

Background for Community-Level Work on Positive Reproductive Health in Adolescence: Reviewing the Literature on Contributing Factors

EXECUTIVE SUMMARY

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With high rates of unintended adolescent pregnancy, childbearing, and sexually transmitted infections (STIs) in the United States, it is important to understand the range of factors that are associated with positive reproductive health behaviors. By far, the most straightforward way to maintain positive reproductive health behaviors (or to avoid early pregnancy, childbearing or STIs) is to abstain from sexual intercourse. However, as adolescents age, their likelihood of becoming sexually experienced increases. Thus, it is also important to understand factors associated with the frequency of sexual activity, the number of sexual partners, and contraceptive use for STI or pregnancy prevention. This chapter assesses factors associated with multiple aspects of positive reproductive health, including delaying sexual initiation, reducing the frequency of sexual activity and the number of sexual partners, using condoms for disease prevention or contraception for pregnancy prevention, delaying pregnancy and childbearing, and avoiding an STI.

This chapter proceeds from an ecological framework, which recognizes that multiple aspects of an adolescent's life may affect their reproductive health experiences, including a teen's family environment, their individual attitudes and behaviors, and peer attitudes and behaviors. In addition, the characteristics of a teen's community, including school context, neighborhood environment, and broader policies may affect reproductive health behaviors. Finally, programs targeted to improving adolescent development, in general, and to reducing risky sexual behaviors, in particular, show a range of activities that may help reduce unintended pregnancy, childbearing and the incidence of STIs.

The majority of studies addressed in this chapter reflect research findings that provide "best bets" for preventing sexual risk-taking behaviors. These derive from longitudinal, multivariate analyses of reproductive health topics. In addition, a synthesis of programs that have had rigorous experimental designs help provide information on "what works" and what doesn't work within the program field. The synthesis of best bets from research findings, combined from "what works" from those programs that have been evaluated, may help provide a context for the types of programs necessary to help bring levels of adolescent pregnancy, childbearing, and STIs in the United States to levels that are at least comparable to other industrialized countries.

Despite recent declines in the U.S. teen pregnancy rate and teen birth rate, there are multiple reasons to maintain a focus on this social issue. This review provides promising approaches to inform research and programs to continue reductions in adolescent risk-taking behaviors. Individual characteristics, family factors, peers, partners, school context, neighborhood context, and policy and programs all have a potential influence on reproductive health behaviors.

Individual Factors

Multiple individual characteristics are associated with positive reproductive health behaviors. Demographic characteristics, including gender, race/ethnicity, and age are all important, with males more likely than females to initiate sexual intercourse at an early age and to exhibit greater levels of sexual activity; racial and ethnic minorities more likely to engage in behaviors related to early pregnancy, childbearing and STIs, and older teens more likely to be sexually experienced but also more likely to use contraception (Abma & Sonenstein, 2001; Miller, Norton et al., 1997; Raine et al., 1999; Santelli et al., 2000). Pubertal development and age at menarche are associated with the likelihood of being sexually experienced, and teens who appear older or more physically developed are more likely to be involved in sexual activity (Miller, Norton et al., 1997; Resnick et al., 1997).

Individual engagement and performance in school (Afxentiou and Hawley, 1997; Manlove, 1998; Thornberry et al., 1997), religious activities (Halpern et al., 2000; Lammers et al., 2000; Mott et al., 1996), and sports (among females) (Miller, Sabo et al., 1998; Sabo et al., 1998) are all associated with more positive reproductive health behaviors, indicating that involving teens in outside activities may help them avoid other risk-taking behaviors. In contrast, teens who are already involved in other risk-taking behaviors such as alcohol and drug use are more likely to engage in risky sexual behaviors (Kowaleski-Jones & Mott, 1998; National Center on Addition and Substance Abuse, 1999). Adolescents with a history of sexual abuse were more likely to be sexually active at an early age and to have reduced contraceptive use (Raj, Silverman, & Amaro, 2000; Stock et al., 1997); however, longitudinal studies are needed to understand the relative sequencing of abuse and sexual activity. Adolescents with a greater knowledge of reproductive health issues are more likely to use contraception (Manning et al., 2000; Mauldon & Luker, 1996), and virginity pledges appear to protect against early sexual activity among some populations (Bearman & Brückner, 2001). In addition, teens who are highly motivated and confident that they will delay sexual initiation are more likely to do so (Carvajal et al., 1999). Teens who perceive that their peers are sexually active are more likely to initiate sex themselves (Miller, Norton, et al., 1997), and those who feel that sexual experience is associated with greater respect are also more likely to have sexual intercourse (Kinsman et al., 1998).

Family Background

Multiple family characteristics are associated with positive reproductive behaviors. Teens who grow up in intact families with two biological parents, and adolescents whose families have higher socioeconomic status (including higher education and income) are more likely to have more positive reproductive behaviors (Miller, 1998). Further, teens whose parents had children at an early age or who have siblings who have had an early pregnancy are more likely to have an early age of sexual initiation and a greater likelihood of a teenage pregnancy or birth (East 1996a, 1996b; Widmer, 1997).

The quality of parent-adolescent relationships is also associated with sexual decision-making. Adolescents who feel like they have a high-quality relationship with their parents, who

communicate regularly with their parents are more likely to initiate sex at a later age and exhibit fewer sexual risk-taking behaviors (Miller, 1998). Parents who discuss issues of sexuality and contraceptive use and who communicate strong disapproval of sexual activity are more likely to have children with more positive reproductive health outcomes (Miller, Levin, Whitaker, & Xu, 1998; Romer et al. 1999). Adolescent children whose parents are involved in their schooling exhibit fewer risk-taking behaviors (Manlove, 1998). In addition, parents who closely monitor their adolescents' activities have children who are less sexually active (Miller, 1998).

Peers

Adolescent peer attitudes and behaviors are associated with reproductive health decisions. Teens with sexually active friends are more likely to have had sexual intercourse themselves (Miller, Norton, et al., 1997). In addition, teens who believe that their friends are having sex are more likely to initiate sexual intercourse at an earlier age (Kinsman et al., 1998). Peer attitudes towards sex and contraception influence adolescent behaviors (Whitaker & Miller, 2000). Alternatively, teens who report high achieving peers with strong educational aspirations and peers who avoid other risk-taking behaviors are less likely themselves to have sex at an early age and are more likely to avoid an early pregnancy (Bearman & Brückner, 1999).

Partners

The relationship that adolescents have with their sexual partners, as well as the characteristics of their partners, are associated with their likelihood of using contraception and risk of pregnancy and STI. Not surprisingly, adolescents who have dated or who report that they have been in a romantic relationship are more likely to engage in sexual intercourse than those who have not (Blum, Beuhring, & Rinehart, 2000), and married teens report a greater incidence of pregnancy (Darroch, Landry, & Oslak, 1999b). Adolescents who participate in risky behaviors such as drug and alcohol use are more likely to have multiple sexual partners, which puts them at a greater risk of pregnancy and STIs (Santelli, et al., 1998). Some studies show that teens in casual relationships were less likely to use a contraceptive method, at least at first sexual intercourse (Manning et al., 2000), while others suggest that teens may be more likely to use a contraceptive method with more casual partners (Forste & Morgan, 1998). Teens who discuss sexual risk with their partners are more likely to use a contraceptive method (Whitaker et al., 1999). In addition, teens with nonvoluntary sexual experiences and teens with much older sexual partners appear to be at-risk of early intercourse, multiple sexual partners, failure to use contraception, and a greater risk of pregnancy (Abma, Driscoll, & Moore, 1998; Darroch, et al., 1999a; Stock et al., 1997). Teen females who have sex with a partner of the same religion are less likely to become pregnant outside of marriage

School Context

The school system represents one institution that most adolescents are involved in, and studies show that the types of schools that teens attend, their perceptions of safety in school, and characteristics of the school population are all associated with reproductive health behaviors. Attending a private or Catholic school is associated with delayed sexual activity and a reduced

risk of pregnancy and childbearing (Manlove, 1998; Resnick et al., 1997). Attending schools with fewer disadvantaged teens and attending safer schools with lower levels of crime and vandalism are also associated with more positive reproductive health behaviors (Manlove, 1998; Moore et al., 1998). Attending sex education programs in schools appears to be associated with improved knowledge of contraception and in some studies has shown an association with delayed sexual activity and improved contraceptive use among some populations (Kirby et al., 1994).

Neighborhood and Community

The neighborhoods and communities that adolescents live in may also influence their reproductive health behaviors. Numerous studies show that adolescents living in disadvantaged communities with high poverty rates and low levels of socioeconomic status have a greater risk of early sexual initiation and a greater risk of adolescent pregnancy and childbearing (Brewster, Billy, & Grady, 1993; Hogan & Kitagawa, 1985; Sucoff & Upchurch, 1998). Alternately, living in a community with higher socioeconomic status is associated with a reduced risk of risky sexual activity. Racial/ethnic composition also influences outcomes, although this may be through the presence or absence of available sexual partners (Brewster, et al., 1993; Billy, Brewster, & Grady, 1994). In addition, living in a community with higher crime rates is also associated with riskier sexual behaviors (Billy et al., 1994).

Policies and Programs

There have been multiple studies of programs focused on positive youth outcomes in general and on reproductive health behaviors in particular. Many programs show promising results, although there have been few rigorous experimental replication studies. See the “what works” table at the end of the chapter for details on specific programs.

Addressing early educational experiences appears to be associated with reduced pregnancy and childbearing years later, as is evidenced by two preschool / child care programs that focused on strengthening educational outcomes among disadvantaged children (Horacek et al., 1987; Schweinhart, Barnes & Weikart, 1993).

Two youth development programs that combine community volunteer service with classroom discussions have an impact on reduced sexual activity and pregnancy as well as on other positive educational outcomes (Allen et al., 1997; Kirby, 2001).

Adolescent programs that combine a focus on youth development (including activities such as educational mentoring, employment, sports, and performing arts) with a section on sexuality education can have a strong impact on reproductive health outcomes; however, current programs in this area are intensive and long-term and appear to work better for some populations than others (e.g., influence sexual and pregnancy outcomes among females but not males in one study) (McBride & Gienapp, 2000; Philliber et al., 2001). However, vocational education programs that have been evaluated have not shown an impact on reproductive health outcomes

(Cave et al., 1993; Schochet, Burghardt & Glazerman, 2000; Walker & Villeda-Velez, 1992) with one program showing reduced pregnancy rates among black females only (Jastrab et al., 1997).

Several sexuality education programs have been evaluated, and many include a combination of abstinence messages for sexually inexperienced teens and messages about contraceptive use for sexually experienced teens. Slightly more than half of these programs show some positive impacts on reproductive health outcomes for at least some populations (Aarons et al., 2000; Eisen, Zellman & McAlister, 1990; Kirby, 2001; Thomas et al., 1992). Several HIV education programs were evaluated and slightly more than half of them show some positive impacts on sexual activity and contraceptive use for at least some populations (St. Lawrence et al., 1995; Jemmott III, Jemmott & Fong, 1992, 1998). Only one abstinence-only education program has been evaluated with a rigorous experimental design, and it did not show a significant impact on reproductive health outcomes (Kirby et al., 1997). However, current large-scale evaluations of abstinence-only programs should provide more information on the effectiveness of these programs in the future. Those sexuality education and HIV education programs that did show positive impacts on reproductive health outcomes tend to have multiple components, are based on theoretical approaches, deliver clear messages, engage participants in activities, and provide appropriate training for teachers or peer leaders (Kirby, 2001). Only one experimental program has evaluated a project to improve parent-child communication about sexuality, and this program did not show an impact on outcomes (Miller et al., 1993).

Several clinic-based programs have been evaluated with experimental designs and three (out of five) of them showed some positive impacts on reproductive health outcomes (Danielson et al., 1990; DeLameter et al., 2000; Orr et al., 1996). Those programs that showed positive impacts included one-on-one counseling and delivered a clear message about appropriate reproductive health behaviors (Kirby, 2001).

School-based health centers and condom-availability programs have not had experimental evaluations, and thus cannot be included in the “what works” section of our final table. Available studies suggest that these programs show mixed associations with reproductive health outcomes (Kirby, 2001). Community-wide initiatives to influence behavior in a large area are also quasi-experimental and have not had successful results, possibly due to their ambitious goals of affecting community-wide behaviors (Kirby, 2001). No concrete conclusions can be made from any of these studies, however, because they do not include experimental designs.

Several programs have been initiated to reduce subsequent fertility to teenage mothers. Although research studies suggest that welfare benefit levels may influence adolescent fertility outcomes (Hoffman & Foster, 1999; Horvath-Rose & Peters, 2001; Hudson & Moffitt, 1997; Manlove et al., 1999; Rosenzweig, 1999), welfare demonstration programs have not shown significant impacts on reducing subsequent fertility to teen mothers (Kisker, Rangarajan & Boller, 1998; Quint et al., 1997). However, some nurse home visiting programs with strong evaluations have shown an impact of an intensive series of visitations on reducing subsequent fertility (Olds et al., 1999).

Conclusions

In sum, a large and high-quality literature exists that identifies the antecedents of adolescent sexual and fertility behavior and thereby suggests avenues for interventions. Far fewer high-quality experimental evaluations of intervention programs have been conducted. These studies indicate that interventions addressing the antecedents of adolescent pregnancy and STIs can be effective, with early childhood, youth development, community volunteer learning programs, and nurse home visiting approaches appearing as important complements to traditional sexuality and HIV education programs and clinic service approaches.