moderate positive effect on attitudes, education plus contact moderately effective in improving attitudes, emotions, and behavioral intentions.
Bauermeister, J. A.; Muessig, K. E.; LeGrand, S.; Flores, D. D.; Choi, S. K.; Dong, W.; Sallabank, G.; Hightow-Weidman, L. B. (2018)	Sexual behaviors - sexual orientation	Mixed methods	North Carolina, USA	Stigmatized	238	Counseling/Support	Individual	Mixed methods, qualitative data, validated scales and created questions	Internalized homophobia: decreased in a linear relationship over time but only observed for individuals with a high school degree or higher. Sexual prejudice: overall change in decreasing linear relationship but only for younger participants
Belfrage, Madeleine; Ortiz Ramírez, Olivia; Sorhaindo, Annik (2019)	Pregnancy - abortion	Mixed methods	Mexico	Stigmatized	18	Counseling/Support	Individual	Validated scale and qualitative data	Reduced individual level abortion stigma

Benoit, C.; Belle-Isle, L.; Smith, M.; Phillips, R.; Shumka, L.; Atchison, C.; Jansson, M.; Loppie, C.; Flagg, J. (2017)	Sexual behaviors - FSW	Qualitative	Canada (one urban center)	Stigmatized	14	Educational/Informational	Individual, interpersonal, community	Qualitative	Reduced sex worker's internal stigma
Bristol, Sarah; Kostelec, Teresa; MacDonald, Ryan (2018)	Sexual behaviors - LGBT	Non-randomized pre/post without control	Urban community hospital in Mid-Atlantic region	Providers	95	Educational/Informational	individual interpersonal	Validated scale	Unmatched survey aggregate scores, AIM index increased by 8% and was statistically sig.
Burk, J.; Park, M.; Saewyc, E. M. (2018)	Sexual behaviors - sexual orientation	Cross-sectional	British Columbia, Canada	Community	21075	Combination	Organizational	Used population level survey to measure changes in schools with exposure	LGB and heterosexual girls who exposed to intervention reported significantly better outcomes
Caceres, C. F.; Rosasco, A. M.; Mandel, J. S.; Hearst, N. (1994)	Pregnancy - contraceptives	Randomized control trial	Peru (South America)	Community	1213	Combination	Organizational, individual, interpersonal	Created and validated	Increased acceptability of contraception and condoms

Case, Kim A.; Stewart, Briana (2013)	Sexual behaviors - trans	Non-randomized pre/post without control	Texas	community	132	Combination	Individual, interpersonal	Created and used items from previous research	No intervention was more effective than the others at reducing anti-transsexual prejudice. There was a sig. decrease in overall ratings of negative attitudes and beliefs in myths about transsexuality.
Chaudoir, S. R.; Wang, K.; Pachankis, J. E. (2017)	Sexual behaviors - sexual minority	Review	Blank	Community	--	Combination	All	Evaluated interventions efficacy	Authors found that the majority of studies designed to directly reduce sexual minority stressors over bolstering coping mechanisms. Most studies are also in the early stages of efficacy testing
Christensen, J. L.; Miller, L. C.; Appleby, P. R.; Corsbie-Massay, C.; Godoy, C. G.; Marsella, S. C.; Read, S. J. (2013)	sexual behaviors - MSM	Randomized control trial	United States	Stigmatized	935	skill development	Individual	Validated scale	Exposure to intervention led to immediate mean shame reduction

Cockrill, K.; Biggs, A (2018)	Pregnancy - abortion	Cohort	Alabama, Arkansas, California, Maryland, Missouri, New Jersey, New York, Wisconsin, Utah	Stigmatized	109	Counseling/Support	Individual	Created scale: Reproductive events and experiences scale (REES) and completed principal component factor analysis	Reduced abortion stigma
Cramwinckel, Florian M.; van der Toorn, Jojanneke; Scheepers, Daan T. (2018)	Sexual behaviors - sexual orientation	Review	Blank	Individual	--	Combination	Individual interpersonal	n/a	Passive interventions like watching movies or plays sometimes successful, more active and immersive interventions seem promising. Contact interventions usually successful but depends on factors that if not met can backfire. Alliances seem to have most potential for long-lasting and meaningful.

Dessel, Adrienne B (2010)	Sexual behaviors - sexual orientation	Randomized control trial	Tennessee	Teachers	36	Contact	Individual interpersonal	Validated scales	Teacher participation in dialogue groups showed statistical sig. to positive change from pre to post-test on variables of civil rights, feelings about gays, feelings about lesbians, perspective taking and behavior.
Duby, Z.; Fong-Jaen, F.; Nkosi, B.; Brown, B.; Scheibe, A. (2019)	Sexual behaviors - FSW and MSM	Mixed methods	South Africa (Eastern Cape, Free State, KwaZulu-Natal, Limpop and Northern Cape	Providers	405	Educational/Informational	Individual interpersonal	Created questionnaire and qualitative (IDIs)	Increased awareness of stigma affecting key populations, important to be friendly and supportive to sex workers and MSM
Eke, A. N.; Johnson, W. D.; O'Leary, A.; Rebchook, G. M.; Huebner, D. M.; Peterson, J. L.; Kegeles, S. M. (2019)	Sexual behaviors - MSM	Control trial	Dallas and Houston, Texas	Stigmatized	666	Combination	Community	Measures/scales from previous research	Intervention effect was statistically significant for comfort with being gay increasing during the intervention when contrasted with control group

Finken, Laura L. (2002)	Sexual behaviors - gay	Control trial	United States	Community	280	Educational/Informational	Individual	Validated scale	Overall intervention students reported less homonegativity than comparison group , and overall men reported more anti-gay prejudice than women.
Galhardo, A.; Cunha, M.; Pinto-Gouveia, J. (2013)	Pregnancy - infertility	Control trial	Portugal	Stigmatized	92	Skill development	Individual	Validated scales	Lower internal and external shame
Geibel, S.; Hossain, S. M.; Pulerwitz, J.; Sultana, N.; Hossain, T.; Roy, S.; Burnett-Zieman, B.; Stackpool-Moore, L.; Friedland, B. A.; Yasmin, R.; Sadiq, N.; Yam, E. (2016)	Sexual behaviors - sex before marriage	Cohort	Bangladesh	Providers	300	Combination	Individual interpersonal	Created questionnaire and client exit interviews	Changes in provider attitudes toward sexually active young people, sex workers, MSM, Hijra (trans) and young unmarried pregnant women

Gurnani, V.; Beattie, T. S.; Bhattacharjee, P.; Mohan, H. L.; Maddur, S.; Washington, R.; Isac, S.; Ramesh, B. M.; Moses, S.; Blanchard, J. F. (2011)	Sexual behaviors - FSW	Other (impact evaluation)	Karnataka state, south India	Community	14640	Combination	Individual, organizational, community, structural	Impact evaluation measurements	News of FSW topics increased from 375 in 2006 to 535 in 2008. More stories had quotes or stories from FSW community reps. Proportion of negative news decreased from 11% in 2006 to 4% in 2008
Hanschmidt, F.; Linde, K.; Hilbert, A.; Riedel-Heller, S. G.; Kersting, A. (2016)	Pregnancy - abortion	Review	All interventions included were in the U.S.	Stigmatized community and provider	--	Counseling/Support	Individual	Validated scale and qualitative data	Three interventions found, two for providers and one for women who have had an abortion.
Henry, Amber (2017)	Sexual behaviors - LGBT	Non-randomized pre/post without control	Central Delaware	Providers	8	Educational/Informational	Individual interpersonal	Validated scale	All three measured concepts had positive results. Providers had a 16% increase in knowledge, 1.24% increase in skills, 22% increase in attitudes (stat. sig.) and 63% increase in LGBT disclosure
Hodson, Gordon; Choma, Becky L.; Costello,	Sexual behaviors - gay	Control trial	Canada	Community	101	Emotional	Individual	Validated scales	the simulation promoted more favorable attitudes toward homosexuals.

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Kimberly
(2009)

Hopkins Shah, Holly Renee (2001)	Sexual behaviors - sexual orientation	Other (post survey)	San Francisco, CA	Teachers	115	Educational/Informational	Individual interpersonal	Validated scales	Participants perceived a change in overall attitudes toward GLBT students following professional development training
Hull, Shawnika J.; Davis, Catasha R.; Hollander, Gary; Gasirowicz, Mari; Jeffries, William L. I. V.; Gray, Simone; Bertolli, Jeanne; Mohr, Anneke (2017)	Sexual behaviors - gay	Cross-sectional	Milwaukee	Community	3592	Emotional	Community	Population level survey to evaluate social marketing campaign	Statistically sig. positive impact on perceptions of stigma, perceptions of community acceptance, and positive attitudes toward gay men.
Hussey, Heather D.; Bisconti, Toni L. (2010)	Sexual behaviors - sexual minority	Control trial	New Hampshire (The University of New Hampshire)	Community	82	Combination	Individual interpersonal	Validated scales	Both interventions had statistical difference in sexual minority stigma reduction, one interaction was not more effective than the other

Israel, Tania; Choi, Andrew Young; Goodman, Joshua A.; Matsuno, Emmie; Lin, Yen-Jui; Kary, Krishna G.; Merrill, Caitlin R. S. (2019)	Sexual behaviors - bisexual	Randomized control trial	United States	Stigmatized	641	Skill development	Individual	Validated scales	Statistically significant for lowering internalized binegativity, efficacious for reducing Anticipated Binegativity and increasing Identity Affirmation compared with controls
Jaramillo, Susan (2018)	Pregnancy - abortion	Non-randomized pre/post without control	Alabama, Arizona, Arkansas, California, Florida, Georgia, Kentucky, Maryland, Pennsylvania, Tennessee, Virginia, Washington, and Wyoming in U.S. and Quebec and Kelowna in Canada	Stigmatized	46	Spiritual	Individual	Validated scales	Significant reduction in shame and increased self-esteem for group at Rachel's Vineyard (weekend format) intervention. Also had sig. Reduction in PTSD symptoms of avoidance and hyperarousal. Participants indicated the spiritual aspect was important to them.

Kwon, Paul; Hugelshofer, Daniela S (2012)	Sexual behaviors - LGB	Randomized control trial	Pacific Northwest	Community	186	Contact	Individual	Validated scales	Participants in intervention group had significant increases in positive attitudes on the Attitudes Toward Gay Men, Modern Homonegativity Scale (lesbian and gay) and Attitudes regarding Bisexuality Scale
LaCrosse, Jennifer; Plant, E. Ashby (2018)	Sexual behaviors - sexual minority	Randomized control trial	United States and U.S. Southeast	Community	303	Contact	individual	Validated scale	Studies 1-3 found participants in experimental group (imagined contact with a famous gay or lesbian) reported sig. more positive affect during imagined experience, less concern with misidentification, more eagerness to meet and befriend imagined famous contact than control group.
Layer, S. D.; Roberts, C.; Wild, K.; Walters, J. (2004)	Pregnancy - abortion	Non-randomized pre/post without control	Florida	Stigmatized	35	Spiritual	Individual	Validated scales	Reduction in shame and posttraumatic stress in participants. Shame was reduced in the weekend group and 8-week program

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previous page

reduced IES-R
measures.

Lelutiu-Weinberger, Corina; Pachankis, John E. (2017)	Sexual behaviors - LGBT	Non-randomized pre/post without control	Romania	Providers	33	Educational/Informational	Individual interpersonal	Adaptions from validated scales used in US	LGBT-affirmative practice attitudes and comfort in addressing mental health of LGBT increased sig. and homonegative and trans negative attitudes decreased sig. They also rated the training as highly acceptable.
Martin, L. A.; Debbink, M.; Hassinger, J.; Youatt, E.; Harris, L. H (2014)	Pregnancy - abortion	Non-randomized pre/post without control	United States: across seven sites in the East and West coast, Midwest and South.	providers	79	Counseling/Support	Individual	Used three validated scales and newly created scale	Significant reduction in Abortion Provider Stigma Scale total score over time.
Pachankis, J. E.; Goldfried, M. R. (2019)	Sexual behaviors - gay	Randomized control trial	22 public universities across the U.S.	Stigmatized	77	Combination	Individual	Validated scales	Participants in experimental groups reported sig. higher positive affect than control group. The experimental group

Continued from previous page									also reported sig. more open about being gay at 3-month follow-up.
Parker, Caroline M.; Hirsch, Jennifer S.; Philbin, Morgan M.; Parker, Richard G. (2018)	Sexual behaviors - LGBT youth	Review	Blank	Community	--	Combination	Interpersonal	Most were not evaluated	The review found very few peer-reviewed publications describing interventions to reduce family stigma and discrimination against LGBTQ youth
Pearson, Quinn M. (2003)	Sexual behaviors - sexual minority	Non-randomized pre/post without control	Blank	Providers	10	Educational/Informational	Individual interpersonal	Created questionnaire	Unmatched Surveys showed increase in means from pre-to post survey on sexual orientation. Surveys suggested a positive shift in knowledge, interest and attitudes
Ramirez-Valles, Jesus; Kuhns, Lisa M.; Manjarrez, Dianna (2014)	Sexual behaviors - sexual minority	Non-randomized pre/post without control	Chicago, IL	Community	44	Educational/Informational	Individual, community	Created questionnaire with some previous measures	Pretest/Posttest mean scores found to be sig. reduced at posttest. Sensitivity analysis with just Latinos showed similar results. Comparison by gender showed reduction in men but not women.

Reisner, S. L.; Hughto, J. M.; Pardee, D. J.; Kuhns, L.; Garofalo, R.; Mimiaga, M. J. (2016)	Sexual behaviors - trans MSM	Mixed methods	Boston, MA	Stigmatized	18	Skill development	Individual interpersonal	Validated scales	High acceptability of intervention. TG-AIM score post-baseline suggested greater integration into the transgender community and improved gender identity adjustment
Ross, Lori E.; Doctor, Farzana; Dimito, Anne; Kuehl, Dale; Armstrong, M. Sharon (2007)	Sexual behaviors - LGBT	Non-randomized pre/post without control	Blank	Stigmatized	23	Counseling/Support	Individual	Validated scales	Effective in decreasing depression and increasing self-esteem among LGBT participants, but no sig. change in internalized homophobia.
Rye, B. J.; Meaney, Glenn J. (2009)	Sexual behaviors - gay	Non-randomized pre/post with control	Canada	Community	370	Contact	Individual	Validated scales	Intervention group was less homonegative, women were less homonegative than men, and workshop participants were more Europhilic.
Tompkins, Tanya L.; Shields, Chloe N.; Hillman, Kimberly M.; White, Kadi (2015)	Sexual behaviors - trans	Randomized control trial	Pacific Northwest	Community	100	Combination	Individual	Validated scales	No significant group difference emerged from pretest measures. GTS scores in humanizing condition were sig. higher at posttest and sig interaction

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previous page

also found for social
distance.

Walters, Andrew S (1994)	Sexual behaviors - gay	Non-randomized pre/post with control	United States	Community	65	Educational/Informational	Individual	Validated scales	Lecture plus presentation group expressed sig. lowered homophobia and increased empathy at T2 not found in control group.
West, Keon; Husnu, Shenel; Lipps, Garth (2015)	Sexual behaviors - gay	Randomized control trial	Cyprus (study 1) and Jamaica(s tudy 2) (high prejudice context)	Community	142	Contact	Individual	Validated scales	Study 1) imagined contact experimental group reported more positive attitudes and greater intentions to engage in future contact than controls. Study 2) participants in imagined contact condition reported more positive attitudes toward gay men than control group.
White Hughto, J. M.; Reisner, S. L.; Pachankis, J. E. (2015)	Sexual behaviors - trans	Review	United States	Stigmatized community	--	Combination	All	Review	Found need for interventions to reduce stigma towards transgender people at the individual, interpersonal, and structural level.

Yadavaia, James E.; Hayes, Steven C. (2012)	Sexual behaviors - sexual orientation	Non-randomized pre/post without control	Nevada	Stigmatized	5	Counseling/Support	individual	Validated scales	Improvements in interference and distress from baseline to later time points in all participants, provided preliminary support for effectiveness of ACT for self-stigma around sexual orientation.
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Appendix B. Database Search Terms

PubMed Search terms

Abortion

(intervention[tw] OR interventions[tw] OR intervene[tw] OR intervened[tw] OR intervening[tw] OR implement[tw] OR implements[tw] OR implemented[tw] OR implementation[tw] OR implementations[tw] OR program[tw] OR programs[tw] OR programming[tw]) AND (abortion[tw] OR pregnancy termination[tw]) AND (reduce[tw] OR reducing[tw] OR reduction[tw] OR social change OR impact[tw] OR impacts[tw]) AND ((social stigma[mh] OR shame[mh] OR prejudice[mh] OR "Discrimination (Psychology)"[mh] OR stigma[tw] OR stigmas[tw] OR stigmati*[tw] OR stereotyp*[tw] OR shame[tw] OR shames[tw] OR shaming[tw] OR discrimination[tw] OR discriminating[tw] OR "social distance"[tw] OR prejudice[tw] OR prejudices[tw] OR blame[tw] OR blames[tw])

Infertility

(intervention[tw] OR interventions[tw] OR intervene[tw] OR intervened[tw] OR intervening[tw] OR implement[tw] OR implements[tw] OR implemented[tw] OR implementation[tw] OR implementations[tw] OR program[tw] OR programs[tw] OR programming[tw]) AND ((infertility[tw] OR involuntary childlessness[tw] OR female infertility[tw] OR male infertility[tw] OR reproductive sterility[tw] OR sterility[tw] OR subfertility[tw] OR subfertility[tw]) AND (reduce[tw] OR reducing[tw] OR reduction[tw] OR social change OR impact[tw] OR impacts[tw]) AND ((social stigma[mh] OR shame[mh] OR prejudice[mh] OR "Discrimination (Psychology)"[mh] OR stigma[tw] OR stigmas[tw] OR stigmati*[tw] OR stereotyp*[tw] OR shame[tw] OR shames[tw] OR shaming[tw] OR discrimination[tw] OR discriminating[tw] OR "social distance"[tw] OR prejudice[tw] OR prejudices[tw] OR blame[tw] OR blames[tw])

Sexual behaviors

(intervention[tw] OR interventions[tw] OR intervene[tw] OR intervened[tw] OR intervening[tw] OR implement[tw] OR implements[tw] OR implemented[tw] OR implementation[tw] OR implementations[tw] OR program[tw] OR programs[tw] OR programming[tw]) AND (sexual behavior[tw] OR sexual behaviour[tw] OR Sexual Activities[tw] OR Sexual Activity[tw] OR Activities, Sexual[tw] OR Activity, Sexual[tw] OR Sex Behavior[tw] OR Behavior, Sex[tw] OR Oral Sex[tw] OR Sex, Oral[tw] OR Sexual Orientation[tw] OR Orientation, Sexual[tw] OR Sex Orientation[tw] OR Premarital Sex Behavior[tw] OR Behavior, Premarital Sex[tw] OR Anal Sex[tw] OR Sex, Anal[tw]) AND (reduce[tw] OR reducing[tw] OR reduction[tw] OR social

change OR impact[tw] OR impacts[tw]) AND (social stigma OR shame OR prejudice OR "Discrimination (Psychology)" OR stigma OR stigmas OR stigmati* OR stereotyp* OR shame OR shames OR shaming OR discrimination OR discriminating OR "social distance" OR prejudice OR prejudices OR blame OR blames)

Contraception

(intervention[tw] OR interventions[tw] OR intervene[tw] OR intervened[tw] OR intervening[tw] OR implement[tw] OR implements[tw] OR implemented[tw] OR implementation[tw] OR implementations[tw] OR program[tw] OR programs[tw] OR programming[tw]) AND (birth control[tw] OR contraception[tw] OR contracept*[tw] OR contraceptive agents[tw] OR contraceptive devices[tw] OR contraception behavior[tw] OR family planning[tw] OR family planning services[tw]) AND (reduce[tw] OR reducing[tw] OR reduction[tw] OR social change OR impact[tw] OR impacts[tw]) AND (social stigma[mh] OR shame[mh] OR prejudice[mh] OR "Discrimination (Psychology)"[mh] OR stigma[tw] OR stigmas[tw] OR stigmati*[tw] OR stereotyp*[tw] OR shame[tw] OR shames[tw] OR shaming[tw] OR discrimination[tw] OR discriminating[tw] OR "social distance"[tw] OR prejudice[tw] OR prejudices[tw] OR blame[tw] OR blames[tw])

CINAHL and PsycINFO search terms

Abortion

(intervention OR interventions OR intervene OR intervened OR intervening OR implement OR implements OR implemented OR implementation OR implementations OR program OR programs OR programming) AND (abortion OR pregnancy termination) AND (reduce OR reducing OR reduction OR social change OR impact OR impacts) AND (social stigma OR shame OR prejudice OR "Discrimination (Psychology)" OR stigma OR stigmas OR stigmati* OR stereotyp* OR shame OR shames OR shaming OR discrimination OR discriminating OR "social distance" OR prejudice OR prejudices OR blame OR blames)

Infertility

(intervention OR interventions OR intervene OR intervened OR intervening OR implement OR implements OR implemented OR implementation OR implementations OR program OR programs OR programming) AND (infertility OR involuntary childlessness OR female infertility OR male infertility OR reproductive sterility OR sterility OR subfertility OR subfertility) AND (reduce OR reducing OR reduction OR social change OR impact OR impacts) AND (social stigma OR shame OR prejudice OR "Discrimination (Psychology)" OR stigma OR

stigmas OR stigmati* OR stereotyp* OR shame OR shames OR shaming OR discrimination OR discriminating OR “social distance” OR prejudice OR prejudices OR blame OR blames)

Sexual Behavior

(intervention OR interventions OR intervene OR intervened OR intervening OR implement OR implements OR implemented OR implementation OR implementations OR program OR programs OR programming) AND (sexual behavior OR sexual behaviour OR Sexual Activities OR Sexual Activity OR Activities, Sexual OR Activity, Sexual OR Sex Behavior OR Behavior, Sex OR Oral Sex OR Sex, Oral OR Sexual Orientation OR Orientation, Sexual OR Sex Orientation OR Premarital Sex Behavior OR Behavior, Premarital Sex OR Anal Sex OR Sex, Anal) AND (reduce OR reducing OR reduction OR social change OR impact OR impacts) AND (social stigma OR shame OR prejudice OR "Discrimination (Psychology)" OR stigma OR stigmas OR stigmati* OR stereotyp* OR shame OR shames OR shaming OR discrimination OR discriminating OR “social distance” OR prejudice OR prejudices OR blame OR blames)

Contraceptives

(intervention OR interventions OR intervene OR intervened OR intervening OR implement OR implements OR implemented OR implementation OR implementations OR program OR programs OR programming) AND (birth control OR contraception OR contracept* OR contraceptive agents OR contraceptive devices OR contraception behavior OR family planning OR family planning services) AND (reduce OR reducing OR reduction OR social change OR impact OR impacts) AND (social stigma OR shame OR prejudice OR "Discrimination (Psychology)" OR stigma OR stigmas OR stigmati* OR stereotyp* OR shame OR shames OR shaming OR discrimination OR discriminating OR “social distance” OR prejudice OR prejudices OR blame OR blames)