HHS Public Access

Author manuscript

Disabil Health J. Author manuscript; available in PMC 2018 July 01.

Published in final edited form as:

Disabil Health J. 2017 July ; 10(3): 382–386. doi:10.1016/j.dhjo.2017.02.006.

Live Birth, Miscarriage, and Abortion among U.S. Women with and Without Disabilities

Willi Horner-Johnson, PhD[a], **Sheetal Kulkarni-Rajasekhara, MPH**[a], **Blair G. Darney, PhD, MPH**[b,c], **Mekhala Dissanayake, MPH, CPH**, and **Aaron B. Caughey, MD, PhD**[b]

[a]Institute on Development and Disability, Oregon Health & Science University, Portland, Oregon, USA

[b]Department of Obstetrics and Gynecology, Oregon Health & Science University, Portland, Oregon, USA

[c]National Institute of Public Health, Center for Health Systems Research, Cuernavaca, Mexico

Abstract

Background—Prior studies have found that women with disabilities who give birth are more likely to have preterm deliveries and low birthweight infants. However, it is not known what proportion of pregnant women with disabilities experience live birth, versus miscarriage or abortion.

Objective—To compare proportions of live birth, miscarriage, and abortion among women with basic action difficulties, women with complex activity limitations, and women without disabilities in a nationally representative sample.

Methods—We analyzed pooled Medical Expenditure Panel Survey (MEPS) data from Panels 1–11 (covering years 1996–2007), which included a Pregnancy Detail module assessing outcomes for women who were pregnant during panel participation. We used chi-square tests and multivariable logistic regression to compare disability groups on pregnancy outcomes.

Results—Among women with a recorded pregnancy outcome, women with disabilities were less likely to have live births (80.8% of women with basic action difficulties and 75.3% of women with complex activity limitations versus 85.0% of women without disabilities), but differences related to disability were not significant when adjusting for covariates. Women with complex activity limitations were significantly more likely to report miscarriages, even when controlling for covariates. Disability was not significantly associated with abortion in the adjusted analysis.

Corresponding Author, Willi Horner-Johnson, PhD, 707 SW Gaines Street, Portland, OR 97239, Phone: 503-494-9273, hornerjo@ohsu.edu.

Conflict of Interest

The authors report no conflicts of interest.

Prior Presentations

A preliminary version of these findings was presented at the 2016 annual meeting of the American Public Health Association, October 30–November 2, Denver, Colorado.

Conclusions—Our findings add to the growing literature on pregnancy outcomes among women with disabilities, providing important information about outcomes that are not reflected in delivery records. We found few differences between women with and without disabilities, and good likelihood of live birth among women with disabilities experiencing pregnancy.

Keywords

Live birth; Miscarriage; Induced abortion; People with disabilities; Women

Introduction

Recent research has found that women with disabilities are as likely as women without disabilities to experience pregnancy, when controlling for other sociodemographic characteristics associated with pregnancy [1, 2]. Multiple studies have reported that women with disabilities who give birth are more likely than their counterparts without disabilities to experience a range of adverse outcomes, including preterm birth, infants born at low birthweights, and cesarean deliveries [3–10]. However, most of the research to date on pregnancy outcomes for women with disabilities has been based on data from deliveries. Much less is known about miscarriages and abortions among women with disabilities, or about the proportions of women with disabilities whose pregnancies end in live births.

Data from the general population indicate that approximately 15–17% of recognized pregnancies in the U.S. end in miscarriage [11, 12]. An estimated 21–26% of pregnancies end in induced abortion, although that proportion has been decreasing over time [13]. While various sociodemographic and health characteristics have been associated with each of these outcomes [14, 15], little is known about the relationship between maternal disability and miscarriage or abortion. As interest in childbearing increases among women with disabilities [16, 17] a better understanding is needed of the likelihood of live birth and the risk for miscarriage and abortion.

Disability can be a challenging construct to measure in research studies [18]. Medical care is often focused on specific diagnoses, and analysis of medical records may necessitate approximating disability based on diagnosis codes. However, disease and disability are conceptually distinct [19]. The International Classification of Functioning, Disability and Health (ICF) defines disability as an interaction of an individual's impairments with characteristics of the environment, resulting in restricted ability to carry out social roles or access needed services [20]. Secondary data sources rarely include information on environmental supports and barriers; therefore, disability is typically assessed through self-report of functional ability and participation restrictions when such data are available [e.g. 2, 21–27]. Research examining specific conditions associated with self-report of functional or participation limitations has found that common underlying conditions include arthritis, back problems, other musculoskeletal problems, pulmonary problems (e.g. COPD, asthma), neurologic conditions and injuries (e.g. spinal cord injury and other forms of paralysis, multiple sclerosis, cerebral palsy, spina bifida, muscular dystrophy), and heart disease [28, 29]. Functional limitations are frequently grouped into broad categories reflecting difficulty performing basic actions such as movement, vision, hearing, or cognition [18, 19]. Each of

these categories of disability may also include difficulty with more complex tasks such as activities of daily living (ADLs, e.g. bathing or dressing), instrumental activities of daily living (IADLs, e.g. shopping or preparing meals), or participation in social roles such as work or recreation [18].

The present study used nationally representative survey data to: 1) compare pregnancy outcomes (live birth, miscarriage, abortion) among women with basic actions difficulties, women with complex activity limitations, and women without disabilities in the U.S.; and 2) examine factors associated with these pregnancy outcomes in each group of women.

Methods

Data for this study came from the household interview component of the Medical Expenditure Panel Survey (MEPS). The Agency for Healthcare Research and Quality (AHRQ) has conducted the MEPS since 1996 as a way to provide nationally representative data on health and utilization of healthcare among non-institutionalized individuals. The MEPS uses an overlapping panel design with a new panel selected each year from the previous year's National Health Interview Survey sample [30, 31]. Panel members participate for a 2-year period, during which they complete five in-person interviews.

The survey administered to the first 11 MEPS panels (covering the years 1996–2007) included a Pregnancy Detail module asking about complications and outcomes for women who reported being pregnant during their panel participation. We combined data across these 11 panels for our analyses. The primary question of interest from the Pregnancy Detail module was a question about live birth. If a woman was pregnant in a previous interview round but was not currently pregnant during a subsequent interview round, the following question was asked: "Did the pregnancy end in a live birth?" If the answer was no, the specific type of non-live birth outcome was coded as miscarriage, stillbirth, abortion, or unspecified. Interviewers were instructed not to probe if the answer to the question was no and the respondent did not elaborate. Specific types of non-live birth outcomes were only coded if the respondent volunteered that information, which 96% of respondents who said no to the live birth question did. Numbers of stillbirths and unspecified non-live births were very small, with sample sizes insufficient for analyzing by disability status. We therefore focused our analyses on live birth, miscarriage, and abortion.

We created a dichotomous variable indicating whether or not a woman experienced a live birth. The live birth variable was coded as 1 if a woman delivered a live baby at least once during her panel participation and 0 if a woman had one or more birth outcomes recorded but none of them were live births. We also created dichotomous variables indicating whether a woman had a reported miscarriage or abortion. The miscarriage variable was coded as 1 if a woman reported at least one miscarriage during her panel participation and 0 if a woman had one or more birth outcomes recorded but none of them were miscarriages. A similar variable was created for abortion. Creating these non-mutually exclusive variables meant that, if a woman had more than one of these outcomes during her two years of panel participation, she was included in the count for each outcome type. For example, if a woman experienced both a miscarriage and a live birth, she was analyzed as having each of those

outcomes. However, if she had more than one occurrence of the same type of outcome (e.g. multiple miscarriages), she was not counted multiple times. In other words, we analyzed the proportions of women experiencing each type of outcome, not the total number of each outcome.

We defined disability based on responses to MEPS questions about difficulty performing physical, cognitive, or sensory functions. These categories reflect broad functional categories described in the ICF [20]. Informed by the work of Altman and Bernstein [18], we created a 3-level variable subdividing the disability group according to whether or not complex activity limitations were also present. The three categories were: 1) no disability (reference group); 2) basic action difficulties only; 3) complex activity limitations. Basic action difficulties were identified by affirmative responses to one or more MEPS survey questions about: 1) any degree of difficulty with physical functions such as walking, standing, bending, lifting, reaching, or grasping; 2) any difficulty seeing (while wearing glasses, if used); 3) any difficulty hearing (with a hearing aid, if used); and 4) any cognitive limitations such as confusion, memory loss, or difficulty making decisions. Women were coded as having a complex activity limitation if they had positive responses to one or more MEPS items about: 1) receipt of help or supervision with personal care such as bathing, dressing, or getting around the house; 2) receipt of help or supervision using the telephone, paying bills, taking medications, preparing light meals, doing laundry, or going shopping; 3) limitations in ability to work at a job, do housework, or go to school; and 4) limitations in participating in social, recreational, or family activities. While complex activity limitations can be present in people with any type of disability, prior analyses of MEPS data have noted they are rare among people with sensory disabilities, much more common for people with physical disabilities or cognitive limitations, and especially prevalent among people with more than one type of basic actions difficulty [32].

Covariates included in our analyses were age, marital status, race/ethnicity, education, family income as a percentage of Federal Poverty Level (FPL), perceived physical health status, region, and panel. Age was grouped as follows: 18–24 years (reference group), 25–29 years, 30–34 years, and 35–44 years. Marital status was dichotomized into married (reference group) and not currently married. Race and ethnicity were grouped into the mutually exclusive categories of non-Hispanic White (reference group), non-Hispanic Black, non-Hispanic other or mixed race, and Hispanic of any race. Education was dichotomized into those with some education beyond high school (reference group) and those with a high school education or less. Family income was also dichotomized at an income equal to or above 200% FPL (reference) versus below 200% FPL. Similarly, perceived health status was dichotomized into excellent/very good/good (reference) versus fair/poor. Region was a four category variable reflecting the four major U.S. Census regions: Northeast (reference), Midwest, South, and West.

We conducted cross tabulations and chi square tests to compare women in the three levels of our disability variable on each of our covariates and each of the birth outcomes. We further examined differences on the birth outcomes via bivariate and multivariable logistic regression analyses. Our multivariable analyses controlled for the covariates described above. As sample size allowed, we also conducted sensitivity analyses stratified by disability

to assess whether relationships between covariates and birth outcomes were consistent across the three levels of our disability variable. All analyses were conducted in Stata 14.0 to account for the complex sampling methodology of the MEPS and were weighted to represent the U.S. population.

Results

The 11 panels of data we analyzed included a total of 31,768 women aged 18–44 years, of whom 4882 were pregnant during panel participation and had a response to the question about live birth recorded in at least one interview round. From this subset, 4513 had non-missing data on disability. With the exception of region and panel, our three disability groups differed significantly on each of our covariates (Table 1). Relative to women without disabilities, women with basic action difficulties were more concentrated in the younger age categories, while a higher proportion of women with complex activity limitations were age 35 or older. Women with disabilities were less likely to be married, more likely to be non-Hispanic White, less educated, poorer, and in worse health. Women with complex activity limitations were substantially poorer and less healthy than women with basic action difficulties.

Most women (84.2%) who were pregnant during panel participation had a live birth. Our descriptive analyses indicated a significant association between disability and live birth (p=0.019). Smaller proportions of women in each of our disability groups reported a live birth (80.8% of women with basic action difficulties and 75.3% of women with complex activity limitations versus 85.0% of women without disabilities). However, when we controlled for covariates – most notably age, marital status, Hispanic ethnicity, and perceived health status – neither disability group differed significantly from women without disabilities (Table 2). In stratified analyses, the association of covariates with live birth was consistent for women with and without disabilities and only the results of the main analysis are shown in Table 2.

Miscarriage was the most commonly reported type of outcome other than live birth. A total of 14.6% of women who were pregnant experienced at least one miscarriage. The proportions experiencing miscarriage were similar among women without disabilities (14.0%) and women with basic action difficulties (14.2%), while a substantially higher proportion of women with complex activity limitations (26.7%) had a miscarriage (p=0.002). When controlling for covariates, women with complex activity limitations had marginally significantly higher adjusted odds of miscarriage compared to women without disabilities (AOR=1.55, 95% CI=1.01, 2.37). The magnitude of the association of complex activity limitation with miscarriage was not as large as those of the significant covariates: maternal age, marital status, Hispanic ethnicity, and health status (Table 2). Patterns of covariate associations with miscarriage were similar for women with and without disabilities.

Of the women who were pregnant during panel participation, only 3.2% reported having an abortion. While we are certain this reflects substantial underreporting of induced abortions (see Discussion section), we were interested in the variation between disability groups. The

proportion was highest among women with basic action difficulties (5.4%), followed by women with complex activity limitations (4.1%), and lastly, women without disabilities (3.0%) (p=0.035). The association between disability and abortion was not statistically significant when controlling for covariates (Table 2). Although cell sizes were too small for a separate analysis of women with complex activity limitations, stratified analyses of women with basic action difficulties and women without disabilities revealed that -- in addition to the covariates that were significant in the overall analysis -- health status was a significant covariate for women with basic action difficulties. Among women with basic action difficulties, those in fair or poor health were significantly more likely to have reported having an abortion compared to women whose health was excellent/very good/good (AOR =6.18, 95% CI=2.00–19.17).

Discussion

This study is the first to examine miscarriage and abortion in a national sample of women with a broad range of disabilities. Prior research has shown that women with disabilities who give birth are at increased risk of adverse outcomes, including preterm births, infants born at low birthweight, and cesarean deliveries [3–10]. However, few studies have compared women with and without disabilities with regard to pregnancy outcomes other than live birth.

We found few differences in pregnancy outcomes between women with and without disabilities. In our adjusted analyses, women with disabilities were no less likely to have live births, nor did they differ significantly from women without disabilities in the proportions reporting an abortion. Women with complex activity limitations had marginally higher odds of miscarriage. This finding differs somewhat from studies focused on women with certain specific diagnoses. A U.S. study of women with spinal cord injury found no significant differences between pre- and post-injury pregnancies with regard to the proportions of miscarriages [5]. Similarly, data from Germany indicated that women with multiple sclerosis were not at increased risk of miscarriage [33]. Our multivariable regression analysis did suggest that disability was not as strong a predictor of miscarriage as maternal age, marital status, or health status. In other words, disability in and of itself was not highly associated with miscarriage. Moreover, some of the women who experienced miscarriages also delivered live babies during their two years of MEPS panel participation, and three-quarters of women with complex activity limitations who were pregnant at least once during panel participation had a live birth. Overall, women with disabilities had a good probability of completing successful pregnancies.

Although disability itself was not a strong predictor of miscarriage, women with complex activity limitations were substantially more likely to have other risk factors for miscarriage. Women with complex activity limitation tended to be older and were much less likely to be married than women in our other two groups. Most strikingly, they were more than five times as likely as women without disabilities to be in fair or poor health. Similar patterns have been noted in other studies [2, 18, 34]. Taken together, these risk factors contributed to women with complex activity limitations being almost twice as likely have miscarriages as women without disabilities in our unadjusted analyses. Yet, despite the higher prevalence of

poor health among women with disabilities, fully 68% of the women with complex activity limitations in our sample were in good, very good, or excellent health. Thus, it should not be assumed that women with disabilities are unhealthy or that they are necessarily at higher risk of miscarriage. Rather, as with all women, preconception and prenatal care should focus on the individual woman's situation, with careful management of concurrent medical conditions as applicable [35].

The patterns of covariate associations with pregnancy outcomes were similar for women with and without disabilities in our sample, with one exception. In stratified analyses, health status was significantly associated with abortion for women with disabilities but not for women without disabilities, suggesting that women with disabilities may be more likely to end pregnancies due to health concerns. However, while the overall proportion of pregnant women who had a reported miscarriage in our dataset was comparable to proportions observed in prior research pertaining to the general U.S. population [11], our findings on induced abortions should be interpreted with much more caution. According to data from the Guttmacher Institute, in 1996 -- the first year encompassed in our dataset -- an estimated 25.9% of U.S. pregnancies (excluding miscarriages) ended in abortion [13]. Abortion prevalence gradually decreased to 21.9% in 2007, the last year included in our MEPS dataset [13]. The proportions we found were considerably lower, reflecting an important limitation of the MEPS Pregnancy Detail data. Specific non-live birth outcomes were only recorded if respondents volunteered that information when asked about the outcome of a pregnancy. Notably, the question about birth outcome was only asked if a pregnancy was reported in the first place. It is highly likely that many pregnancies that were intentionally terminated were never mentioned, contributing to substantial underreporting of induced abortions and wide confidence intervals for our estimates. Inclusion of disability identifiers in broader abortion research is needed to better understand the extent of, and factors associated with, abortion among women with disabilities.

While underreporting appeared to be less of an issue for miscarriages, some women who experienced miscarriages -- especially early in the first trimester -- may not have reported a pregnancy and thus may not have been included in outcomes data collection. Importantly for our analyses, we do not have any information to indicate whether or not reporting may differ for women with versus without disabilities. Furthermore, we only have information about what happened during women's panel participation, covering just a two-year window in these women's lives. Nonetheless, these data provide information not previously available about the likelihood of live birth or miscarriage in a nationally representative sample of women with disabilities.

In summary, among women who had at least one pregnancy during their two years of MEPS panel participation, 80% of women with basic action difficulties and 75% of women with complex activity limitations experienced a live birth. When we controlled for covariates, women with and without disabilities had similar odds of live birth. While women with complex activity limitations did have increased risk of miscarriage, the majority of that risk was attributable to age, health status, and other covariates rather than to disability itself. These findings add to a growing body of research on pregnancy outcomes among women

with disabilities, providing important information about outcomes that are not reflected in delivery records.

Acknowledgments

Funding

Research reported in this publication was supported by the Eunice Kennedy Shriver National Institute of Child Health & Human Development of the National Institutes of Health under award #R21HD081309 (Horner-Johnson, PI). The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health. Support for Dr. Horner-Johnson's time was provided by grant #K12HS022981 from the Agency for Healthcare Research and Quality (AHRQ). Dr. Darney is partially supported by a Junior Investigator Award from the Society of Family Planning. The funding agencies had no role in the conduct of the research or preparation of the manuscript for submission.

The research in this publication was conducted at the CFACT Data Center, and the support of AHRQ is acknowledged. The results and conclusions are those of the authors and do not indicate concurrence by AHRQ, NIH, or the Department of Health and Human Services. The authors thank Fran Biel for assistance with reference formatting.

References

1. Iezzoni LI, et al. Prevalence of current pregnancy among US women with and without chronic physical disabilities. Med Care. 2013; 51(6):555–62. [PubMed: 23604018]
2. Horner-Johnson W, et al. Pregnancy among US women: differences by presence, type, and complexity of disability. Am J Obstet Gynecol. 2016; 214(4):529.e1–9. [PubMed: 26546851]
3. Goldacre AD, Gray R, Goldacre MJ. Childbirth in women with intellectual disability: characteristics of their pregnancies and outcomes in an archived epidemiological dataset. J Intellect Disabil Res. 2015; 59(7):653–63. [PubMed: 25331275]
4. Hoglund B, Lindgren P, Larsson M. Pregnancy and birth outcomes of women with intellectual disability in Sweden: a national register study. Acta Obstet Gynecol Scand. 2012; 91(12):1381–7. [PubMed: 22881406]
5. Jackson AB, Wadley V. A multicenter study of women's self-reported reproductive health after spinal cord injury. Arch Phys Med Rehabil. 1999; 80(11):1420–8. [PubMed: 10569436]
6. McConnell D, Mayes R, Llewellyn G. Women with intellectual disability at risk of adverse pregnancy and birth outcomes. J Intellect Disabil Res. 2008; 52(Pt 6):529–35. [PubMed: 18422528]
7. Mitra M, et al. Birth outcomes among U.S. women with hearing loss. Am J Prev Med. 2016; 51(6): 865–873. [PubMed: 27687529]
8. Mitra M, et al. Maternal characteristics, pregnancy complications, and adverse birth outcomes among women with disabilities. Med Care. 2015; 53(12):1027–32. [PubMed: 26492209]
9. Parish SL, et al. Pregnancy outcomes among U.S. women with intellectual and developmental disabilities. Am J Intellect Dev Disabil. 2015; 120(5):433–43. [PubMed: 26322390]
10. Darney, BG., Biel, FM., Quigley, B., Caughey, AB., Horner-Johnson, W. Primary cesarean delivery patterns by presence and type of maternal disability. Women's Health Issues. 2017. [Epub ahead of print] http://dx.doi.org/10.1016/j.whi.2016.12.007
11. Jones RK, Kost K. Underreporting of induced and spontaneous abortion in the United States: an analysis of the 2002 National Survey of Family Growth. Stud Fam Plann. 2007; 38(3):187–97. [PubMed: 17933292]
12. Weeks A, Danielsson KG. Spontaneous miscarriage in the first trimester. BMJ. 2006; 332(7552): 1223–4. [PubMed: 16735305]
13. Jones RK, Jerman J. Abortion incidence and service availability in the United States, 2011. Perspect Sex Reprod Health. 2014; 46(1):3–14. [PubMed: 24494995]
14. Jones RK, Darroch JE, Henshaw SK. Patterns in the socioeconomic characteristics of women obtaining abortions in 2000–2001. Perspect Sex Reprod Health. 2002; 34(5):226–35. [PubMed: 12392215]

15. Feodor Nilsson S, et al. Risk factors for miscarriage from a prevention perspective: a nationwide follow-up study. BJOG. 2014; 121(11):1375–84. [PubMed: 24548778]
16. National Council on Disability, Rocking the cradle: Ensuring the rights of parents with disabilities and their children. 2012. 354 p.
17. Smeltzer SC, et al. Perinatal experiences of women with physical disabilities and their recommendations for clinicians. J Obstet Gynecol Neonatal Nurs. 2016; 45(6):781–789.
18. Altman, B., Bernstein, A. Disability and health in the United States, 2001–2005. Hyattsville, MD: National Center for Health Statistics; 2008.
19. Iezzoni LI. Multiple chronic conditions and disabilities: Implications for health services research and data demands. Health Services Research. 2010; 45(5, Part II):1523–1540. [PubMed: 21054370]
20. World Health Organization. International classification of functioning, disability and health. Geneva, Switzerland: World Health Organization; 2001.
21. Gulley SP, Rasch EK, Chan L. Difference, disparity, and disability: A comparison of health, insurance coverage, and health service use on the basis of race/ethnicity among US adults with disabilities. Medical Care. 2013; 52(10 Suppl 3):S9–S16.
22. Horner-Johnson W, Dobbertin K. Usual source of care and unmet health care needs: Interaction of disability with race and ethnicity. Medical Care. 2014; 52(10 Suppl 3):S40–S50. [PubMed: 25215919]
23. Horner-Johnson W, Dobbertin K, Lee JC, Andresen EM. Rural disparities in receipt of colorectal cancer screening among adults ages 50–64 with disabilities. Disability and Health Journal. 2014; 7(4):394–401. [PubMed: 25065974]
24. Iezzoni LI, Frakt AB, Pizer SD. Uninsured persons with disabilities confront substantial barriers to health care services. Disability and Health Journal. 2011; 4(4):238–244. [PubMed: 22014671]
25. Miller NA, Kirk A, Alston B, Glos L. Effects of gender, disability, and age in the receipt of preventive services. Gerontologist. 2014; 54(3):473–487. [PubMed: 23480893]
26. Mitra S, Findley PA, Sambamoorthi U. Health care expenditures of living with a disability: total expenditures, out-of-pocket expenses, and burden, 1996–2004. Archives of Physical Medicine and Rehabilitation. 2009; 90(9):1532–1540. [PubMed: 19735781]
27. Reichard A, Gulley SP, Rasch EK, Chan L. Diagnosis isn't enough: Understanding the connections between high health care utilization, chronic conditions and disabilities among U.S. working age adults. Disability and Health Journal. 2015; 8(4):535–546. [PubMed: 26082321]
28. Centers for Disease Control and Prevention (CDC), Prevalence and most common causes of disability among adults – United States, 2005. MMWR Morb Mortal Wkly Rep. 2009; 58(16): 421–426. [PubMed: 19407734]
29. Mann J, Balte P, Clarkson J, Nitcheva D, Graham CL, McDermott S. What are the specific disability and limitation types underlying responses to the BRFSS disability questions? Disability and Health Journal. 2015; 8:17–28. [PubMed: 25106913]
30. Cohen JW, Cohen SB, Banthin JS. The Medical Expenditure Panel Survey: a national information resource to support healthcare cost research and inform policy and practice. Med Care. 2009; 47(7 Suppl 1):S44–50. [PubMed: 19536015]
31. Ezzati-Rice, TM., Rohde, F., Greenblatt, J. Sample design of the Medical Expenditure Panel Survey Household Component, 1998–2007. Rockville (MD): Agency for Healthcare Research and Quality; 2008.
32. Dobbertin K, Horner-Johnson W, Lee JC, Andresen EM. Subgroup differences in having a usual source of health care among working-age adults with and without disabilities. Disability and Health Journal. 2015; 8(2):296–302. [PubMed: 25294564]
33. Hellwig K. Pregnancy in multiple sclerosis. Eur Neurol. 2014; 72(Suppl 1):39–42. [PubMed: 25278125]
34. Horner-Johnson W, Dobbertin K, Andresen EM, Iezzoni LI. Breast and cervical cancer screening disparities associated with disability severity. Women's Health Issues. 2014; 24(1):e147–e153. [PubMed: 24439941]

35. American College of Obstetricians and Gynecologists. [Last accessed February 10, 2017] Women with Disabilities. Available at http://www.acog.org/About-ACOG/ACOG-Departments/Women-with-Disabilities

Table 1

Characteristics of women with a recorded pregnancy outcome, MEPS Panels 1–11

	No Disability (n=3868)	Basic Actions Difficulty (n=445)	Complex Activity Limitation (n=200)	Total (n=4513)	p value
	Survey Weighted Percentages*				
Age (years)					.01
18–24	29.7	32.3	24.2	29.7	
25–29	27.1	34.9	31.7	28.1	
30–34	26.8	18.5	22.2	25.8	
35–44	16.3	14.4	21.8	16.4	
Married	68.7	62.4	49.7	67.2	<.001
Race & ethnicity					.05
White, non-Hispanic	59.8	64.3	63.4	60.4	
Black, non-Hispanic	13.6	12.3	17.4	13.6	
Other race, non-Hispanic	6.6	7.5	8.8	6.8	
Hispanic (any race)	20.1	15.9	10.5	19.2	
Education beyond high school	36.7	22.3	21.0	34.5	<.001
Income ≥200% of Federal Poverty Level	58.5	45.9	32.7	56.1	<.001
Fair/poor health	5.8	13.3	32.0	7.7	<.001

Table 2

Adjusted odds of live birth, miscarriage, and abortion among women with a recorded pregnancy outcome

	Live Birth			Miscarriage			Abortion		
	AOR*	95% CI	p	AOR*	95% CI	p	AOR*	95% CI	p
Disability									
Basic Actions Difficulty	0.83	0.56–1.24	0.370	0.90	0.61–1.35	0.620	1.67	0.98–2.86	0.061
Complex Activity Limitation	0.91	0.61–1.37	0.663	1.55	1.01–2.37	0.046	0.55	0.21–1.47	0.235
Age (years)									
25–29	0.78	0.57–1.07	0.127	1.24	0.89–1.72	0.201	1.56	0.83–2.92	0.165
30–34	0.53	0.38–0.74	<.001	1.59	1.14–2.22	0.007	2.35	1.26–4.35	0.007
35–44	0.31	0.22–0.45	<.001	2.85	2.03–4.00	<.001	1.89	1.10–3.26	0.022
Marital Status									
Not currently married	0.32	0.23–0.45	<.001	1.96	1.47–2.61	<.001	9.79	4.25–22.55	<.001
Race/ethnicity									
Black, non-Hispanic	1.15	0.84–1.57	0.394	0.80	0.59–1.07	0.134	1.68	0.89–3.18	0.109
Other race, non-Hispanic	0.63	0.39–1.01	0.053	1.15	0.71–1.87	0.566	4.12	1.86–9.12	0.001
Hispanic	1.68	1.30–2.18	<.001	0.61	0.46–0.81	0.001	0.66	0.38–1.16	0.149
Education									
High school or less	0.85	0.61–1.18	0.331	1.17	0.87–1.58	0.303	0.70	0.35–1.42	0.318
Income (as % of FPL)									
<200	1.22	0.92–1.63	0.168	0.83	0.62–1.11	0.208	0.91	0.46–1.78	0.774
Perceived physical health									
Fair/poor	0.58	0.42–0.81	0.001	1.73	1.21–2.46	0.003	1.36	0.80–2.33	0.254
Region									
Midwest	1.04	0.70–1.54	0.851	1.01	0.69–1.48	0.958	0.49	0.19–1.23	0.128
South	0.92	0.64–1.32	0.638	1.22	0.88–1.70	0.234	0.36	0.17–0.76	0.007
West	0.69	0.49–0.99	0.045	1.40	0.97–2.01	0.069	1.07	0.61–1.89	0.819

*Adjusted for other variables shown in the table and for survey panel (1–11).