



MICHIGAN BRFSS SURVEILLANCE BRIEF

A NEWSLETTER FROM THE CHRONIC DISEASE EPIDEMIOLOGY UNIT, MDCH

Infertility Treatment Use Among Michigan Adults

Background. Infertility is known as a failure to achieve successful pregnancy after 12 months or more of regular and unprotected intercourse. Worldwide, it is estimated that one in seven couples have problems conceiving. There are several factors that can cause infertility in both females and males. Earlier evaluation and treatment may be justified based on medical history and physical examination findings and it is definitely warranted after six months for women over 35 years of age.¹⁻⁴

Comprehensive studies related to the use of different assisted reproductive technologies (ART) have been conducted and their findings published. However, there is no information available at the population level.³ This is a significant knowledge gap that must be addressed as infertility becomes a public health issue.

In collaboration with the Centers for Disease Control and Prevention (CDC), Michigan has developed an infertility/ART surveillance plan and the BRFS is one of the data sources that is used to better understand the burden of infertility within the state.

Methods. Two questions related to infertility were included as state-added questions within the 2010 Michigan Behavioral Risk Factor Survey (MiBRFS). These questions, asked of adults 50 years of age and younger who were married or a member of an unmarried couple, were used to determine infertility treatment use: "Have you or your wife/husband/partner ever had any medical procedures for infertility, taken infertility medications, or had some other form of infertility treatment?" and "What type of treatment did you or your wife/husband/partner have? Was it a medical procedure, Infertility medication only, Both a medical procedure and medication, or Something else?" Population demographics for adults with and without previous infertility treatment were examined to investigate potential differences between these populations. For adults who indicated previous infertility treatment, the specific type of treatment used was also reported. Furthermore, infertility treatment/health estimate relationships were analyzed to determine whether or not certain health conditions and behaviors were associated with the use of infertility treatments.

Results. Of the population that was asked the 2010 MiBRFS infertility questions, 77.1% were between 35 and 50 years old, 88.4% were White, and 89.0% had current health care coverage (Table 1). In addition, nearly fifty percent were college graduates and from households with incomes of \$75,000 or more.

In 2010, an estimated 10.2% of Michigan adults 50 years and younger who were either married or a member of an unmarried couple reported that they or their partner had ever received some form of infertility treatment. When comparing adults with and without previous infertility treatment, adults with previous infertility treatment reported significantly higher education and household income levels when compared to adults with no previous infertility treatment (Table 2). Although not statistically significant, individuals with previous infertility treatment were also more likely to be female and have health insurance.

When looking into the specific type of infertility treatment used, most adults reported using either a medical procedure along with infertility medication (41.2%) or just infertility medication alone (38.6%) [Table 3]. The other 20.2% consisted of other procedures (e.g., donor-related procedures).

Table 4 compares various health estimates by infertility treatment status. Although none of the comparisons were statistically significant, adults with previous infertility treatment were less likely to have diabetes, be overweight, and lack a primary care

Table 1. Population Demographics for Michigan Adults Who Were Asked Questions Related to Infertility¹, 2010 MiBRFS

	%	95% CI
Age		
18 - 34	22.9	(20.1-26.0)
35 - 50	77.1	(74.0-79.9)
Gender		
Male	45.5	(42.1-49.0)
Female	54.5	(51.0-57.9)
Race		
White	88.4	(86.0-90.5)
Black	5.8	(4.5-7.6)
Other	5.7	(4.2-7.8)
Education		
≤ High school grad	26.7	(23.7-29.9)
Some college	27.6	(24.6-30.7)
College graduate	45.8	(42.4-49.2)
Household Income		
< \$35,000	19.4	(16.6-22.5)
\$35,000 - \$49,999	12.1	(10.0-14.6)
\$50,000 - \$74,999	20.0	(17.4-22.9)
\$75,000 +	48.5	(45.0-52.1)
Health Insurance		
Has insurance	89.0	(86.5-91.1)
No insurance	11.0	(8.9-13.5)

¹ Michigan adults aged 50 years and younger who were either married or a member of an unmarried couple. (N = 1,006)

MiBRFSS News

- A presentation that provides background information about the MiBRFSS and outlines ways in which other programs/organizations can utilize the MiBRFSS was recently recorded and can be viewed at the following web address: <http://breeze.mdch.train.org/mibrfss/>.
- The most up-to-date Michigan BRFS estimates can be found on the Michigan BRFS website (www.michigan.gov/brfs).
- Did you miss an issue of *Michigan BRFS Surveillance Brief*? Back issues are also available on our website.

Table 2. Population Demographics by Infertility Treatment Status, 2010 MiBRFS

	Ever Had Infertility Treatment ¹		No Infertility Treatment	
	%	95% CI	%	95% CI
Age				
18 - 34	20.9	(13.6-30.8)	22.9	(19.9-26.3)
35 - 50	79.1	(69.2-86.4)	77.1	(73.7-80.1)
Gender				
Male	34.5	(25.1-45.2)	46.7	(43.0-50.4)
Female	65.5	(54.8-74.9)	53.3	(49.6-57.0)
Race				
White	90.1	(81.1-95.0)	89.4	(86.8-91.6)
Black	2.6	(0.7-9.2)	5.7	(4.2-7.6)
Other	7.3	(3.2-15.9)	4.9	(3.4-7.1)
Education				
≤ High school grad	13.6	(7.6-23.3)	27.8	(24.5-31.2)
Some college	28.0	(19.8-38.1)	27.1	(23.9-30.6)
College graduate	58.3	(47.8-68.1)	45.1	(41.4-48.8)
Household Income				
< \$35,000	7.4	(3.0-16.9)	19.7	(16.8-23.1)
\$35,000 - \$49,999	10.8	(5.9-19.0)	12.2	(9.9-15.0)
\$50,000 - \$74,999	20.9	(13.6-30.7)	20.4	(17.5-23.6)
\$75,000 +	60.9	(50.0-70.8)	47.6	(43.8-51.5)
Health Insurance				
Has insurance	95.3	(86.9-98.4)	88.4	(85.6-90.7)
No insurance	4.7	(1.6-13.1)	11.6	(9.3-14.4)

¹ Michigan adults aged 50 years and younger who were either married or a member of an unmarried couple and reported that they or their partner had ever received some form of infertility treatment. (N = 104)

Table 3. Type of Infertility Treatment Used¹, 2010 MiBRFS

	%	95% CI
Infertility Medication Only	38.6	(29.1-49.1)
A Medical Procedure and Infertility Medication	41.2	(31.4-51.7)
Something Else	20.2	(13.1-30.0)

¹ Michigan adults aged 50 years and younger who were either married or a member of an unmarried couple and reported that they or their partner had ever received some form of infertility treatment. (N = 104)

Table 4. Health Estimates by Infertility Treatment Status, 2010 MiBRFS

	%	95% CI
Had Infertility Treatment¹		
Ever Told Diabetes	2.9	(1.0-8.1)
Overweight	32.3	(23.3-42.8)
Obesity	30.1	(21.7-40.1)
No Primary Care Provider	5.9	(2.5-13.6)
No Infertility Treatment		
Ever Told Diabetes	4.4	(3.0-6.4)
Overweight	35.7	(32.2-39.4)
Obesity	29.2	(25.8-32.8)
No Primary Care Provider	12.8	(10.4-15.7)

¹ Michigan adults aged 50 years and younger who were either married or a member of an unmarried couple and reported that they or their partner had ever received some form of infertility treatment. (N = 104)

provider when compared to adults with no previous infertility treatment (Table 4).

Conclusions. Our findings suggest that the characteristics of infertile couples in Michigan mirror previous findings. Infertility treatment was more prevalent among Whites and among adults with more years of education and higher incomes. Income and health insurance were the two characteristics that were significantly different when comparing couples with and without treatment. There were no other significant differences found, but this may be partially due to the small number of adults who indicated previous infertility treatment (N = 104). Multiple years of data are needed in order to provide more stable estimates. As part of the infertility/ART surveillance project, we will continue to use different data sources including the BRFS.

References

- ¹ The American Society for Reproductive Medicine, Birmingham, Alabama, Practice Committee of the American Society for Reproductive Medicine in collaboration with the Society for Reproductive Endocrinology and Infertility. Optimizing Natural Infertility. Fertil Steril. 2008; 90:S1-6.
- ² Chandra A, Martinez GM, Mosher WD, Abma JC, Jones J. Fertility, Family Planning and Reproductive Health of US Women - Data from the 2002 National Survey of Family Growth. Vital Health Stat 23. 2005; 23:1-160.
- ³ Macaluso M, Wright-Schnapp TJ, Chandra A, Johnson R, Satterwhite CL, Pulver A, Berman SM, Wany RY, Farr SL, Pollack LA. A Public Health Focus of Infertility Prevention, Detection, and Management. Fertil Steril. 2010; 93(1): 16e.1-10.
- ⁴ Yen SSC, Jaffe RB, Barbieri RL. Reproductive Endocrinology, 4th Ed. W.B. Saunders Co, 1999. ISBN 0-7216-6897-6.

The Michigan Behavioral Risk Factor Surveillance System (MiBRFSS)
 The MiBRFSS comprises annual, statewide telephone surveys of Michigan adults aged 18 years and older and is part of the national BRFS coordinated by the CDC. The annual Michigan Behavioral Risk Factor Surveys (MiBRFS) follow the CDC BRFS protocol and use the standardized English core questionnaire that focuses on various behaviors, medical conditions, and preventive health care practices related to the leading causes of mortality, morbidity, and disability. Interviews are conducted across each calendar year. Data are weighted to adjust for the probabilities of selection and a poststratification weighting factor that adjusts for the sex, age, and race distribution of the adult Michigan population. All analyses are performed using SAS-callable SUDAAN® to account for the complex sampling design.

Suggested citation: Fussman C, Grigorescu V. Use of Infertility Treatments Among Michigan Adults. *Michigan BRFS Surveillance Brief*. Vol. 5, No. 3. Lansing, MI: Michigan Department of Community Health, Division of Genomics, Perinatal Health, and Chronic Disease Epidemiology, Surveillance and Program Evaluation Section, Chronic Disease Epidemiology Unit, July 2011.

