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# Female sterilization is more common among women with physical and/or sensory disabilities than women without disabilities in the United States

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### ABSTRACT

*Background:* Female sterilization accounts for 50% of all contraceptive use in the U.S. The extent to which U.S. women with physical and/or sensory disabilities have undergone female sterilization is unknown. *Objective:* Our primary objective was to determine the prevalence of sterilization for women with physical/sensory disabilities, and compare this to the prevalence for women without disabilities. We also compared use of long-acting reversible contraceptive (LARC) methods between women with and without disabilities.

*Methods:* We conducted a secondary analysis of data from the National Survey of Family Growth 2011 –2013, a population-based survey of U.S. women aged 15–44. Bivariate comparisons between women with and without disabilities by female sterilization and LARC use were conducted using chi-square tests. Using logistic regression, we estimated the odds of female sterilization based upon disability status.

*Results:* Women with physical/sensory disabilities accounted for 9.3% of the total sample (N = 4966). Among women with disabilities only, 28.2% had undergone female sterilization, representing 1.2 million women nationally. LARC use was lower among women with disabilities than those without disabilities (5.4%, 9.3%, respectively, p < 0.01). After adjusting for age, race/ethnicity, education, insurance, marital status, parity, and self-reported health, women with disabilities had higher odds of sterilization (OR 1.36, 95% CI 1.03, 1.79).

*Conclusions:* The odds of female sterilization is higher among women with physical/sensory disabilities than those without disabilities. Future research is necessary to understand factors contributing to this finding, including possible underutilization of LARC methods.

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### 1. Background

Female sterilization is one of the two most common contraceptive methods used in the United States (U.S.),<sup>1</sup> and is associated with high contraceptive efficacy and low complication rates.<sup>2</sup> Among all U.S. women using contraception from 2011 to 2013, 9.4 million (25.1%) relied upon female sterilization, outnumbered only slightly by oral contraceptive pill users (25.9%).<sup>1</sup>

To our knowledge, we do not have a current population-based

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http://dx.doi.org/10.1016/j.dhjo.2016.12.020 1936-6574/© 2016 Elsevier Inc. All rights reserved. estimate of female sterilization use among women with disabilities. We posit that this topic should be historically contextualized by past U.S. policies that legalized acts of reproductive coercion against women with disabilities.<sup>3,4</sup> Accordingly, we use a *reproductive justice* approach to inform our research aims, which explicitly acknowledges the disturbing U.S. legacy of coerced sterilization of marginalized women in the mid-20th century.<sup>3</sup> The reproductive justice movement, rooted in women's advocacy and related social justice movements, is defined as the "complete physical, mental, spiritual, political, social, and economic wellbeing of women and girls, based on the full achievement and protection of women's human rights."<sup>5</sup>

An expanded definition of reproductive justice includes the right to become a parent and freedom from discriminatory

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judgment regarding one's "fitness" to parent.<sup>6</sup> Yet recent studies have found that women with disabilities still encounter negative attitudes from medical professionals, family members, and society at large regarding their desires to have children and parenting capabilities.<sup>7,8</sup> Women with disabilities have also reported that their health care providers incorrectly assume that they are not sexually active or interested in childbearing, and are inadequately prepared to address their reproductive health needs.<sup>7</sup>

Reproductive justice also supports the right *not to* parent,<sup>5</sup> a principle that has been strongly supported by the American College of Obstetricians and Gynecologists (ACOG).<sup>9</sup> Women with disabilities who desire female sterilization should have similar access to this service as those without disabilities. Women who want to delay childbearing indefinitely should also be informed about the intrauterine device (IUD) and the sub-dermal implant, which are excellent non-surgical alternatives to sterilization.<sup>10</sup> Referred to as long-acting reversible contraceptives (LARC), the IUD and implant are associated with even fewer complications than sterilization and are fully reversible upon removal.<sup>10</sup>

Based upon these reproductive justice concepts, it is imperative that women with disabilities receive family planning services that support their reproductive desires and reproductive autonomy. As part of this goal, we aimed to determine the percentage of U.S. women with physical and/or sensory disabilities who have undergone female sterilization, and to compare this prevalence with that of women without disabilities. A secondary aim was to assess differences in LARC use based upon disability status.

### 2. Methods

### 2.1. Study population: the National Survey of Family Growth, 2011–2013

We conducted a secondary analysis of data from the National Survey of Family Growth (NSFG), a survey of a nationally representative sample of non-institutionalized, civilian women and men aged 15–44.<sup>11</sup> The NSFG sampling strategy includes oversampling for minorities and teens and adjustment for non-response.<sup>11</sup> A complete description of the NSFG survey and methods are available elsewhere.<sup>11</sup> We used data from the 2011–2013 cycle of the NSFG, which for the first time, included self-reported, dichotomous measures of sensory disability (hearing or visual impairment) and physical disability (difficulty walking/climbing stairs or difficulty dressing/bathing).<sup>12</sup> Trained interviewers conducted the surveys on laptops in the homes of female respondents.<sup>12</sup> The total sample for female respondents was 5601 and the response rate was 73.4%.<sup>1</sup> Because the NSFG data are de-identified and publicly available, this study was not subject to institutional review board regulation.

#### 2.2. Sampling strategy

To identify women for whom female sterilization would be a relevant contraceptive option, we excluded women who were medically sterile (n = 106), surgically sterile for non-contraceptive reasons (n = 36), or who had male partners who were medically sterile (n = 11), surgically sterile for non-contraceptive reasons (n = 1) or unknown reason (n = 1). We then removed currently pregnant women (n = 238) and those actively seeking pregnancy (n = 239). After excluding an additional 3 women for whom disability responses were not recorded, our final sample included 4966 women.

### 2.3. Study variables

We used the recode variable "CONSTAT1" to determine the number of women who had undergone female sterilization. To assess for physical and/or sensory disabilities, the NSFG included questions regarding functional status that were not mutually exclusive and queried whether respondents had *serious difficulty* with any of the following: 1) hearing; 2) seeing even with glasses or contact lens; or 3) walking or climbing stairs, or dressing/bathing.

#### 2.4. Independent measures

We selected characteristics that have previously been associated with disability<sup>13</sup> as well as female sterilization<sup>2</sup> among nationally representative samples of females: age (15–24, 25–34, 35–44); race/ethnicity (non-Hispanic White, Hispanic, non-Hispanic Black,-Other); education (some high school, high school or GED; some college/no Bachelor's degree; Bachelor's degree or higher); current insurance (Private or Medigap, Medicaid/Child Health/state insurance, Medicare, or underinsured/uninsured); marital status (married, living with male partner but not married, single), and parity (nulliparous/parous). As a group, women with disabilities are more likely to have co-existing medical conditions,<sup>14,15</sup> which puts them at greater risk for pregnancy-related<sup>16</sup> and operative complications.<sup>17</sup> To assess the potential impact of health status on decision-making regarding pregnancy and childbearing, as well as the safety of undergoing a surgical sterilization, we included a respondent selfrating of general health (excellent, very good, good, fair, poor).

### 2.5. Analysis

We conducted all data analysis with Stata 13.1 and reported simple frequencies for all selected characteristics. We calculated national estimates based upon methods described by the National Center for Health Statistics to account for the complex sampling strategy and nonresponse.<sup>12</sup> For all variables, we used the full sample size (N = 4966) except for the outcome "self-reported health" for which there was 4955 responses secondary to missing or inapplicable data. To compare characteristics of disabled women and non-disabled women, we used log binomial regression and reported prevalence ratios (PR) with associated 95% confidence intervals (CI). Using chi-square tests, we compared proportions of LARC users and sterilization users by disability status. We employed binomial logistic regression models to assess the impact of disability on female sterilization after accounting for relevant covariates. Because of small sample sizes, we were unable to analyze women by type of disability (e.g. physical disabilities only compared to sensory disabilities only). Alpha was set at <0.05.

### 3. Results

### 3.1. U.S. women who have physical and/or sensory disability, by sterilization status (Fig. 1)

Among the total sample of 4966 women, 461 (9.3%) reported at least one physical and/or sensory disability. Among disabled women, 130 (28.2%) had undergone sterilization, representing 1.2 million women nationally.

3.2. Selected characteristics among women with and without disabilities (Table 1)

More women aged 35–44 reported disability than women aged 15–24 [prevalence ratio (PR) 1.66, 95% confidence interval (CI) 1.35–2.04]. Hispanic women, black women, and women of lower socioeconomic status, as reflected by education and insurance, were also more likely to report disability. Women who were recipients of Medicaid (PR 2.74, 95% CI 2.20, 3.42), Medicare r (PR 2.94, 95% CI 2.15, 4.02), and uninsured or underinsured (PR 2.05,

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