GYNECOLOGY

Unintended pregnancy risk and contraceptive use among women 45-50 years old: Massachusetts, 2006, 2008, and 2010

Emily M. Godfrey, MD, MPH; Lauren B. Zapata, PhD; Carie M. Cox, PhD, MPH; Kathryn M. Curtis, PhD; Polly A. Marchbanks, PhD

BACKGROUND: Little is known about unintended pregnancy risk and current contraceptive use among women ≥45 years old in the United States.

OBJECTIVES: The purpose of this study was to describe the prevalence of women ages 45-50 years old at risk for unintended pregnancy and their current contraceptive use, and to compare these findings to those of women in younger age groups.

STUDY DESIGN: We analyzed 2006, 2008, and 2010 Massachusetts Behavioral Risk Factor Surveillance System data, the only state in the United States to collect contraceptive data routinely from women >44 years old. Women 18-50 years old (n = 4930) were considered to be at risk for unintended pregnancy unless they reported current pregnancy, hysterectomy, not being sexually active in the past year, having a same-sex partner, or wanting to become pregnant. Among women who were considered to be at risk (n = 3605), we estimated the prevalence of current contraceptive use by age group. Among women who were considered to be at risk and who were 45-50 years old (n = 940), we examined characteristics that were associated with current method use. Analyses were conducted on weighted data using SAS-callable SUDAAN (RTI International, Research Triangle Park, NC).

RESULTS: Among women who were 45-50 years old, 77.6% were at risk for unintended pregnancy, which was similar to other age groups. As age increased, hormonal contraceptive use (shots, pills, patch, or ring) decreased, and permanent contraception (tubal ligation or vasectomy) increased as did non-use of contraception. Of women who were 45-50 years old and at risk for unintended pregnancy, 66.9% reported using some contraceptive method; permanent contraception was the leading method reported by 44.0% and contraceptive non-use was reported by 16.8%.

CONCLUSION: A substantial proportion of women who were 45-50 years old were considered to be at risk for unintended pregnancy. Permanent contraception was most commonly used by women in this age group. Compared with other age groups, more women who were 45-50 years old were not using any contraception. Population-based surveillance efforts are needed to follow trends among this age group and better meet their family planning needs. Although expanding surveillance systems to include women through 50 years old requires additional resources, fertility trends that show increasingly delayed childbearing, uncertain end of fecundity, and potential adverse consequences of unplanned pregnancy in older age may justify these expenditures.

Key words: contraceptive use, older reproductive-aged women, Behavioral Risk Factor Surveillance System, unintended pregnancy

Little is known about unintended pregnancy (UIP) risk and current contraceptive use among women who are ≥45 years old in the United States. The primary US national surveillance tool that gathers information on family life, pregnancy, and use of contraception—the National Survey of Family Growth (NSFG)—has collected family planning and contraceptive use data only from women who were 15-44 years old since 1973[1]; however, starting September 2015, NSFG expanded their age range to 15-49 years old (Anjani Chandra, PhD, personal communication, July 2015). Nonetheless, our ability to understand the fertility desires and contraceptive needs of older women in the United States is limited. Several countries do collect this information from older women,[2] and European data suggest that approximately 30% of women 45-49 years old are not using any contraception.[3]

Fecundity in women significantly declines after 44 years old; the median age at which women in the United States reach natural menopause is 51.4 years old.[4] Nonetheless, conceptions in the later reproductive years do occur.[5] In fact, live births among women in the United States who are 45-49 years old are increasing.[6] In 2013, the US birth rate for women who were ≥45 years old was 0.8 births per 1000 women, which is a small increase from 0.7 births per 1000 women in 2012 and an even larger increase since the early 1990s when the birth rate for women who were ≥45 years old was 0.3 births per 1000 women.[6,7] Presumably, much of this increase is due to planned births and the increasing use of assisted reproductive technologies; however, to our knowledge, no estimates of the UIP rate among women in the United States who are ≥45 years old have been reported. Among women who are 15-44 years old, proportions of UIP are highest among teenagers and women who are 20-24 years old (82% and 64%, respectively), although the third highest proportion is among women who are 40-44 years old (48%).[8]

According to current US contraception guidelines, contraceptive protection is recommended for women who are ≥45 years old who are at risk for UIP.[9] The American College of Obstetricians and Gynecologists further specifies that women who want to avoid pregnancy should continue contraception until 50-55 years old.[10] All methods of contraception are considered safe or

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generally safe for women who are ≥45 years old without other risk factors and should not be dismissed from consideration or discontinued based on age alone.[11] Although certain medical conditions that are more common as women age (such as hypertension or diabetes mellitus) may preclude the use of some reversible contraceptive methods (eg, those containing estrogen), many methods such as progestin-only implants or intrauterine devices (IUDs) remain safe, even for women with underlying medical disorders and are among the most effective methods available.[12]

Given limited information on UIP risk and contraceptive use behaviors among women in the United States who are >44 years old, we sought to describe the prevalence of women who are 45-50 years old and who are at risk for UIP and their current contraceptive use habit and to compare these findings with those of women in younger age groups. Understanding UIP risk and contraceptive use among women who are 45-50 years old, compared with younger age groups, provides insight into UIP and contraceptive trends over the reproductive life span.

Materials and Methods

Overview

The Behavioral Risk Factor Surveillance System (BRFSS) is an ongoing, state-based, random-digit–dialed telephone survey of noninstitutionalized US civilian adults who are ≥18 years old that is conducted annually by state health departments in collaboration with the Centers for Disease Control and Prevention. The BRFSS sampling method samples households rather than individuals; 1 adult in each household is selected randomly to participate, so the likelihood of the same individual participating in multiple BRFSS surveys is low. The BRFSS collects information on health-related risk behaviors, chronic health conditions, and the use of preventive services. The BRFSS questionnaire consists of core questions that are used by all states, optional modules that are supported by Centers for Disease Control and Prevention programs and are available for states to use, and state-added questions. The BRFSS data are weighted to produce estimates that are representative of the state population. More detail on the BRFSS, including methods, is available from the BRFSS website.[13]

We analyzed 2006, 2008, and 2010 Massachusetts BRFSS data; response rates during these years, based on the Council of American Survey and Research Organization guidelines, were 38.6%, 48.2%, and 47.5%, respectively.[14-16] Although family planning questions were previously part of the 2002 and 2004 core BRFSS questionnaires and were offered as optional modules during other years, the questions were asked only among women who were 18-44 years old. We analyzed Massachusetts data because Massachusetts was the only state to include BRFSS family planning questions and to ask these questions among women who were 18-50 years old, beginning in 2006 and implemented during even-numbered years. We did not include data subsequent to 2010 because the BRFSS methods and weighting methods changed in 2011; therefore, subsequent survey data are not directly comparable to previous years. Analysis of 2012 and 2014 data, independent from previous years, was undesirable because of the low numbers of older women. Institutional review board approval was not needed because the analysis used publicly available data with de-identified participants.

Measures

Our outcome of interest was current contraceptive use and was measured with the use of several questions. Women were first asked, "Are you or your husband/partner doing anything now to keep you from getting pregnant?" Those who indicated "yes" were asked, "What are you or your husband/partner doing now to keep you from getting pregnant?" Response options for numerous contraceptive methods were included, and respondents who were using a method not listed could indicate "other" and specify the method being used. Women who reported the use of multiple methods were asked to report their primary contraceptive method; women who reported multiple partners were asked to consider their usual partner when answering the question. Women who indicated "no" to the first question were classified as using no method and were asked, "What is the main reason for not doing anything now to keep yourself from getting pregnant?" Those who reported "tubes tied" or "partner vasectomy" were recoded as contraceptive users.

Use of any contraceptive method was coded as "yes" or "no." We also coded current contraceptive use by categories of methods. Use of permanent methods included tubal ligation or vasectomy. Use of long-acting, reversible contraception (LARC) included IUDs or implants. Use of hormonal methods included shots, pills, patch, or ring. Use of barrier methods included condoms, diaphragm, cervical cap, sponge, or shield. Use of some other method included withdrawal, rhythm, emergency contraception, or *"other."* Please note that, in 2006 and 2008, ring use was included in the response option for barrier methods rather than its own response category. Although this may have led to underreporting of hormonal methods and overreporting of barrier methods, we do not expect noteworthy misclassification error because of the low rate (1.3%) of ring use reported among women in the United States who were 15-44 years old and an even lower rate (0.4%) among older women who were 40-44 years old.[17]

Data analysis

We combined 2006, 2008, and 2010 Massachusetts BRFSS data for women who were 18-50 years old and who participated in the version of the survey that included family planning questions (n = 4930). Women were considered to be at risk for UIP unless they reported current pregnancy, hysterectomy, or not being sexually active in the past 12 months, which was ascertained by 3 separate questions, or reporting a same-sex partner or wanting to become pregnant as reasons for not using contraception. We were unable to identify and subsequently exclude women who were