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Original article

Adolescent Reproductive Knowledge, Attitudes, and Beliefs and Future Fatherhood

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A B S T R A C T

Purpose: With a growing focus on the importance of men's reproductive health, including preconception health, the ways in which young men's knowledge, attitudes, and beliefs (KAB) predict their reproductive paths are understudied. To determine if reproductive KAB predicts fatherhood status, timing and residency (living with child or not).
Methods: Reproductive KAB and fatherhood outcomes were analyzed from the National Longitudinal Study of Adolescent Health, a 20-year, nationally representative study of individuals from adolescence into adulthood. Four measures of reproductive KAB were assessed during adolescence in waves I and II. A generalized linear latent and mixed model predicted future fatherhood status (nonfather, resident/nonresident father, adolescent father) and timing while controlling for other socio-demographic variables.
Results: Of the 10,253 men, 3,425 were fathers (686 nonresident/2,739 resident) by wave IV. Higher risky sexual behavior scores significantly increased the odds of becoming nonresident father (odds ratio [OR], 1.30; $p < .0001$), resident father (OR, 1.07; $p = .007$), and adolescent father (OR, 1.71; $p < .0001$); higher pregnancy attitudes scores significantly increased the odds of becoming a nonresident father (OR, 1.20; $p < .0001$) and resident father (OR, 1.11; $p < .0001$); higher birth control self-efficacy scores significantly decreased the odds of becoming a nonresident father (OR, .72; $p < .0001$) and adolescent father (OR, .56; $p = .01$).
Conclusions: Young men's KAB in adolescence predicts their future fatherhood and residency status. Strategies that address adolescent males' reproductive KAB are needed in the prevention of unintended reproductive consequences such as early and nonresident fatherhood.

IMPLICATIONS AND CONTRIBUTION

Young men's reproductive knowledge, attitudes, and beliefs during adolescence predict their future fatherhood status, timing, and residency. Earlier public health and educational interventions to identify at-risk young men may optimize fatherhood outcomes.

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The field of reproductive health is turning attention toward understanding young men's reproductive needs and outcomes [1]. Despite the growing recognition of the importance of young men in reproductive health programs and policies [2,3], knowledge is lacking regarding men's reproductive health [4] including such factors as fatherhood status and timing. Although many studies explore women's knowledge, attitudes, and beliefs (KAB) and their reproductive outcomes [5–7], little is known about such associations in men. Recent research has examined adolescent male's reproductive KAB and their sexual behavior, including abstinence, and condom and contraception use [8–10]; however, because of data limitations, these studies could not account for a central outcome, entrance into fatherhood. Measuring KAB during adolescence, a period when such knowledge about sexual and reproductive behavior is developed [11], has the potential to inform future outcomes such as fatherhood status, timing, and residency.

Studying adolescent reproductive KAB and later fatherhood may lead to earlier identification of young men at risk for becoming adolescent or nonresident fathers and improve sexual education programs to address the needs of these young men thereby helping them take control of their reproductive outcomes. Adolescent and nonresident fathers are known to be younger, have less education, lower socioeconomic status, and to be unemployed [12,13] with nonresident fathers having less contact, involvement, and quality interactions with their children than resident fathers [14–16]. Although many unmarried couples are cohabitating at the time of the child's birth, 63% of unmarried fathers are nonresident with their child after 5 years [14]. One compelling perspective for understanding young, nonresident fathers and their well-being suggests including reproductive cultural values and norms along with reproductive attitudes, aspirations, and resources as part of a conceptual framework of fatherhood [17]. The National Campaign to End Teenage and Unwanted Pregnancy lists 17 characteristics of effective sexual education programs; paramount among them is to address "sexual psychosocial risk and protective factors that affect sexual behavior (e.g., knowledge, perceived risks, values, attitudes, perceived norms, and self-efficacy) and change them" [18]. Thus, education programs that focus on KAB during the formative adolescent years may be particularly useful in preventing future unintended transitions to fatherhood.

The primary goal of this study was to determine if certain adolescent reproductive KAB predict fatherhood status, timing, and residency. Data come from the National Longitudinal Study of Adolescent Health (Add Health), which followed a nationally representative sample of American youth from adolescence through early adulthood. This large, longitudinal, and nationally representative data set allows better understanding of the reproductive paths young men take, fostering associations between adolescent KAB and later fatherhood outcomes. Understanding these connections may help identify at-risk young men earlier, allowing preventive interventions that address these men's reproductive KAB.

Methods

Study design and sample

The National Longitudinal Study of Adolescent Health (Add Health) is a longitudinal study of a nationally representative sample of youth focusing on social, behavioral, and biomedical health as they progress from adolescence into adulthood. Wave I (n = 10,253 men, ages = 12–21 years; response rate (RR), 79%) was conducted in 1994–1995; wave II (n = 7192, ages = 13–21 years; RR, 88.6%) in 1996; wave III (n = 7192, ages = 18–28 years; RR, 77.4%) 6 years later in 2001–2002; and wave IV (n = 7347, ages = 25–34 years; RR, 80.3%) in 2007–2008. Procedures for data access and analysis were implemented per our institutional review board and in agreement with the Add Health data security plan.

Variables

Fatherhood status. Fatherhood status was the outcome of interest in this study. It was coded into three categories: nonfathers (referent), nonresident fathers, and resident fathers. At each wave, men reported in the *household roster* whether they had a biological child living with them; beginning in wave III, men reported in the *live child data set* whether they fathered a biological child at all. If the same child is listed in the live child data set and the household roster, the father was categorized as a resident father. If a child was listed only in the live child data set, the father was categorized as a nonresident father. If no child was listed in either, the man was categorized as a nonfather. If a biological child was listed only in the household roster (as may have occurred before wave III), then the father was categorized as a resident father. Resident and nonresident fatherhood status was established at the earliest wave a biological child was listed and held constant through all future waves.

Reproductive knowledge, attitudes, and beliefs. Reproductive KAB was measured using four scales from data in both waves I and II. Add Health contained no intact surveys or scales from preexisting literature, building instead on a number of successful past surveys of adolescents and adults [19]. Three of the four measures used—(1) risky sexual behavior (RSB) scales; (2) pregnancy attitudes (PA); and (3) birth control self-efficacy (BCSE)—were administered in the student's home by an interviewer. The fourth measure, (4) birth control attitudes, was administered via audio-Computer Assisted Self-Interview (CASI) technology because of sensitivity. Each item was answered on a five-point scale from "strongly agree" to "strongly disagree" except where otherwise noted. The KAB scales from both waves I and II were used as individual variables in all analyses.

The RSB scale is a 10-item scale assessing reasons for engaging in or not engaging in sexual intercourse. This scale has been used in numerous studies investigating sexual and contraceptive behaviors, unintended pregnancies, and sexually transmitted infections [20–23]. Participants were presented with statements such as "If you had sexual intercourse your friends would respect you more" and "If you had sexual intercourse, you would feel less lonely." Higher scores indicated a greater motivation to engage in RSB.

The PA scale is a two-item scale assessing the perceived impact of a pregnancy on the respondent's life [6,24]. Participants were presented with the statements "Getting someone pregnant at this time in your life is one of the worst things that could happen to you" and "It would not be all that bad if you got someone pregnant at this time in your life." Higher scores indicate a more positive attitude toward getting someone pregnant.

The BCSE scale is a three-item scale assessing the perceived ability to ensure the use of birth control during sexual intercourse, used previously in studies of adolescent contraceptive usage [23–25]. Each item was answered on a six-point scale from