



Original article

# A Systematic Review of the Literature on Weight in Sexual Minority Women



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#### ABSTRACT

*Background*: Over the past 20 years, a growing literature has demonstrated that sexual minority women have greater weight than heterosexual women, prompting concern that they may be at high risk for disparities in physical disorders. In 2008, Bowen et al. published a review of the existing research on sexual minority women and obesity, finding no methodologically strong studies with representative sampling procedures.

Method: We conducted a systematic review of the literature covering the period of July 2006 to February 2014 on the relationship between sexual orientation and weight. The review includes 20 population-based and 17 nonprobability sample studies.

Conclusions: The majority of these studies found that lesbian and bisexual women had significantly greater body mass index (BMI) or a higher percentage with a BMI over 30 than heterosexual women. The difference in BMI was fairly consistent across the lifespan, with the weight differences beginning in adolescence. The studies, however, did not show a higher prevalence of physical disorders thought to be associated with weight. This potentially paradoxical finding warrants further research to compare prevalence of chronic disease by BMI category and sexual orientation.

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In the past two decades, biomedical researchers have noted a substantial increase in body mass index (BMI) among women, and warned of a wide range of negative health consequences associated with this weight gain (Jun et al., 2012). On the other hand, less research has focused on the health of sexual minority women, that is, those who identify as lesbian, bisexual, queer, not completely heterosexual, or do not use labels for their sexuality but engage in same-sex behaviors. A recent Institute on Medicine

report on Lesbian, Gay, Bisexual, and Transgender (LGBT) health (Institute of Medicine, 2011) listed obesity as one of the health disparities found in sexual minority women. Sexual minority women face enormous pressures to be thin from mainstream society and often a conflicting message from lesbian and feminist communities to accept their physical bodies as they are (Kelly, 2007). From birth, all women in the United States are subjected to constant messages to be thin from popular media, health and beauty industries, families, peers, teachers, and health care providers (Donaghue & Clemitshaw, 2012), although there have always been some cultural challenges to the thinness imperative (Antin & Hunt, 2013). In the past, being thin was cast in the media primarily as a marker of ideal heterosexual beauty, but in recent years, as an indicator of health and personal responsibility (Tischner, 2013). By contrast, lesbian and feminist community

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norms have urged women to accept themselves at any size and to resist the potentially dangerous messages about the body from popular culture.

In the 1990s, articles in the biomedical and social science literature suggested that sexual minority women were more likely to be overweight or obese than heterosexual women. Bowen, Balsam, and Ender (2008) reviewed the literature from 1993 to mid 2006 and found 19 studies; 4 were categorized as "large samples" (>500 lesbian/bisexual respondents), 2 as medical record reviews, and 13 as convenience samples. They noted that 9 of the 14 studies with comparison groups found significantly greater weight in sexual minority women, although the actual differences were rather small, on the order of 1 to 5 pounds. The authors noted that none of the studies had representative population samples, all were crosssectional, five had no comparison groups, and different definitions and measures of sexual identity were used in each study. Many studies omitted bisexual women and/or combined them with lesbians, obscuring possible differences. In this article, we examine critically the research since the review by Bowen et al. (2008) on weight measures by sexual orientation, including mean BMI and percentage of the sample that was considered obese.

#### Methods

We used the same search terms as Bowen et al. (lesbian, bisexual women, sexual minority, sexual orientation, obesity, body mass index), but searched more databases than they included. We searched PubMed, PsycInfo, CINAHL, Dissertation Abstracts Online, LGBT-Life, Web of Science, and Google Scholar. This search revealed several new sources of information from July 2006 to August 2014. After excluding sources that did not report data separately for women and men, we identified 20 population-based studies and 17 convenience sample studies. Many of the studies reported data for men and women, but we report only findings for women in this article.

#### Results

Population-Based Studies

Table 1 summarizes the findings from the 20 probability sample studies. Eighteen studies were from the United States, of which eight were drawn from national samples (Blosnich, Farmer, Lee, Silenzio, & Bowen, 2014; Blosnich, Foynes, & Shiperd, 2013; Boehmer, Bowen, & Bauer, 2007; Everett & Mollburn, 2013; Farmer, Jabson, Bucholz & Bowen, 2013; Hatzenbuehler, McLaughlin, & Slopen, 2013; Richmond, Walls, & Austin, 2012; Ward, Dahlhamer, Galinksy & Joestl, 2014). Eight were from statewide health surveillance primarily the Behavioral Risk Factor Surveillance Survey (BRFSS; Boehmer & Bowen, 2009; Conron, Miamiaga, & Landers, 2010; Dilley, Simmons, Boysun, Pizacani, & Stark, 2010; Deputy & Boehmer, 2013; Fredriksen-Goldsen, Kim, Barkan, Balsam, & Mincer, 2010; Fredriksen-Goldsen, Kim, & Barkan, 2012b; Fredriksen-Goldsen, Kim, Barkan, Muraco, & Hov-Ellis, Garland-Forshee, Fiala, Ngo, & Moseley, 2014; Kim & Fredriksen-Goldsen, 2012) and one was a hybrid of the Youth Risk Behavior Surveillance Survey data from four cities and five states (Austin, Nelson, Birkett, Calzo, & Everett, 2013a). The non-U.S. studies were random population studies from Great Britain (Bogaert, 2010) and Australia (Polimeni, Austin, & Kavanaugh, 2009). Six studies found no differences in weight by sexual orientation (Blosnich et al., 2013, 2014; Bogaert, 2010; Farmer et al., 2013; Hatzenbuehler et al., 2013; Polimeni et al., 2009; Richmond et al., 2012). The remainder found lesbian/bisexual women to be significantly heavier or more likely to be obese with the exception of one study that had no heterosexual comparison group (Fredriksen-Goldsen et al., 2012a). Ward et al. (2014) found bisexual women to be more likely to be obese than heterosexual women, but other comparisons were not significant. Deputy and Boehmer's (2013) study found White and African-American lesbian and bisexual women were significantly heavier at age 18 than their heterosexual counterparts (by retrospective recall), but current weight did not vary by sexual orientation in any ethnicity subgroup.

Much of the research on obesity status for women comes from state-based population data. The data from four states (California, Massachusetts, Oregon, and Washington) found higher obesity prevalence for lesbian and/or bisexual women compared with heterosexual women, although lesbian and bisexual women sometimes differed from each other in some studies (Boehmer et al., 2007; Conron, et al., 2010; Dilley, et al., 2010; Fredriksen-Goldsen, et al., 2010; Ward et al., 2014). Using California-based population data, sexual orientation contributed independently to the risk of obesity among lesbian and bisexual women after controlling for other health factors (Boehmer & Bowen, 2009). On the other hand, when BRFSS data from 10 states for the 2010 were pooled, the difference in weight between sexual minority and heterosexual women was not significant (Blosnich et al., 2014).

Studies of sexual minority youth showed slightly different trends between lesbian, bisexual, and heterosexual females when they were divided by race. Bisexual girls had the highest obesity prevalence among White, Latina, and African-American groups, but Latina lesbians were less likely to be obese than Latina heterosexuals (Austin et al., 2013a). A study of young adults reported that lesbians were more likely to be identified as morbidly obese than bisexual or heterosexual females (Everett & Mollborn, 2013). Differences in BMI or obesity in lesbian compared with bisexual women cannot be determined from these data. Six studies combined lesbian and bisexual women, four studies found lesbians to be heavier than bisexual women, and seven studies found no differences or mixed findings (i.e., differences by ethnicity).

#### Nonprobability Sample Studies

Table 2 summarizes the 17 nonprobability sample studies. The two largest of the studies were the Nurses' Health Study, a national longitudinal study of a nonrepresentative sample of more than 90,000 U.S. women who are or were nurses (Jun et al., 2012), and the Growing Up Today study, consisting of grown children of the Nurses' Health Study participants (Austin et al., 2009). Another national study included more than 30,000 college students, and most of the 123 participating campuses used random sampling procedures (Struble, Lindley, Montgomery, Hardin, & Burcin, 2010). Eight were national samples, mostly using online surveys (Austin et al., 2009; Brittain, Dinger, & Hutchinson, 2013; Davids & Green, 2011; Fredriksen-Goldsen et al., 2012a; Jun et al., 2012; McElroy & Jordan, 2014; Struble et al., 2010; Zaritsky & Dibble, 2010). Four studies drew samples from a broad geographic region such as a state or region (Austin & Irwin, 2010; Boehmer et al., 2011; Dibble, Eliason, & Crawford,

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