Preventing Adolescent Pregnancy: A Review of Programs and Practices

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This article reviews literature on the programs and practices available for the primary prevention of adolescent pregnancy. Using the outcomes from research studies, the review defines some of the "best practices" available for the purpose of guiding practitioners in their selection of programs and interventions. Prevention programs, their major components, and curricula are discussed. Best practices discussed include community-based and school-based clinics, programs offering contraceptive knowledge-building along with comprehensive sex education and skills training, and sex education curricula based on social learning theory and skills training.

Key words: *adolescents; practice; pregnancy; prevention*

Adolescent pregnancy has become a serious social problem of considerable interest to politicians and the general public. In recent years a spotlight has focused on adolescent pregnancy, and political and social groups from diverse sectors have developed programs aimed at decreasing the rates of pregnancies among adolescents (Franklin, Corcoran, & Ayers-Lopez, 1997). Increasing public interest in reducing adolescent pregnancy rates is based on a concern about the escalation of nonmarital pregnancies and births in recent years (U.S. Department of Health and Human Services, 1995). Births to girls ages 15 to 19 have risen from one-third of all births in 1970 to one-half of all births in the early 1980s and to two-thirds of all births in 1988 (Chilman, 1989). This rise in the adolescent pregnancy rate has occurred in the context of an overall rise in nonmarital pregnancies to women of all ages and follows social trends in child births (Franklin et al., 1997).

Social work practitioners often are called on to intervene with adolescents for the purpose of preventing adolescent pregnancy. Funding organizations and those interested in preventing adolescent pregnancy expect social workers to be able to deliver effective interventions with this population. Adolescent pregnancy prevention programs and interventions, however, number in the hundreds (Kirby, 1989). It is difficult for a practitioner to know which programs or interventions serve as "best practices."

There are several viable ways to determine best practices but for the purposes of this review, best practices is determined not from the opinions, appraisals, or judgments of practitioners or those most familiar with adolescent pregnancy programs, but solely from the outcomes of research studies that have been conducted on those programs. This article reviews research literature on primary prevention programs and practices for adolescent pregnancy

prevention with the goal of providing an overview that can guide practitioners in their selection of programs and interventions. Primary prevention programs, their major components, and curricula are discussed.

Adolescent Pregnancy Prevention Programs

Programs for adolescent pregnancy address two broad goals. First are programs that aim to prevent pregnancies, and second are programs that aim to provide support services to pregnant and parenting youths and to remediate the negative consequences of adolescent pregnancy (Hofferth, 1991). Programs also are differentiated between those offering primary prevention, the goal of which is to prevent first pregnancies, and programs offering secondary prevention, in which the goal is to prevent subsequent pregnancies. The latter's focus on the prevention of second pregnancies may occur in programs that provide support services for pregnant or parenting youths. This review, however, involves only primary prevention programs or programs in which the main goal is to prevent first-time pregnancies.

Outcome studies determine the effectiveness of primary prevention pregnancy programs through three main outcome objectives or measures. The first involves changes in sexual knowledge and attitudes. These measures generally assess whether adolescents have increased their knowledge concerning human sexuality or the use of contraceptives. Measures may assess as well whether attitudes toward sexual risk-taking behavior or postponing sexual intercourse have changed from pretest to posttest on knowledge tests, standardized measures, or questionnaires (Christopher & Roosa, 1990).

The second outcome measures whether participants display an increase in skills. These measures assess whether adolescents have improved in decision making or communicating or in other interpersonal skills, such as speaking with parents about sex, as a result of exposure to prevention programs. Standardized measures, questionnaires, and role play simulations usually are used to make these evaluations (Miller, Card, Paikoff, & Peterson, 1992).

The third major outcome measure used by programs is to assess changes in sexual behavior, such as abstaining from or postponing sexual intercourse, reducing the frequency of sexual intercourse, increasing the use of contraceptives, or not becoming pregnant, which usually is determined by measuring pregnancy rates.

Changes in sexual behaviors, however, usually are not determined by direct observations of behavior but by self-reports concerning those behaviors (Kirby et al., 1994). Several reviews of the literature on pregnancy prevention indicate, despite the potential limitations of sexual behavioral outcome measures, that behavioral measures are superior to the other measures and are the best indicators of the effectiveness of prevention programs (Hofferth, 1987, 1991; Kirby, Waszak, & Ziegler, 1991; Kirby et al., 1994; Plotnick, 1993; Quinn, 1986; Whitley & Schofield, 1986). In addition, a well-recognized finding reveals that changing knowledge, attitudes, and skills does not necessarily lead to changes in sexual practices or behaviors.

Categorizing Components of Pregnancy Prevention Programs

Pregnancy prevention programs are multifaceted and must be categorized to analyze their special emphasis and distinctive characteristics. Several authors suggest ways to categorize programs along varying dimensions (Hofferth, 1991; Kirby et al., 1994; Quinn, 1986). Pregnancy prevention may be understood along several broad dimensions that have relevance for the understanding and categorizing of different programs. The first dimension involves the locus of intervention, whether community-based, school-based, or school-linked. The second dimension involves type of program administered, whether clinic or nonclinic. The third dimension is the type of intervention emphasized: abstinence only, sex education either with or without contraception, and contraceptive knowledge-building with or without distribution. The final dimension is the micropractice focus of the intervention, whether skills building is a central goal of intervention. The practice dimension of skills-building has become an especially important practice emphasis in the success of programs, and the importance of this intervention is discussed in more detail later.

There are numerous possibilities for program variations. For example, in community-based programs, a program may be a clinic or a nonclinic, may provide skills or knowledge without skills, and so on. Yet this schema does not represent the type of multidimensional detail that can be encountered in trying to understand the numerous variation of components present in the hundreds of programs that exist. Given the scarcity of research on effective prevention programs, however, keeping categorization of program characteristics to a minimum is necessary so that researchers and practitioners can define clearly what are the major program components.

Major Approaches Used in Adolescent Pregnancy Prevention Programs

Quinn (1986) discussed two major approaches used in adolescent pregnancy prevention programs: first, increasing knowledge through sex education curricula of various types, and second, increasing the availability of contraceptive services for adolescents. Specific programmatic strategies are divided further into the following methods: parent–child programs, programs designed to postpone sexual involvement, especially deemed helpful to younger nonsexually active teenager; comprehensive programs that include both clinical and educational services such as school-based clinics, and programs that combine career and reproductive planning. Prevention programs also may be understood according to the locus of their intervention, whether programs are school based, school linked, or community based, as well as their distinctive emphasis on curricula. Researchers also have emphasized the importance of determining the effect of program location (school, clinic, or community agency) (see Kirby et al., 1994). Because of the complexities in the design of programs and their administration, the terms "community based." "school linked," "school based," and "loci of intervention" deserve further definition.

Community-based programs are interventions in which the primary locus of practice is in a community agency or group. The community groups run these programs and are the primary agents of these programs or have the responsibility for the programs' development and implementation in a community setting. *School-based* and *school-linked* programs may be defined as programs in which the primary locus of intervention is the school campus, with the school system taking primary responsibility for program development and implementation. These types of programs include some interventions in which referrals are made beyond the school campus for help in the community, but the primary program and locus of intervention remains on the school campus (Edwards, Steinman, Arnold, & Hakanson, 1980) or is an off-campus site linked to a school setting. Of course, some programs are operated conjointly between community-based programs and schools, and in most states, it is common for a school health service or a school-linked clinic to be viewed as a conjoint program between community and school (Schlitt, Rickett, Montgomery, & Lear, 1994).

Loci of intervention refers to clinic and nonclinic programs and distinguishes prevention approaches delivered as a part of a medically oriented, school-based, or community-based health service from those originating in nonmedical programs, such as those being offered through health education and social services agencies. A common example found in program literature is a hospital-sponsored program or a university-sponsored program offered in cooperation with a school system (Howard & McCabe, 1990).

Hofferth (1991) provided the following scheme for understanding primary prevention programs when the goal is to affect the sexual behavior of targeted youths:

- Programs focus on delaying or reducing sexual activity.
- Family planning and other interventions are aimed at increasing the use of contraceptives among sexually active youths as a way to avoid pregnancies.
- Goals are to reduce pregnancies through life options and increased social and economic alternatives for disadvantaged youths.

Kirby et al. (1994) provided a similar, even more specific, scheme for understanding school-based interventions, and they divided

the programs according to three descriptive criteria:

1. Abstinence programs that do not discuss contraception.
2. Sexuality or AIDS education programs that may include discussions of abstinence and contraceptive use.
3. Comprehensive programs that include educational components plus reproductive health services, either at school or nearby in the community.

Although this conceptual organization applies only to school-based programs, the framework can also be used to organize other types of pregnancy prevention programs.

Descriptions of Sex Education Prevention Programs

Quinn (1986) noted that sex education programs can include short courses (fewer than 10 hours), average-length courses (10 to 40 hours), and comprehensive programs (more than 40 hours). Programs usually emphasize the following: skills-building and values clarification; the provision of information; peer education efforts to enable teens to educate other teenagers; youth expression theater projects, in which trained teenagers perform skits that serve as catalysts for discussion and reaction; computer-assisted instruction for parents and adolescents; and day-long conferences. Pregnancy prevention programs focusing on delaying or reducing sexual activity of adolescents usually include traditional sex education and skills-building programs such as decision-making skills, assertiveness training to respond to sexual situations, and interpersonal skills.

Sex education and other educationally focused programs typically are offered in public schools, but the also may be offered in community-based programs as adjuncts to other services—for example, in family planning clinics, girls clubs, and churches. Components of sex education or other educational components, the amount of the program that a participant actually receives (sometimes referred to as dosage), and length of exposure to a given program all preclude a single definition or understanding of traditional sex education programs (Miller et al., 1992; Quinn, 1986).

Kirby et al. (1994) discussed similar types of program components of school-based pregnancy prevention programs but further emphasized the utility and effectiveness of programs based on social learning theories, such as social cognitive theories, social influence theory, social inoculation theory, and cognitive–behavioral theory, as a basis for program development. (see Eisen, Zellman, & McAlister, 1985; Kirby, Barth, Leland, & Fetro, 1991; Schinke, Blythe, & Gilchrest, 1981 for review of rationales for these types of programs.)

Pregnancy prevention and education programs based on social learning theories focus on reducing sexual risk-taking behavior that may lead to HIV infection and sexually transmitted diseases by emphasizing the behavioral goals of delaying initiation of intercourse or using contraception. Interventions consist of modeling and role plays to demonstrate communication and negotiation skills and reinforcing prosocial values against premature sexual activity and unprotected sex. Social learning programs also are experiential in their emphasis on problem solving and concrete exercises that help adolescents think through the consequences of decisions to obtain experience in practicing new behaviors (that is, going to the pharmacy to buy a package of condoms).

Sex education programs exhibit considerable diversity in relationship to the types of knowledge and skills taught. For example, family planning programs provide extensive knowledge about contraceptives and attempt to increase the use of contraceptives among sexually active youths as a way to avoid pregnancies. These programs provide sex education but also emphasize contraceptive knowledge building and use. Programs also may distribute condoms and other contraceptives, as well as provide sex education and skills training approaches, to increase resistance to sexual encounters.

All sex education programs, however, do not provide information on contraceptive use or distribution (Kirby et al., 1994). A recent national study conducted by the Sex Information and Education Council of the United States (SIECUS) (1993, cited in Schlitt et al., 1994) indicated that many states and public schools

exclude controversial services, such as contraceptive knowledge building and distribution, from their approach to sex education. In contrast, a survey of school-based clinics indicates that states are becoming more comfortable with school-based sexuality programs that may include contraceptive knowledge building (Schlitt et al., 1994). At present, however, the foci of sex education programs vary, with some programs including contraceptive knowledge building and distribution and others excluding this content from their curricula. Contraceptive programs are found most often in family planning services located in community-based clinics and in some school-based clinic programs and multipurpose youth centers.

Description of Life Options Pregnancy Prevention Programs

Pregnancy prevention programs with the goals of changing sexual behaviors, reducing pregnancies through life skills and options, and increasing alternatives for disadvantaged youths (Philliber & Allen, 1992) offer a more indirect approach than the sex education prevention programs (Plotnick, 1993). The rationale for life options programs is that youths who have higher achievement orientations, grades, aspirations, and economic opportunities are more likely to delay early sexual intercourse and childbearing (Alan Guttmacher Institute, 1994a, 1994b; Hofferth, 1987, 1991). Plotnick (1993) concluded that indirect policies and programs that target

> teenagers' educational and earnings opportunities, such as job training programs and guaranteed student loans, deserve support in their own right and hold the further promise of contributing indirectly toward reducing teenage pregnancy and childbearing. The same conclusion probably applies to policies designed to reduce child sexual abuse. (p. 327)

Target populations for life options programs are similar to those for other pregnancy prevention programs. Programs target male and female, multiracial junior high and high school teenagers. The majority of participants represent lower socioeconomic groups, and most are African American. Overall, research indicates that pregnancy prevention programs have no effect on the sexual activity of adolescents, regardless of race or ethnicity (Franklin et al., 1997). Earlier research into prevention programs that focus on increasing the adolescent use of contraceptives indicate that the Latino population responds more positively to increasing contraceptive use than other ethnic groups. However, more research needs to be completed to determine the specific long-term outcomes of life options programs with different ethnic groups. Only a few research studies have examined the effectiveness of life options programs. The results from these studies are promising, but research designs and methodologies used limit their conclusions (see, for example, Philliber & Allen, 1992; Postrado & Nicholson, 1992).

Sex Education Curricula Used in Prevention Programs

Sex education is a common program component used in many adolescent pregnancy prevention programs. Hundreds of sex education curricula have been developed by different school districts and implemented during the past 15 to 20 years. Shamai and Coambs (1992) took a sociohistorical view of curricula, using the critical sociology of education as a framework to critique the effectiveness of sex education in public schools, particularly because the programs lack power to change behaviors, such as the free expression of one's sexuality, strongly endorsed by society. Conclusions of these authors indicated that this broader societal view decreased the curricula's ability to change adolescent behavior.

Kirby (1989) also concluded that the curricula may be understood generationally and sociohistorically and that changes in curricula over time paralleled sociopolitical trends, similar to other educational curricula, such as those designed to affect smoking and substance-abuse behaviors. The first generation of sex education curricula emphasized the risk and consequences of pregnancies, with a primary focus on knowledge building. The second generation evolved out of the first with its inclusion of knowledge building, but with an increasing emphasis on values clarification and

skills, especially decision-making and communications skills.

The third generation of sex education curricula, although evolving from its predecessors, developed as a reaction to curricula that assumed sex education should be value free. Developers of third-generation curricula emphasized that youths should refrain from sexual intercourse until married. Programs discussed abstinence-only approaches to pregnancy prevention, with no discussion of contraceptives (Roosa & Christopher, 1990). The next generation involved HIV/AIDS education curricula that tended to develop independently of the other two generations of sex education curricula in response to the growing health concerns of HIV infection (Walter & Vaughan, 1993).

More recently, in a move to develop fourth-generation curricula, researchers suggest that skills training greatly increases the effectiveness of sex education and other pregnancy prevention programs (Kirby et al., 1994). The latest generation of skills-based sex education curricula involve theoretical approaches such as social–cognitive and social learning theories with demonstrated effectiveness in other health areas (Eisen & Zellman, 1992). These curricula emphasize multiple intervention components, including knowledge about avoiding unprotected sex, motivation (anticipated benefit in delaying sex or using protection), self-expectancy (belief that specific skills or methods are most effective), and self-efficacy (belief that skills learned can be used) (Kirby et al., 1994).

New curricula have taken into account the successes and failures of former approaches to pregnancy prevention. Certain components have been retained from earlier curricula. For example, similar to third-generation curricula that emphasized a strong moral stance, the new fourth generation of theoretical curricula is not value-free. Like third-generation curricula, theoretical curricula emphasize the need to take a stance concerning sexual behavior but with programs not limited to abstinence-only approaches, expanding acceptable sexual-behavior options to include the delay or postponement of sexual intercourse and effective contraceptive use.

Theoretical curricula also emphasize the need to make abstinence and safe sex practices acceptable norms in groups of adolescents, teaching adolescents to challenge the erroneous beliefs propagated by the media concerning sex (that is, the message that sexual intercourse without protection has no negative consequences) and to challenge unrealistic peer pressure concerning sexual behavior (that is, "If you love me, you will have sex with me," or " If we use a condom, it won't feel as good.") (Eisen, Zellman, & McAlister, 1985; Kirby, Barth, et al., 1991; Schinke et al., 1981; Thomas et al., 1992).

Effective Curricula

Kirby and eight other eminent researchers in the field (1994) of adolescent pregnancy completed a research review aimed at identifying the most effective curricula for the prevention of adolescent pregnancy. Kirby et al.'s criteria for effectiveness were based on research studies that had been completed on the curricula. *Effective curricula* are defined as those curricula that have demonstrated success in delaying sexual intercourse and increasing contraceptive use. In the selection of effective curricula, Kirby et al. used the stringent behavioral measures outcomes indicators, mentioned earlier as the best way to evaluate the success of adolescent pregnancy prevention programs. Four curricula that met these criteria of delaying sexual intercourse and increasing contraceptive use were identified by these researchers.

The first curriculum is "Postponing Sexual Involvement," a 10-hour program in Atlanta, Georgia. Predominantly black eighth graders from low-income families participated in the program, which was held in a regular classroom setting and presented in conjunction with instruction on human sexuality and contraception. It was developed at Emory University School of Medicine and Grady Memorial Hospital (Howard & McCabe, 1990). The second curriculum discussed is "Reducing the Risk," developed by Richard P. Barth, a social work professor at the School of Social Welfare at the University of California at Berkeley (Barth, 1989; Kirby, Barth, et al., 1991) and distributed by ETR Associates. Urban and rural high school students of various races and income levels participated in 15 sessions of health education

classes in their respective high schools. "Reducing the Risk" curriculum continues to be used in the California school districts.

Schinke et al.'s (1981) cognitive–behavioral curriculum, developed in Seattle at the University of Washington School of Social Work, is a forerunner to "Reducing the Risk" curriculum. Tenth graders, whose ethnicity was unspecified, participated in the 14 sessions held in special, small-group high school classes. The final curriculum is "AIDS Prevention for Adolescents in School," developed by Heather Walter at Columbia University (Walter & Vaughan, 1993) in collaboration with four participating New York City high schools and the New York City Board of Education. Low-income ninth and 11th graders representing various races participated in the six-session curriculum, which was implemented within the general framework of health education classes. (See Table 1.)

Research Supporting the Effectiveness of Adolescent Pregnancy Prevention Programs

Currently, sex education and pregnancy prevention programs for adolescents are controversial. Debates rage about the effectiveness of prevention programs and whether they should be offered at all. Research literature on pregnancy prevention programs and their effects has accumulated. As discussed earlier, measures of behavioral change are more important in determining the effectiveness of pregnancy prevention programs than measures of knowledge and attitude change.

Dawson (1986) reviewed the research and indicated that the most successful programs for influencing contraceptive behavior were based in a clinic setting. In addition, there is some support that clinic-based programs can play a role in the reduction of pregnancy rates, although this finding may be confounded by adolescents receiving abortions instead of learning to use contraceptives. Hofferth (1991) concurred that community-based and school-linked clinics can reduce pregnancy rates but stated, however, that the same results cannot be presented for school-based clinics. Although school-based clinics appeared to improve the general level of health care to students, no significant effects on sexual activity, contraceptive

Table 1

Four Effective Sex Education Curriculums

Curriculum	Focus of Intervention	Implementation	Theoretical Orientation
"Reducing the Risk," Barth (1989)	Avoiding sexual intercourse and improved contraceptive use through gains in knowledge and skill	Trained school teachers deliver the 15-session curriculum over a three-week period to 9th through 12th graders	Social learning, social inoculation, and cognitive–behavioral
"Postponing Sexual Involvement," Howard & McCabe (1990, 1992)	Avoiding sexual intercourse by increased knowledge and skill	Trained, slightly older teenagers deliver the curriculum through 10 classes over a three-month period to 8th graders	Social influence model
"Cognitive–Behavioral Prevention," Schinke, Blythe, & Gilchrest (1981)	Improving decision-making skills related to sexual behavior and contraceptive use	Two MSW facilitators lead mixed-sex groups of 10th graders in 14 one-hour sessions.	Cognitive–behavioral
"AIDS Preventative Curriculum," Walter & Vaughan (1993)	Building knowledge about AIDS and the skills to prevent unwanted pregnancy	Trained school teachers deliver the curriculum through six one-class-period sessions on consecutive days to 9th and 11th graders	Health belief model, social cognitive theory, and social influence model

use, or pregnancy rates were indicated consistently. From Hofferth's review it may be inferred that community-based clinic programs are more effective than school-based clinics for changing specific behavioral outcomes in pregnancy prevention.

Beck and Davies (1987) reviewed 12 commu*nity- and school-based programs that affected* contraceptive use. These authors listed findings of each study and concluded that those targeting communication and problem-solving skills were most effective. Programs that focused on building skills in resisting social and peer pressure have been suggested as being more effective than programs that simply educate adolescents about the risks and consequences of sexual behavior. Postrado and Nicholson (1992) and Kirby, Barth, et al. (1991) claimed that in at least some studies, the early promise of skills training approaches seems to have been supported by subsequent empirical research.

In an evaluation of school-based clinics, Kirby (1992) concluded that the reduction in birth rates initially reported for the clinics in St. Paul, Minnesota, were not borne out by subsequent analyses. In a study of six school-based clinics, Kirby, Waszak, and Ziegler (1991) reported that "simply dispensing contraceptives was not sufficient to dramatically increase contraceptive use, but more comprehensive approaches that focus on pregnancy and AIDS prevention might have a greater impact" (p. 284).

The most recent comprehensive narrative review of research in the field involves school-based adolescent pregnancy prevention programs (23 studies) conducted by Kirby and eight other researchers in the field (1994). The *purpose of the review was to synthesize research* on effectiveness of programs, to identify distinguishing characteristics of effective programs, and to identify important research questions in this area. To guarantee a minimum quality for studies to be included in the Kirby et al. (1994) review, a study had to be accepted for publication or published in a peer-reviewed journal.

Results from the review indicated that evidence for the effectiveness of abstinence-based programs was mixed as to whether they affected initiation of sexual activity or contraceptive behavior. Resistance-skills training to delay sexual activity, however, might be effective if targeted toward the age and sexual experience of participants. Certain curricula were effective in increasing contraceptive use and reducing the initiation of or frequency of sexual intercourse among certain groups. For example, Kirby, Waszak, and Ziegler (1991) found that among *nonsexually active adolescents at pretest, the* "Reducing the Risk" curriculum reduced unprotected intercourse, although not for those sexually active at pretest. Similarly, Schinke et al. (1981) increased the use of contraception among the sexually active participants, as did Walter and Vaughan (1993).

Other significant findings reported by Kirby et al. (1994) included that length of program and skill practice failed to distinguish between effectiveness of different types of programs, although skill practice was often difficult to quantify for each curriculum. The authors concluded that the mixed results from research studies made it impossible to "determine the impact of school-based or school-linked reproductive health services" (p. 356). In response to mixed *results that existed in earlier narrative reviews* of the outcome research on adolescent pregnancy prevention programs, both Frost and Forrest (1995) and Franklin et al. (1997) conducted meta-analyses (quantitative reviews) of research studies with a goal of finding out what programs and interventions work.

Frost and Forrest (1995) specifically addressed the efficacy of adolescent pregnancy prevention programs in relationship to their effect on sexual activity, contraceptive use, and pregnancy or childbirth rates. They summarized the nonstandardized effect sizes across five studies of school-based pregnancy prevention programs. Frost and Forrest stated their criteria as follows:

> We included only interventions that used either education or training of adolescents, or both, as a way of producing modifications in behavior. Thus, we omitted clinic-based programs or school-based clinics that were designed to increase adolescent access to contraceptives but lacked a specific educational component, as well as programs that focused on preventing second or higher order births

among adolescents or on affecting the outcomes or behavior of adolescent parents. (p. 189)

Only five studies were chosen because they were believed to represent rigorously evaluated programs. Curricula studied included Postponing Sexual Involvement, Reducing the Risk, School–Community Program, Self Center, and Teen Talk. The authors concluded that "all four of the programs that measured adolescent sexual and contraceptive behavior delayed the initiation of sexual activity among many teenagers, and three of these four programs increased the proportion of sexually active teens using contraceptives" (pp. 194–195). However, results failed to address the programs' effectiveness on pregnancy and childbirth rates.

Frost and Forrest's (1995) study represents a first attempt at statistically synthesizing the outcomes of programs to prevent adolescent pregnancy. The limited number of studies reviewed, however, means that it does not represent a comprehensive synthesis of existing research literature. And Frost and Forrest did not follow statistical procedures commonly associated with a meta-analysis. The usual procedure is to include as many studies as possible from a substantive area. The Frost and Forrest study also is limited by its design and statistical methods.

Franklin, Grant, et al. (1997) performed a more comprehensive meta-analysis of 32 primary pregnancy prevention outcome studies. Three outcome variables—sexual activity, contraceptive use, and pregnancy rates—were included and analyzed as three separate and independent meta-analyses. Eleven moderator variables (for example, age, gender, ethnicity, and so forth) also were examined in relationship to the findings. These authors compared community-based versus school-based interventions and included in their study both clinic and nonclinic programs. The majority (approximately 80 percent) of the participants in the 32 adolescent pregnancy prevention programs evaluated in the meta-analysis were female youths from African-American and Hispanic cultures.

Results indicated that the pregnancy prevention programs examined in the studies had no effect on the sexual activity of adolescents. Sufficient evidence was found, however, to support the efficacy of pregnancy prevention programs for increasing contraceptive use. A smaller but significant amount of evidence also supported program effectiveness in reducing pregnancy rates. Contraceptive knowledge building and distribution was found to be the most effective intervention for increasing contraceptive use and reducing pregnancy rates among adolescents. Moderator analysis showed that younger teenagers (under 14) have higher pregnancy rates and do not perform as well on contraceptive use measures as older teenagers (15 and older).

Results of the meta-analysis further indicated that community-based clinics were more effective than other types of pregnancy prevention efforts, and this included school-based clinics. However, school-based clinics did affect contraceptive use more effectively than other school-related sex education programs. A possible explanation given for the community-based clinics' better performance is that the school-based clinics had a low percentage of contraceptive distribution compared with community-based family planning clinics. One report indicated that fewer than 20 percent of school-based clinics reportedly actually distributed contraceptives, and only 28 percent of these wrote prescriptions for birth control pills (Kirby et al., 1994). Thus, although contraceptive distribution has proven effective, most school-based clinics are prohibited from this practice.

Implications for Practice

There are numerous programs for adolescent pregnancy prevention, and practitioners are faced with a range of possible program components and curricula. Outcome research offers some guidance on which program components and curricula to use. Although there are considerable differences in findings across studies, enough consensus exists to draw the following conclusions for the purposes of guiding practice:

- Clinic programs have been found to be more effective than other types of pregnancy prevention programs.

- Community-based clinics are more effective than school-based clinics. School-based clinics, however, are more effective than other sex education programs.
- Including contraceptive knowledge building and distribution is an essential component for developing an effective program
- An effective pregnancy prevention strategy, however, requires more than just contraceptive distribution. Comprehensive sex education and skills training must be a part of the program. Practitioners working with adolescents also are advised to give their full attention to age and developmental issues when developing prevention programs and using curricula. The majority of young adolescents, for example, are not sexually active. Eighty-four percent of 13-year-olds, 77 percent of 14-year-olds, and 70 percent of 15-year-olds have not had sexual intercourse (Alan Guttmacher Institute, 1994b). Comprehensive, age-phased, and developmental approaches such as the one suggested by Postrado and Nicholson (1992) may be appropriate for designing programs for different age groups. Younger, nonsexually active youths may be more easily influenced by life options, delaying sexual intercouse, and other abstinence approaches. Abstinence or delaying approaches are not considered, however, to be an effective method for youths who are sexually active
- Sex education curricula based on social learning theory and skills training are more effective than other types of curricula, and should be used as interventions in programs. Several standardized curricula have been developed and are accessible to practitioners. The four effective curricula reviewed in this article offer practitioners a range of curricula to use when operating groups and programs.

Sexual Abuse and Substance Abuse

Psychosocial problems that complicate development also require additional interventions beyond standard sex education programs and curricula. Substance abuse and sexual abuse, for example, put adolescents at risk of early pregnancy and involve more complicated psychological and developmental issues. Chandy et al. (1996) presented an analysis demonstrating the adverse outcome risk factors, including pregnancy for adolescents identified with a history of sexual abuse, parental alcohol abuse, or both. Rainey et al. (1995) linked sexual abuse and substance abuse, indicating self-destructive behavior patterns. Substance abuse by youths contributes to adolescents' using bad judgment and interferes with their using contraceptives; for example, substance abuse makes adolescents more vulnerable to acting on sexual impulses without thought to possible consequences. Substance abuse also leads to poor choice of partners, unsafe sex practices, and a lack of memory concerning sexual events.

It is obvious that standard pregnancy prevention programs and curricula such as the ones reviewed in this article will not be effective with youths who are serious substance abusers. We, however, found no rigorous outcome studies evaluating the effectiveness of specialized sex education curricula for substance abusers. Practitioners may wish to consider incorporating substance abuse interventions along with the effective curricula reviewed in this article. A full discussion of effective substance abuse interventions is beyond the scope of this review, but readers may wish to consult McNeece and DiNitto (1998) for a review of effective practices.

Sexual abuse is involved in the sexual activity of a large percentage of younger adolescents because many female adolescents are forced prematurely into sexual activity. Approximately 50 percent to 75 percent of females whose first sexual experience happened before age 14 or 15 were forced into sexual relationships. The link between sexual abuse and adolescent pregnancy is suggested by several researchers, including Becker-Lausen and Rickel (1995), Butler and Burton (1990), McCullogh and Scherman (1991), and Smith (1996). Rainey et al. (1995) stated that sexually active, previously sexually abused females expressed concern over their fertility and reported a desire to conceive three times more frequently than nonabused females.

The practice implication is that adolescents who have experienced sexual abuse have been oversexualized and are vulnerable to seeking rewards and gratification from sexual experiences and may even view pregnancy as a desired outcome. Because of their oversexualized identity, these adolescents may not act to prevent pregnancy even if given the appropriate knowledge and skills to do so. There is a need for curricula designed specifically to address sexually abused adolescent females with a focus on their desire to conceive in their expression of at-risk behaviors. We found no rigorously evaluated outcome studies that focused on the effectiveness of a specialized curricula for sexually abused youths.

Smith (1996), however, suggested that the facilitation of discussion between parents and children about the need for careful sexual decision making and the use of contraception may be an effective approach for maltreated youths. Treatment should include sharing information about the link between maltreatment and at-risk behaviors and addressing the adolescents' victimization experiences. Practitioners can enhance resilience among maltreated adolescents by improving their personal skills and linkage to supportive adults and opportunities. Cognitive and social learning interventions also may be helpful in getting youths with a history of sexual abuse to rethink their viewpoints and decisions before becoming pregnant. Such interventions as resistance training, assertiveness training, and empowerment strategies and teaching safety issues may be important pregnancy prevention strategies for adolescents who have been sexually abused and remain vulnerable to further sexual exploitation.

Conclusion

Preventing adolescent pregnancy is at the forefront of social issues in the current political arena. Diverse constituencies have vested interests in preventing adolescent pregnancy and are at controversy over what the best programs and practices are. Social work practitioners working in schools, clinics, and other community-based programs often serve as the first line of defense in preventing adolescent pregnancy. It is important for those practitioners to follow the best practices available if they are to have a positive influence on the adolescents that they serve. This article has defined some of the best practices for the purpose of guiding practitioners in their selection of programs and interventions. We believe this knowledge will aid practitioners in better serving the adolescents, families, and communities in which they work. ■

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Original manuscript received July 11, 1997
Final revision received July 2, 1998
Accepted September 7, 1998