

**Women's Health Care and Contraceptive Practices in Mississippi:**

**Technical Report**

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## **Women's Health Care and Contraceptive Practices in Mississippi**

Data have been continuously recorded at global, national, and state levels on women of reproductive age regarding their contraceptive choices, specifically rates of contraceptive use, with increasing frequency since the early 1980's (United Nations Contraceptive Report). Much of the data are inconsistently gathered, limited, and lacks representativeness of all women of reproductive age (United Nations Contraceptive Report). Several notable sources for information regarding women's contraceptive choices include: the National Survey of Family Growth (NSFG), the Pregnancy Risk Assessment Monitoring System (PRAM), the Behavioral Risk Factor System (BRFSS), and the Youth Risk Behavior Survey (YRBS).

Contraceptive methods are currently classified within the existing body of literature in multiple ways. The most consistent categorical formatting is as follows: most effective, moderately effective, and less effective. Methods noted to be "most effective", as classified by the Center for Disease Control and Prevention (CDC), are female and/or male sterilization, intrauterine devices (copper and hormonal), and hormonal implants. "Moderately effective" methods include: injections, contraceptive patches, vaginal rings, oral contraceptives, and diaphragms or cervical caps. "Less effective" methods include: male or female condoms, spermicidal lubricants, withdrawal, and natural family planning methods.

Reports of contraceptive use have varied as well. A 2015 United Nations report cites 64% of women use some form of contraception worldwide, compared to 75.1% of women in the U.S. In 2013, the NSFG reported 62.0% of U.S. women of reproductive age use contraception (National Health Stats Report, 2015). For the years 2011-2013, women most frequently used oral contraceptives (62.0%), followed by female sterilization (16.0%) and male condoms (9.4%). It is worthy to note that each of these methods falls within a different categorical level of

effectiveness, with less effective methods being used the least amount followed by the most effective methods being more often, and moderately effective methods being used the most.

The only use rate that changed substantially during this time period was those for long-acting reversible contraceptives (LARC). LARC methods are inclusive of intrauterine devices and hormonal implant devices. LARC use increased from 3.8% from 2006-2010 to 7.2% from 2011-2013 according to the NSFG. A consistent rate of 19.0% has been found since 2002 for women who report they are not currently using a method of contraception.

In a recent report from the NSFG (2016), LARC accounted for “almost all” of the increase in contraception rates. LARC has seen significant increases in use rates over the last 10 years; 6.0% in 2006 to 8.0% in 2016 for intrauterine devices and less than 0.5% in 2006 to 6% in 2016 for hormonal implants. The literature suggests there are factors associated with the use of LARC which include but are not limited to: age, racial background, relationship status (specifically cohabitation), income, geographical location, and female parity. Additionally, the literature suggests women are influenced by information obtained in their environment related to LARC initiation and use. Several provider biases have been identified including but not limited to: age; parity; relationship status; and level of maturity of the requesting patient; provider’s related competency/training/knowledge of LARC, and the setting in which contraceptive services are requested or provided.

Additionally, there are related barriers that compound these existing biases toward initiation and use of LARC. Cost has been repeatedly identified as the most common barrier for women. Specifically, the associated costs for women using LARC should be understood to not only include the cost of the device, assuming she is covered under insurance and that her insurance provides coverage for a LARC device, but also associated laboratory fees, visit fees,

an updated pap smear, pelvic exam, and pregnancy test. Additionally, the literature suggests most providers worsen these associated fees by requiring women to attend a secondary visit for insertion of a LARC device, rather than providing contraceptive counseling and insertion within one visit. Insurance and costs also exist as the most commonly reported barrier for recommendation and insertion of LARC devices. For most insurances, there are strict guidelines related to billing for coverage of LARC devices and have specified requirements for the length of time a device must remain in a patient, documentation, and medical billing.

Data from the 2015 United Nations report suggests that areas in which contraceptive use exceeds 60%, LARC's tend to be more widely used. Additionally, data trends reflect the centralization of contraceptive use around one to two methods in areas in which contraceptives are used at any rate. In Mississippi, data related to current use rates of contraceptive methods are limited to PRAM and the YRBS. PRAM, administered to voluntary women post-partum following their discharge from a public or private hospital, collects data regarding the use or lack of use of contraceptives at the time of the survey. The vast majority (90%) of women who had just given birth in Mississippi reported they "or their partner" were using some form of contraception (2011). The YRBS, limited to children aged 15-18 enrolled in public or private schools within the state, found 29.5% of students who are sexually active used oral contraceptives, LARC, injections, contraceptive patch or ring. Students reported using an injection, vaginal ring or patch at 7.2% compared to 4.0% who reported using a LARC.

The Mississippi Division of Medicaid administers a Family Planning Waiver Program, which caters to low-income individuals who do not meet criteria to receive Medicaid benefits. This program mirrors many of the contraceptive and women's preventative health benefits provided to Medicaid recipients. Women, aged 18-54 who qualify and are active participants in

the program, reported using oral contraceptives (64%) most frequently, followed by injections (32%), and contraceptive patches (8%). LARC were used collectively at 2.6% among these women: 2% used an implant, while only 0.6% used an intrauterine device.

These rates of contraceptive use are important to women's health and the public health sphere in the last several years due to a shift in women's preventative health. The Affordable Care Act (ACA) of 2010 added a revision, under the direction of the Institute of Medicine, to increase provisions for women's preventative health in 2012 due to the exorbitant costs of associated health issues with unintended pregnancy (Arora & Desai, 2016). This revision, referred to as the Women's Health Amendment, helped to eliminate the barrier of cost for contraception. Beginning in 2013, ACA required insurance providers to cover "a full range of FDA approved contraceptive methods without cost sharing".

Several studies suggest the ACA has had effects on the rate at which women utilize contraceptives due to an increase in the number of insured women of reproductive age. Among women who use prescription contraceptives (e.g., oral contraceptives, injections, LARC, etc.), the ACA reflects increased likelihood women would choose a long-term method of contraception (Bearak & Jones, 2017). Thus, rates of LARC use have slowly and incrementally begun to increase since 2013. However, in comparison to many other industrialized countries, the U.S. is still lagging in progress toward women utilizing the most effective methods of contraception.

Of great concern are the findings that low birthweight, infant mortality, and unintended/unplanned pregnancy have been linked to a lack of affordable, accessible, and available women's preventative health services. As of 2017, 8.0-8.2% of infants are classified as having low birthweight. This rate reflects a stable 10-year trend in high rates of low birthweight in the U.S. While Mississippi's rates of low birthweight have decreased in the last 5 years, 11.4%

of infants are currently affected. Mississippi has the highest prevalence of this health disparity in the U.S.

Low birthweight remains one of the leading causes for infant mortality and is associated with increased infant mortality. In the U.S., 5.9 per 1,000 live births result in infant mortality. This rate has consistently remained higher than other industrialized countries. In Mississippi, 8.8 per 1,000 live births result in infant mortality. Once again, Mississippi has the highest prevalence of this health disparity in the country.

Unintended pregnancy affects women throughout the U.S. at a much more significant rate than any other developed country. It is estimated that 45 out of 1,000 pregnancies among women of reproductive age (15-44) are unintended in the U.S. as of 2011. These unintended pregnancies are associated with high costs to taxpayers, negative maternal and child health outcomes, and linked social challenges. In Mississippi, unintended pregnancy accounts for over half (62.0%) of all pregnancies and costs approximately \$267 million dollars (2010). While this cost is shared with the federal government, Mississippi was fiscally responsible for \$40.4 million dollars of the total paid amount. 81.9% of these unintended pregnancies were publicly funded compared to a national rate of 68.0%.

To date, health care and contraceptive practices among a broad spectrum of women of child-bearing age in Mississippi, with or without children, have not been examined. Likewise, factors most associated with their health care and contraceptive practices, and health outcomes associated with these practices have yet to be determined. The following section details the methods used to accomplish this.

The current study sought to improve understanding of health care and contraceptive practices, as well as factors associated with these rates, among women of childbearing age (15-

44) in Mississippi. To this end, information about women's sociodemographic characteristics; recent reproductive healthcare use, including information of providers, settings, and visits; rates of use/experiences with contraceptives; attitudes, beliefs, perceptions, and knowledge about contraceptive methods; decision-making processes; impact of pregnancy on life plans/desirability of pregnancy; and pregnancy outcomes were collected and examined. In addition, observations were made between parous and nulliparous women in order to explore any differences that existed between the groups. It was hoped that the results of this study would be used to inform decision-makers in the development and implementation of policies that may positively influence the availability, accessibility, and affordability of women's health care in Mississippi.

## **Methods**

Support for this study was first obtained from Dr. Mary Currier, State Health Officer, Mississippi State Department of Health (MSDH). Support was then received from Mr. Festus Simkins, with the MSDH's Childcare Regulation and Licensure Division, Ms. Nita Norphlet-Thompson, Executive Director of the Mississippi Head Start Association, and finally the MSDH Child Care Advisory Council. The study received Institutional Review Board approval through the Human Subjects Committees at both The University of Southern Mississippi and the MSDH.

In order to obtain a random sample of parous women (given birth to a child), Westat was provided a sampling frame from the MSDH that listed the enrollment of children ages 0-12 in approximately 1,500 licensed childcare centers across Mississippi. The sample design was a two-stage stratified probability design. The first stage included the random selection of 95 licensed childcare facilities. A systematic sample of centers was drawn with probability

proportional to the enrollment children ages 0-12 in each center. In the second stage of sampling, 2-3 classrooms were randomly selected within the sampled centers. Classrooms were selected using equal probability systematic sampling. The intent was to obtain a self-weighting sample so that every eligible child had an equal chance of selection, improving the precision of the estimates. While the children were the means to obtaining a weighted sample of women, only women of childbearing age (15-44), including both the mothers of the randomly selected children and a friend of each mother (who did not have children) actually participated in the study.

Center directors were initially sent a letter requesting their participation in the study. They received letters of support from Dr. Currier, Ms. Norphlet-Thompson, and Mr. Simkins. The center directors were invited to receive training on the study that included free lunch, continuing education, and reimbursement for travel. Follow-up letters, email, phone calls, and visits to the center were used to inform remaining center directors (who could not attend the training) of the study.

The center directors were informed of the purpose of the study, the number of classrooms and children sampled in their centers, the protocol for including mothers, and details on how they would be compensated for their center's participation in the study. Each center would receive \$100 for 100% participation in the study. Participation included assisting with the sampling of classrooms, encouragement of mothers to participate in the study, distribution of packets with letters to mothers and the mother's friend, verification that mothers completing the online survey did in fact have a child in their center, and distribution of gift cards to the mothers and friends who participated in the survey.



The packets distributed by the center directors to the mothers of randomly selected children included a letter to the mother and a letter to the mother's friend (who did not have any children). The letters provided a link for the mothers to follow to complete the questionnaire ([www.usm.edu/womenshealth](http://www.usm.edu/womenshealth)). The mothers receiving the letters from the center directors decided if they wanted to go online and complete the questionnaire. In the letter to mothers, they were informed that if they completed and submitted their online questionnaire, they could provide a second letter (which was enclosed in the original envelope with their letter) with another, nulliparous women. The nulliparous women were to be friends of the mother and similar in age, race and sociodemographic background. All women were to be between the ages of 15-44. Questions were formatted to include a skip logic that excluded women who fell outside the noted age range.

Once the potential participant (mother or friend) went to the link for the online questionnaire, she would first read the informed consent form (see attached at the front of the online questionnaire). If participant chose to proceed, she checked a signature box and proceeded by clicking submit to provide consent. Participants could choose an option to complete the survey and yet remain anonymous (waiving the right to any gift cards). If the mother completed the survey and included her name, she would receive a \$25 gift card. If she had a nulliparous friend complete the survey and provide her name, the friend would receive a \$25 gift card and the mother would receive a second \$25 gift card.

Qualtrics, a notable survey design company, was contracted to format and administer the online survey. All data were compiled electronically by Qualtrics and all data transmissions were encrypted. Data from each survey were password protected and were only be accessible by PI.

Once data were received from Qualtrics, the electronic file that included only the mothers' data was sent to Westat for weighting and analysis. The same mothers' data file was submitted to the Office of Vital Records for linkage with her child's birth data (birthweight, gestational age, and live birth/termination). All data were submitted to and returned by the Office of Vital Records office electronically through a secure process. All electronic copies of data were deleted once data were compiled for analysis.

### **Data Analysis**

The analysis included two separate sets of data. The first set of data included nulliparous women (using Snowball sampling). The second set of data include parous women (using probability sampling). Both sets of women's data were exported from Qualtrics into Excel. After the basic cleaning and editing, the data were then exported to IBM SPSS 25.0 for analysis. The initial analysis generated frequencies on all survey questions. A cross-tabulation with Chi-square test was used to investigate the distribution of the selected variables by other factors of interest. For example, in this study we investigated if the type of birth control used differed by women's age, race, and other behaviors. Fisher's Exact test was used when the expected cell size is less than or equal to 5. The level of significance was set as 0.05. All tests were two-sided. A *p*-value less than 0.05 indicated a significant association between the two variables investigated.

### **Findings**

A total of 2,401 women submitted surveys. Of those, 1,144 reported to be parous women with children in the licensed childcare centers and 1,257 reported to be their nulliparous friends. After further verification from center directors and review of the data submitted, 333 of the 1,144

submissions reportedly from parous women were not biological mothers, were of an age outside the study parameters (under 15 or over 44), or completed less than half of the survey questions.

Thus, a total of 831 surveys submitted by parous women were included in the analysis.

Of the 1,257 submitted as nulliparous women (friends), 407 were of an age outside the study parameters (under 15 or over 44), were actually women with children, or had completed less than half of the survey questions. As such, data on 850 nulliparous women were included in the analysis.

The Chartbook provides a more thorough presentation of the findings for both parous and nulliparous women. Some of the key findings included:

- The large majority of women in this sample, both nulliparous and parous, were employed.
- Nearly half of nulliparous and parous women reported having a household income of less than \$25,000 (66.4% of nulliparous and 45.7% of parous women) and 48.6% of women reported household incomes of less than \$10,000.
- Black women made up the majority of the nulliparous sample (76.8%) compared to white women (23.2%), while the parous sample was split about half black (49.2%) and half white women (45.1%).
- All age groups were represented in both data sets. Nearly half (47.8%) of the nulliparous women were aged 20-29, while just over half (59.6%) of the parous women were aged 25-34.
- A majority of the women had experience using contraception (94% of parous and 86% of nulliparous women). Seventy-seven percent of nulliparous women reported currently using contraception, compared to 49% of parous women.

- Half of nulliparous and parous women reported being privately insured
- A third of nulliparous and parous women reported being publicly insured
- Most women, nulliparous and parous, reported visiting a clinic or doctor's office to obtain birth control
- Most parous women visit an OBGYN for birth control
- Over half of nulliparous women visit an OBGYN for birth control
- There was almost an equal split among parous women related to their insurance payor's impact on their access to birth control – half reported their insurance did not matter while a third reported they would not use birth control if they were uninsured.
- There was almost an equal split among nulliparous women related to their insurance payor's impact on their access to birth control. Half of nulliparous women reported their insurance did not matter while nearly a third reported they would not use birth control if they were uninsured.
- Parous and nulliparous women who are privately insured have the highest rates of use for the most effective methods of birth control.
- Parous women who are not insured do not have access to the most effective methods of birth control.
- Parous women under the age of 25 rely the most heavily on public insurance.
- Insurance and age were statistically significant for nulliparous women. Over half of nulliparous women aged 15-19 rely on public insurance.
- Parous women aged 15-19 were the most likely to visit a family doctor for birth control.
- Parous women aged 20-24 were least likely of all parous women to visit an OBGYN for birth control.

- Provider type varied significantly by age for nulliparous women. Most reported visiting an OBGYN for birth control while less than half of 15-19 nulliparous women reported visiting an OBGYN for birth control.
- Parous black women were significantly more likely to rely on providers who are unlikely to be trained in all methods of birth control (family practice doctors and nurse practitioners) than parous white women.
- Nulliparous black women were significantly more likely to rely on providers who are unlikely to be trained in all methods of birth control (family practice doctors and nurse practitioners) than nulliparous white women.
- Parous black women are more likely than parous white women to seek care in public settings.
- Nulliparous black women are more likely than nulliparous white women to seek care in public settings. The difference in setting for care was statistically significant.
- Race was statistically significant for parous women's level of effectiveness in current birth control use. Parous black women were more likely to use moderately effective methods of birth control than parous white women.
- Race was statistically significant for nulliparous women's level of effectiveness in current birth control use. Nulliparous black women were more likely to use the least effective methods of birth control than nulliparous white women and less likely to use the most effective methods than nulliparous white women.
- Provider type was significantly related to a woman's (both nulliparous and parous) current birth control's level of effectiveness.

- OBGYNs were most likely to be the current provider of parous women using the most effective methods of birth control.
- Over a third of nulliparous women saw a nurse practitioner or family practice doctor for birth control.
- Parous women as a whole reported an internal locus of control. However, there was a statistically significant difference between black and white parous women. Black women scored higher in areas of external locus of control.
- Nulliparous women as a whole reported an internal locus of control, with powerful others being particularly important. There was a statistically significant difference between black and white women's locus of control. Black women displayed higher scores for external locus of control.
- Most parous women reported feeling in control of their reproductive health. The level of effectiveness of their current birth control was significantly related to how much control they felt over their reproductive health.
- Method of birth control used was significantly related to respondents' perceived control over their reproductive health for nulliparous women. Nulliparous women who used the least effective methods of birth control reported the least perceived control over their reproductive health.
- The large majority of parous women reported relying on a healthcare provider as a top source for making a decision about birth control.
- Nulliparous women most frequently reported relying on a healthcare provider as a top source for making a decision about birth control.

- A third of parous women reported one of the top factors in their decision to use or not use birth control was their healthcare provider's recommendation.
- A healthcare provider's recommendation was the most frequently reported factor in making a choice for birth control for nulliparous women. An additional 40% of nulliparous women reported a healthcare provider as one of their top 3 sources of information for making a choice for birth control.
- Parous women most often report knowing enough about moderately and least effective methods to make a decision to use than most effective methods. Women's knowledge of a method was significantly associated with methods they have used in the past.
- Nulliparous women most often reported having knowledge about moderate and least effective methods of birth control. There is a statistically significant correlation between the knowledge a woman has and the method she uses.