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Bisexuality, minority stress, and health

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Abstract

Purpose of review—Bisexual individuals are at increased risk for negative health outcomes compared to heterosexual individuals and often compared to gay/lesbian individuals as well. The goal of this article is to summarize the current evidence-base on bisexual health disparities, to describe factors that influence them, and to review interventions designed to improve the health of bisexual individuals.

Recent findings—Based on our review of the literature, we conclude that there is strong evidence that bisexual individuals are at increased risk for mental health and substance use problems. These disparities are evident across dimensions of bisexuality (identity, attraction, and behavior), but there are important nuances to these findings. There is also evidence that bisexual men are at increased risk for sexually transmitted infections (STIs) compared to heterosexual men and that bisexual women are at increased risk for STIs compared to both lesbians and heterosexual women. Although there are numerous causes of these disparities, a leading contributor is stress related to stigma and discrimination. Most of the interventions that have been developed for bisexual individuals are HIV prevention programs for behaviorally bisexual men of color. Despite less attention to mental health and substance use interventions for bisexual individuals, recent developments show promise in their potential application to this population.

Summary—Bisexual individuals are at increased risk for mental health, substance use, and sexual health problems, and this is due, in part, to stigma and discrimination. Future research should continue to examine how different dimensions of bisexuality relate to health disparities and factors that influence them. There is also an urgent need to develop, test, and disseminate interventions to improve the health of bisexual individuals.

Keywords

bisexual; bisexuality; minority stress; health disparities

Conflict of Interest

Brian A. Feinstein and Christina Dyar each declare no potential conflicts of interest.

Human/Animal Rights

This article does not contain any studies with human or animal subjects performed by any of the authors.

Introduction

What does it mean to be bisexual? The answer is – it depends. Sexual orientation is a multifaceted construct that includes identity, attraction, and behavior. Miller and colleagues defined bisexuality as: “The capacity for emotional, romantic, and/or physical attraction to more than one sex or gender” noting, “That capacity for attraction may or may not manifest itself in terms of sexual interaction” (1). Based on data from five United States (US) population-based surveys, Gates (2) estimated that 1.8% of the US population identifies as bisexual (2.2% of women, 1.4% of men). The bisexual population in the US may be even larger, as one national survey found that 3.1% identified as bisexual (3.6% of women, 2.6% of men) and rates were even higher for adolescents (4.9% of adolescents identified as bisexual, including 8.4% of females and 1.5% of males) (3). Gates (2) reported that rates of bisexual identification range from 0.5% to 1.2% in other countries (Australia, Canada, Norway, and the United Kingdom), but those estimates were based on a single population-based survey in each country. Regardless, even larger proportions of people report being attracted to more than one gender or having engaged in sex with both women and men (2, 4). People who report bisexual attractions or behavior may identify as bisexual, but they may also use alternative labels (e.g., queer, pansexual) or identify as lesbian, gay, or heterosexual (5).

Research has consistently demonstrated that bisexual individuals are at increased risk for negative health outcomes (e.g., mental health, substance use, and sexual health problems) compared to monosexual (heterosexual and gay/lesbian) individuals. Given the large number of people who can be classified as bisexual, bisexual health disparities are a major public health concern. The goal of this article is to provide a current review of the literature on bisexual health disparities, factors that influence them, and interventions designed to improve the health of bisexual individuals. When possible, we focus on articles from the past five years in order to provide the most up-to-date information about bisexual health. However, given that bisexual health has received limited attention in the broader literature on sexual minority health, we also reference important studies from before the past five years. Most of the studies referenced throughout this article focus on samples from the United States, but we include studies from other countries as well. Although a systematic review or meta-analysis is beyond the scope of this article, we hope to provide readers with an introduction to bisexual health disparities and an illustrative summary of the empirical literature in this area. Throughout this article, we use the term bisexual to broadly refer to bisexual-identified people as well as people who report bisexual attractions or behavior. When possible, we describe the nuances of how different dimensions of bisexuality influence health disparities.

Bisexual health disparities

Mental health

A consistent finding in the literature is that bisexual individuals report higher rates of mental health problems compared to monosexual individuals. Bostwick and colleagues found that bisexuality (identity, attraction, and behavior) was generally associated with increased rates of mood/anxiety disorders for women and men (4). For instance, lifetime rates of mood/

anxiety disorders were higher among bisexual-identified women (58.7% for mood disorders, 57.8% for anxiety disorders) compared to lesbians (44.4% for mood disorders, 40.8% for anxiety disorders) and heterosexual women (30.5% for mood disorders, 31.3% for anxiety disorders). Lifetime rates of mood/anxiety disorders were also higher among bisexual-identified men (36.9% for mood disorders, 38.7% for anxiety disorders) compared to heterosexual men (19.8% for mood disorders, 18.6% for anxiety disorders), but rates were similar to gay men (42.3% for mood disorders, 41.2% for anxiety disorders). Despite rates being similar for self-identified gay and bisexual men, rates were higher for behaviorally bisexual men compared to behaviorally gay men (46.5% versus 26.8% for mood disorders, 38.9% versus 25.0% for anxiety disorders).

Several studies have confirmed these higher rates of mental health problems among bisexual individuals compared to monosexual individuals. A recent meta-analysis of 12 population surveys in the United Kingdom found that bisexual individuals were more likely than monosexual individuals to meet criteria for being anxious or depressed, having low well-being, and endorsing symptoms of common mental disorders (6). For being anxious or depression, 39.1% of bisexual individuals met criteria compared to 23.0% of heterosexual individuals and 29.2% of gay/lesbian individuals. Similarly, 36.7% of bisexual individuals met criteria for low well-being compared to 26.2% of heterosexual individuals and 29.7% of gay/lesbian individuals. For endorsing symptoms of common mental disorders, 34.0% of bisexual individuals met criteria compared to 16.8% of heterosexual individuals and 26.2% of gay/lesbian individuals. Additionally, Brennan and colleagues found that rates of mood/anxiety disorders were higher among bisexual men compared to heterosexual men and rates of lifetime suicidality were higher among bisexual men compared to heterosexual and gay men (7). Similarly, Jorm and colleagues found that bisexual individuals reported higher depression and anxiety compared to heterosexual and gay/lesbian individuals as well as higher suicidality compared to heterosexual individuals (8). Conron and colleagues provide striking data on suicidality, reporting that 18.5% of bisexual individuals had seriously considered suicide in the past year compared to 4.2% of gay/lesbian individuals and 3.0% of heterosexual individuals (9). There is also a growing body of evidence that people who identify as mostly heterosexual (an identity characterized by a small degree of same-sex attraction/behavior) report higher depression, anxiety, and suicidality compared to exclusively heterosexual individuals (10). Bisexual individuals tend to report higher mental health problems compared to mostly heterosexual individuals, but these effects are less consistent than comparisons between mostly heterosexual and exclusively heterosexual individuals (10).

Substance use

A review of the literature on sexual orientation disparities in substance use concluded that bisexual individuals are generally at increased risk for substance use/disorders compared to monosexual individuals (11). McCabe and colleagues found that bisexuality (across dimensions) was generally associated with increased rates of substance use and dependence for women and men (12). For instance, past-year rates of heavy drinking, marijuana use, and other drug use were higher among bisexual-identified women (25.0% for heavy drinking, 22.2% for marijuana use, 14.1% for other drug use) compared to lesbians (20.1% for heavy

drinking, 16.7% for marijuana use, 12.6% for other drug use) and heterosexual women (8.4% for heavy drinking, 2.6% for marijuana use, 3.1% for other drug use). Past-year rates of alcohol dependence were also higher among bisexual-identified women (15.6%) compared to lesbians (13.3%) and heterosexual women (2.5%). For men, past-year rates of alcohol dependence and other drug use/dependence were higher among bisexual-identified men (19.5% for alcohol dependence, 17.7% for other drug use, 5.1% for other drug dependence) compared to heterosexual men (6.1% for alcohol dependence, 4.5% for other drug use, 0.5% for other drug dependence). Although rates were similar for bisexual-identified men compared to gay-identified men (for gay men, 16.8% for alcohol dependence, 16.8% for other drug use, 3.2% for other drug dependence), rates were higher for behaviorally bisexual men compared to behaviorally gay men (e.g., 13.3% versus 7.0% for alcohol dependence).

The finding that bisexual individuals report higher substance use compared to monosexual individuals has been replicated in numerous studies. Jasinski and Ford (13) found that behaviorally bisexual women were more likely to report binge drinking in the past two weeks compared to behaviorally lesbian and heterosexual women (60.1% for bisexual women, 39.7% for lesbians, 47.4% for heterosexual women). Similarly, behaviorally bisexual men were more likely to report binge drinking compared to gay men (54.5% for bisexual men, 35.8% for gay men), although their rate was similar to heterosexual men (58.0%). Ford and Jasinski (14) also found that behaviorally bisexual women were more likely to report marijuana and other illicit drug use in the past month compared to behaviorally lesbian and heterosexual women (for marijuana use, 35.1% of bisexual women, 11.4% of lesbians, 16.3% of heterosexual women; for other illicit drug use, 18.2% of bisexual women, 7.6% of lesbians, 6.1% of heterosexual women). Rates of marijuana and other illicit drug use were also higher among behaviorally bisexual men compared to behaviorally gay and heterosexual men, but the overall difference across sexual orientation groups was not significant (for marijuana use, 27.7% of bisexual men, 18.8% of gay men, 23.0% of heterosexual men; for other illicit drug use, 17.3% of bisexual men, 12.8% of gay men, 8.7% of heterosexual men). While bisexual individuals were 2–3 times more likely to report marijuana and other illicit drug use compared to heterosexual individuals, gay/lesbian individuals were not at increased risk. There is also evidence that mostly heterosexual individuals report more substance use (tobacco, alcohol, marijuana, and other illicit drugs) compared to exclusively heterosexual individuals (10). Again, findings are less consistent for comparisons between mostly heterosexual and bisexual individuals. Bisexual women tend to report more substance use than mostly heterosexual women, but there was not an overall difference between bisexual and mostly heterosexual men (10).

Sexual health

Most research on sexual orientation disparities in sexual health focuses on HIV and other sexually transmitted infections (STIs) among behaviorally bisexual men. A recent review of this literature concluded that behaviorally bisexual men are at increased risk for HIV compared to behaviorally heterosexual men (15). Although rates of HIV are typically higher for behaviorally gay men compared to behaviorally bisexual men (15), there is some evidence that bisexual-identified men report more sexual risk behavior compared to gay

men, such as earlier sexual debut and more sex partners, condomless sex, and substance use before sex (16, 17). Further, behaviorally bisexual men are less likely to get tested for HIV compared to behaviorally gay men (18, 19) and behaviorally bisexual men report using condoms less frequently with male partners compared to female partners (20, 21). There is also evidence that single indicators of sexual orientation may not be sufficient to understand sexual orientation disparities in STIs. A recent study found that, compared to heterosexual-identified men who only had sex with women, self-reported rates of STIs were higher among behaviorally bisexual men (including those who identified as bisexual and those who identified as gay) (22). However, the same increased risk was not found for bisexual-identified men who only had sex with men or for behaviorally bisexual men who identified as heterosexual.

Less is known about the sexual health of bisexual women, but there is some evidence that they are also at increased risk for STIs. One study found that the prevalence of herpes simplex virus type 2 was twice as high among behaviorally bisexual African American women compared to behaviorally heterosexual African American women (54% versus 26%) (23). Another study found that bisexual-identified women had higher lifetime rates of STIs compared to lesbian- and queer-identified women (24). A recent study also found that, compared to heterosexual-identified women who only had sex with men, rates of self-reported STIs were higher among bisexual-identified women (regardless of sexual behavior) and behaviorally bisexual women who identified as heterosexual (22). The same increased risk was not found for behaviorally bisexual women who identified as lesbians. Several studies have also demonstrated higher rates of teen pregnancy among bisexual women compared to lesbians and heterosexual women (25–27). Together, these findings highlight the unique sexual health concerns affecting bisexual women and men.

Bisexual minority stress

The predominant conceptual framework used to explain bisexual health disparities is minority stress theory, which proposes that increased risk is due to chronic stress related to bisexual stigma and discrimination (28). In this article, we review some of the unique stressors that bisexual individuals experience, including negative attitudes toward bisexuality, microaggressions and victimization, challenges related to identity management (e.g., concealment, disclosure), and the internalization and anticipation of stigma. Although our focus is on minority stress, there are other factors that influence the health of bisexual individuals. For instance, one study found that bisexual individuals were less likely to have health insurance compared to monosexual individuals (29), which likely contributes to their health and wellbeing.

All sexual minorities are at risk for discrimination and victimization based on their sexual orientation, but bisexual individuals experience unique stressors. First, heterosexual and gay/lesbian individuals can both hold negative attitudes toward bisexuality (referred to as binegativity) and express hostility toward bisexual individuals, which can make it challenging for them to find a safe and supportive community. These negative attitudes are rooted in unique stereotypes about bisexual individuals, such as beliefs that bisexuality is not a legitimate or stable sexual orientation and that bisexual individuals are promiscuous and

unable to maintain monogamous relationships (30, 31). A consequence of these negative attitudes and hostility is that bisexual individuals commonly experience microaggressions (verbal and nonverbal slights or insults that communicate hostility toward and/or reinforce stereotypes about their identity) (32, 33). For instance, monosexual individuals may question the validity and stability of a bisexual individual's identity or refuse to date a bisexual individual due to fear that the bisexual partner will cheat on them. A recent study found that bisexual individuals reported experiencing an average of 1.3 microaggressions per day and that experiencing more frequent microaggressions was associated with increased anxiety (34). Several studies have confirmed that experiences of binegativity are associated with psychological distress and anxiety (30, 35, 36).

There is also evidence that bisexual individuals experience high rates of victimization. In a meta-analysis, Katz-Wise and Hyde (37) found that sexual minorities reported higher rates of 16 out of 18 types of victimization compared to heterosexuals, and several types were higher among bisexual individuals compared to gay/lesbian individuals (specifically: threats, physical assaults, and assaults with weapons). Additionally, research has demonstrated that bisexual individuals are at increased risk for childhood sexual abuse, rape, and other sexual violence. For instance, rates of childhood sexual abuse are 12.8 times higher for bisexual men compared to heterosexual men and 5.3 times higher for bisexual women compared to heterosexual women (Sweet & Welles, 2012). Additionally, rates of rape and other sexual violence are substantially higher among bisexual women (46.1% for rape, 74.9% for other sexual violence) compared to heterosexual women (17.4% for rape, 43.3% for other sexual violence) and lesbians (13.1% for rape, 46.4% for other sexual violence) (38).

In addition to discrimination and victimization, sexual minorities can experience stress related to disclosing and/or concealing their sexual identities. Research has found that bisexual individuals are more likely to conceal their sexual identities compared to lesbians and gay men (39, 40). While there can be advantages to being open about one's sexual orientation (41), there is some evidence that this may not be the case for bisexual individuals. For instance, one study found that openness about one's sexual orientation and involvement in the broader LGBT community were associated with increased exposure to binegativity and, in turn, greater substance use problems for bisexual women (42). As such, if one's openness about their bisexuality is met with stigma and discrimination, then it may have negative consequences for their mental health.

The process of managing one's sexual identity and making decisions about disclosure can be especially complicated for bisexual individuals (43, 44). Bisexual and other non-monosexual individuals are more likely than monosexual individuals to identify with multiple sexual identity labels (43). Often, these secondary identities are also non-monosexual identities (e.g., someone may identify primarily as bisexual and also as pansexual), but these secondary identities can also be monosexual identities (e.g., someone may identify primarily as pansexual and also as lesbian). In addition to using multiple identity labels, there is evidence that some bisexual individuals present their sexual orientation differently in different contexts. A recent study found that individuals who privately identified as bisexual varied in whether they publicly identified as bisexual, heterosexual, or another sexual minority identity depending on the context (44). They found that it was more common for

bisexual individuals to be open about being non-heterosexual in general compared to being explicitly open about being bisexual. Although we are just beginning to understand the nuances of how bisexual individuals manage disclosure and concealment of their sexual identities, it is likely that these decisions reflect attempts to reduce exposure to binegativity and they may also reflect pressure to conform to the sexual orientation binary (44).

Identity management and attempts to make one's bisexual identity visible can be even more complicated for bisexual individuals in monogamous relationships. Another stereotype about bisexuality is that a "real" bisexual is one who is involved in romantic/sexual relationships with both women and men (45). A consequence of this stereotype is that some people do not consider bisexual individuals in monogamous relationships to be truly bisexual, because they do not have male and female partners. This erasure of one's bisexual identity can occur even when a bisexual individual explicitly discloses their bisexual identity (32, 40, 46). Additionally, the gender of a person's partner is often used to infer their sexual orientation, further making bisexual individuals in monogamous relationships invisible as bisexual (47, 48). The gender of a person's partner can also lead to unique experiences related to minority stress and mental health (46, 49). For instance, bisexual women with female partners are often assumed to be lesbians (even despite explicit disclosure of their bisexual identity), and these assumptions are associated with questioning the validity of one's bisexuality and whether or not the label bisexual accurately describes one's sexual orientation (referred to as sexual identity uncertainty) (46). There is also some evidence that bisexual women with male partners report more frequent experience of binegativity compared to those with female partners, which in turn is associated with depression and alcohol use problems (46, 49). Qualitative data indicate that these experiences of bisexual identity erasure and feelings of invisibility in monogamous relationships are perceived as stressful and related to mental health problems (32).

In light of their experiences with binegativity, discrimination, and victimization, it is not surprising that many bisexual individuals internalize negative attitudes toward bisexuality and anticipate rejection and hostility from others. Recent research has identified two components of internalized binegativity – an affective component (negative feelings about one's bisexual identity) and a stereotype component (the internalization of stereotypes that bisexuality is not a valid or stable sexual identity) – both of which are associated with depression (50). Another recent study found that among bisexual individuals who were less open about their bisexual identity, experiencing more frequent binegativity was associated with greater internalization of binegative stereotypes and, in turn, sexual identity uncertainty (51). While previous studies have found that bisexual individuals report more sexual identity uncertainty than lesbians and gay men (39, 40), these findings suggest that bisexual individuals may come to question their sexual identity due to their experiences with and subsequent internalization of binegative stereotypes. Research has also demonstrated that bisexual individuals may come to expect that others will dismiss their bisexuality and make assumptions about them (e.g., that they are promiscuous) and this anticipation of binegativity is associated with depression and psychological distress (35, 50).

Evidence-based interventions

Although several interventions have been adapted or developed to reduce mental health, substance use, and sexual health problems among sexual minorities, few of these interventions focus specifically on bisexual individuals. The interventions that have been developed exclusively for bisexual individuals tend to focus on HIV prevention for behaviorally bisexual men of color. Given the limited evidence-based, we describe a recently developed transdiagnostic intervention for gay and bisexual men, highlighting its potential applications to bisexual individuals, and we briefly review the literature on sexual health interventions for bisexual individuals.

Pachankis and colleagues developed the ESTEEM intervention, which is an LGB-affirmative, transdiagnostic, cognitive-behavioral intervention for gay and bisexual men focused on reducing mental and behavioral health problems. As described elsewhere (52), the intervention targets minority stress processes (e.g., internalized stigma, rejection sensitivity) and universal risk factors (e.g., emotion regulation, unassertiveness). A randomized controlled trial demonstrated that the intervention led to significant reductions in depression, alcohol use problems, and condomless sex compared to a waitlist (53). Despite its preliminary efficacy, only five of 63 participants who participated in the trial were bisexual, so it is unclear if findings generalize to bisexual men. However, drawing on the ESTEEM intervention, clinicians can teach bisexual clients how to become more aware of stigma-related stressors and their emotional impact as well as how to safely assert oneself in the face of these stressors. These skills may be particularly important for bisexual clients, given that many of the unique stressors that they experience are subtle (e.g., people assuming that they are heterosexual if they have a different-gender partner). The subtle nature of some of these stressors may lead some bisexual individuals to be unaware of their emotional impact. As such, increasing awareness is the first step toward being able to use skills, such as assertiveness, to cope with them.

As noted, the bulk of the intervention development work focused on bisexual individuals has focused on HIV prevention for behaviorally bisexual men of color (for a review, see Jeffries, 2014). At least five interventions have been developed for this population utilizing diverse formats to reduce sexual risk behavior, ranging from artwork and health promotion messages to individual and small-group interventions (54–58). The individual and small-group interventions tend to address topics that are unique to or especially relevant to behaviorally bisexual men of color, such as masculinity concerns, heterosexual identification, and secrecy about sex with men. They have demonstrated efficacy across a variety of outcomes, including reducing condomless sex and improving related psychosocial concerns (e.g., reducing depression, improving self-esteem, increasing social support). Although the aforementioned interventions focused on bisexual behavior rather than identity, a case report described the successful use of a cognitive-behavioral group intervention (Project PRIDE) with a bisexual-identified man (59).

We are not aware of any sexual health interventions that focus exclusively on bisexual women, but a pilot test of a group HIV/STI prevention intervention for sexual minority women (including lesbian, bisexual, queer, and other women who have sex with men)

showed promise at reducing sexual risk practices, increasing barrier use self-efficacy, increasing STI knowledge, and decreasing sexual stigma (60). Additionally, an online sexual health promotion program for LGBT youth (Queer Sex Ed) showed promise in a sample of 202 LGBT youth, which included 31 bisexual-identified youth (approximately 15% of the sample). A pilot test of the intervention demonstrated that it improved sexual health outcomes (e.g., sexual functioning, knowledge about HIV, STIs, and contraception) as well as related psychosocial issues (e.g., increased connectedness to the LGBT community, decreased internalized stigma) (61).

Conclusion

Throughout this article, we described the current evidence-base related to bisexual health disparities, factors that influence them, and interventions designed to improve the health of bisexual individuals. There is strong evidence that bisexual individuals experience increased rates of mental health and substance use problems compared to heterosexual individuals and often compared to gay/lesbian individuals as well. Although these disparities are present across different dimensions of bisexuality (identity, attraction, and behavior), there are important nuances to these findings (e.g., for men, some studies find that disparities are present for bisexual behavior, but not bisexual identity). Additionally, there is evidence that bisexual men have a unique sexual risk profile, especially compared to heterosexual men, and that bisexual women are at increased risk for STIs compared to monosexual women. Although there are numerous causes of these disparities, bisexual individuals experience unique stressors (e.g., negative attitudes toward bisexuality from both heterosexual and gay/lesbian individuals), which can have a negative impact on their health. Several interventions have been developed to reduce sexual risk behavior among behaviorally bisexual men of color and their efficacy has been demonstrated. Less attention has been directed at developing mental health and substance use interventions specifically for bisexual individuals, but recently developed interventions for gay and bisexual men show promise and have the potential to improve the health of bisexual individuals. With growing recognition of the striking health disparities affecting this population, there is a critical need to adapt, develop, and disseminate interventions that can be used to improve the health and wellbeing of bisexual individuals.

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