

Original article

Prenatal Care Initiation Among Pregnant Teens in the United States: An Analysis Over 25 Years

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Manuscript received April 16, 2007; manuscript accepted August 24, 2007

Abstract

Purpose: To examine changes in the initiation of prenatal care by teenage girls in the United States between 1978 and 2003.

Methods: Using birth certificate data collected by the National Center for Health Statistics from 1978, 1983, 1988, 1993, 1998, and 2003 we described initiation of prenatal care in preteens (aged 10–14 years), young adolescents (aged 15–16), and older adolescents (aged 17–19) by the trimester in which care began.

Results: Although all three age groups showed trends toward earlier prenatal care, shifts to earlier prenatal care were mainly the result of more girls starting care in the first trimester and fewer in the second trimester. Younger teens were more likely to delay prenatal care or to receive no prenatal care for every year studied. Less education and prior births were also associated with increased likelihood of receiving delayed care.

Conclusions: Shifts in timing of prenatal care initiation occurred in the U.S from 1978 to 2003. Much of the change corresponded to expanded eligibility in Medicaid coverage, suggesting that lack of health care coverage was a significant impediment to early prenatal care. © 2008 Society for Adolescent Medicine. All rights reserved.

Keywords:

Prenatal care; Pregnancy in adolescence; Pregnancy

Although recent data show that birth rates for teenagers in the United States have decreased substantially over the past 30 years, teenage pregnancy still remains a public health issue [1,2]. One reason for concern is that births in adolescents are associated with higher rates of low birth weight compared with those in women in their 20s [3]. It is unclear whether the greater rate of low birth weights among adolescents is related to the age of the mother as opposed to other environmental and health-related factors such as lack of prenatal care, drug or tobacco use, lower educational level, or poverty. Some contribution of the environment to rates of low birth weight is supported by evidence that controlling for socioeconomic status of the adolescent mother helps to reduce or eliminates differences in low-

birth-weight rates between adolescents and older mothers [4,5]. Another factor related to socioeconomic status is the lack of access to prenatal care, which in turn has been linked to higher rates of low-birth-weight children and other complications [6–8].

Although several other studies have examined changes in adolescent birth rates over the past three decades, there have been few reports on how this population uses prenatal care. Adolescents who are pregnant are more likely to be in minority populations [1] and are also more likely to be impoverished, both of which may lead to reduced access to prenatal care [9,10]. In a study of African-American adolescents delivering in an urban academic medical center in the early 1990s, lack of health insurance and confusion regarding available prenatal services each predicted poor use of prenatal care during the index pregnancy [11].

Over the past two decades prenatal care has become much easier to obtain. Between 1986 and 1991, Congress gradually extended Medicaid eligibility to additional groups

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of pregnant women, which may have mitigated some of the economic disadvantages for pregnant adolescents [12]. However only 68.1% of adolescents in 1968 began their prenatal care in the first trimester, a percentage still lagging behind the 84.9% of mothers aged 20 years or more who start prenatal care in the first trimester [13]. In addition there are few analyses that have examined how prenatal care use has changed over time for adolescents. These trends may be important in evaluating whether adolescents are gaining access to care and when they obtain that access.

The purpose of this study was to examine trends in prenatal care initiation among teenagers who gave birth in the U.S. between 1978 and 2003. Specifically we wanted to assess whether certain populations of adolescent girls were more likely to initiate early prenatal care and to examine what demographic and social factors might be related to delaying prenatal care.

Methods

Data source

We based our analyses on birth certificate data collected by the National Center on Health Statistics (NCHS) in Hyattsville, Maryland, for the years 1978, 1983, 1988, 1993, 1998, and 2003. Birth certificate data are collected for all in-hospital births in the U.S. and compiled by the National Center for Health Statistics.

Among female adolescents less than 20 years of age, the 6-year period analyzed contained records for 2,857,555 live births. After excluding all multiple births, 2,816,635 singleton births remained; however 87,530 (3.1%) had no information about the month in which prenatal care began and were also excluded. For the years 1978 and 1983, not all births were recorded; these years constituted a sample of national births, so sample weights supplied in the data set were used to make population estimates. Using these sample weights resulted in a sample of 2,836,698 births.

Measures

Patient race, marital status, education level, and birth order of the index birth were self-reported. Race was categorized as white, black, or other. Education level was categorized as no high school, some high school (1–3 years), or high school graduate (4 years or more). Number of prior births was categorized as none, one to three, or more than three. Area of residence was categorized in the data set as metropolitan or nonmetropolitan as defined by the U.S. Office of Management and Budget.

No births were recorded for girls less than 10 years of age. We subdivided the group of teenagers into preteens (aged 10–14 years), younger adolescents (aged 15–16), and older adolescents (aged 17–19). We created these categories because, when examining risk factors for delays in prenatal care, these three age groups may be quite different. The

younger groups represent girls who are likely to be dependent on parents and have not completed their high school education. Older adolescents may have completed their high school education and are more likely to be living independently. In addition, the desire to conceal pregnancy from parents or others may differ among these age groups. To avoid confounding based on these differences, we looked at individual risk models for each of these age categories.

Natality data provided the month in which prenatal care (if any) began or indicated whether no prenatal care was received. We categorized prenatal care initiation as first trimester, second trimester, third trimester, or none. When examining risk factors for delays in receiving prenatal care, we defined delay in care as having initiated prenatal care in the third trimester or having received no prenatal care.

Analyses

For each year we compared rates of prenatal care initiation by trimester among preteens, younger adolescents, and older adolescents using χ^2 testing. We also conducted χ^2 analyses to compare prenatal care initiation within each age group across the years of the study. We identified mothers who initiated prenatal care in the third trimester or who had no prenatal care and defined them as having Delayed Care. For each age group we performed bivariate analyses of possible predictor variables (year, race, marital status, education, residence, and number of prior births) against Delayed Care. Using these variables we constructed a logistic regression model with Delayed Care as the outcome variable.

Results

For all of the years studied, there was a consistent relationship between age and the time when prenatal care was initiated. Older adolescents were more likely to start care in the first trimester than younger adolescents, whereas younger adolescents were more likely to start care earlier than preteens. However among all three age groups the percentage initiating prenatal care during the first trimester increased after 1988 (Figure 1). Most of the increase appeared to be reflected in a decrease in the percentage initiating prenatal care during the second trimester, but there were also small decreases in the percentages of adolescents who initiated prenatal care during the third trimester or had no prenatal care at all.

When we looked specifically at girls who received no care or waited until the third trimester to start their care, we found that younger adolescents or preteens were significantly more likely than older adolescents to have delayed care during each year we examined ($p < .001$) (Table 1). In a logistic regression model adjusted for survey year, race, marital status, education, residence, and prior births and using older adolescents as the reference group, we found that younger adolescents were 1.22 times more likely to

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