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Parents, Schools and Safe-Sex Knowledge

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In the United States, 63.1% of adolescents have had sex by the time they graduate high school (Centers for Disease Control, 2006). Although sex during adolescence is now normative, teenagers do not always make good choices, and there are many causes for concern about teen sexual activity, including having multiple partners, involvement with drugs and alcohol, and lack of protection and contraception use. Centers for Disease Control (2006) found that 14.3% of high school students have had sex with four or more partners during their life, and that among sexually active teenagers, 23.3% drank alcohol or used drugs before their last time having sex. Among those sexually active, only 62.8% reported using a condom during their last time having sex (Centers for Disease Control, 2006). This lack of contraceptive and protection use leads to problems with STDs and pregnancy; in the year 2000, adolescents aged 15-24 accounted for 48% of new cases of STDs, and there were 53.5 pregnancies per 1000 females in teenagers aged 15-17 (Weinstock, Berman & Crates, 2004; Centers for Disease Control, 2004). Because many teens are having sex and there are high rates of STDs and pregnancy, an intervention is needed to help adolescents stay healthy and free of unwanted pregnancy and disease.

A literature review on adolescent sexual activity and attitudes suggests that in order for adolescents to make responsible sexual behavior decisions, comprehensive sexual education in the form of family conversation, school or community programs and knowledge outside of abstinence-only programs is needed. This paper discusses studies reviewing family based education, school and community based education, and the need for comprehensive sexual education. The strengths and limitations for each study are discussed, and in the conclusion, future research directions and implications for public policy are explored.

Family Based Education: Conversation and Communication

Even though discussion between parents and adolescents about sex might be awkward for some families, research has shown that parental communication can influence teens' sexual behaviors and decisions regarding safe-sex and condom use (Troth & Paterson, 2000; Hutchinson, 2002). In a study by Troth and Paterson (2000) examining the predictors of young adults' beliefs about safe-sex communication in their relationships, reluctance to discuss safe-sex and condom use with a partner was found to be mediated by gender, assertiveness, and parental conflict resolution. Parents were also found to have little input into the sex education of their children; however, females were more likely to discuss and negotiate for condom use when their mothers had discussed safe-sex with them compared with females who had not discussed sex with their mothers. Troth and Paterson (2000) concluded that although parents had little involvement in their children's sex education, parental communication and conflict resolution were important predictors to adolescents' safe-sex discussions and condom use.

A limitation of the study was that the participants were a small sample of heterosexual college students from Australia; this means that the results may not generalize to adolescents of lower education, lower socioeconomic statuses, other countries, or minority sexual orientations. The study was also all self-report, meaning that the participants may not have answered truthfully. However, the study shows the important findings that parental communication can positively influence teens' safe-sex talk and condom use (Troth & Paterson, 2000).

In a similar study aimed at evaluating parental communication about sexual risks with daughters, Hutchinson (2002) found that early parent-adolescent communication about sex was associated with a later age of sexual intercourse and more consistent condom use. Hutchinson (2000) found that young women who had talked about sex with their parents before becoming

sexually active were less likely to initiate sexual activity than those who had not discussed sex with their parents, and that those who had also talked about condoms with their mother were seven times more likely to report consistent condom use during adolescence. These findings suggest that communication with their parents helps teens to make informed choices about sex.

This study did have some weaknesses, including the sample and the sample selection. Hutchinson (2000) points out that the results may not generalize to all female adolescents because the participants were selected in one state through driver's licenses and telephone numbers. Another problem with the study was that it relied on retrospective self report data. However, a strength in this study was the ethnic representation of three groups in the United States, Hispanic-Latina, African American and White.

Overall, these two studies show that although there are limitations in the research available, the general trend is that parents do have an impact on their teens' behavior. As seen in the results in the Troth and Peterson (2000) and in Hutchinson (2000) studies, family communication, conflict resolution and parents' providing information about condom use and HIV infection can influence the adolescent's tendency to participate in safe-sex.

School and Community Based Education

In addition to family education, research has also shown that school and community based programs can help teens to make informed choices about sex (Sanderson & Cantor, 1995; Roberto, Zimmerman, Carlyle & Abner, 2007; Mueller, Gavid & Kulkarni, 2008). Sanderson and Cantor (1995) examined the relationship between social dating goals and effective sex education for individuals with different types of goals: establishing identity or establishing intimacy. Sanderson and Cantor (1995) suggested that individuals with the goal of identity would be involved in self-exploration with multiple partners and those interested in establishing intimacy

would be involved with communication and dependence on a single partner. Study participants were identified as either having identity goals or intimacy goals and were then randomly assigned to a no-treatment group, an education group that focused on communication skills, such as negotiation, or an education group focused on technical skills, such as how to use a condom. Sanderson and Cantor (1995) found that individuals who received goal-relevant education, for example having identity goals and receiving technical education, showed greater intention to use condoms in the future, in comparison with those who did not receive goal-relevant education. At the three month and one year follow-ups, the effects of the education were found to be long-lasting for the individuals who had participated in goal-relevant education.

A strength in this study was the longitudinal design that allowed for analysis of cause and effect. Another strength in this study was the examination of how different techniques of education can affect different people. Knowing that different adolescents will respond to various types of education differently can help educators structure programs to have components of communication and technicality to be most effective for everyone participating. A weakness in this study was that the sample was a group of Princeton college students and results from this study may not generalize to the population of adolescents as a whole.

In another school based education program, Roberto, Zimmerman, Carlyle & Abner (2007) studied the effects of a computer and internet based intervention that was designed to increase variables such as knowledge, condom negotiation skills and self-efficacy in rural adolescents in hopes of preventing pregnancy and transmission of STDs and HIV. Participants at one rural high school served as the control group, while students at another school participated in a 7-week intervention of computer- and internet-based information. Roberto et al. found that students in the experimental school had greater knowledge, condom negotiation skills, and more

favorable attitudes toward waiting to have sex than the students in the control school. The researchers also found that teens in the control group were almost three times more likely to initiate sexual activity between the pre- and post-tests than the students in the experimental group (Roberto et al.). Overall, this study showed that an inexpensive computer based program may be an effective way to education adolescents about safe sex.

A strength in this study was the quasi-experimental design with an intervention that was cost- and time-effective (Roberto et al., 2007). A weakness in the study was the relatively short period of time at the follow-up (Roberto et al., 2007). In order to examine long-term effects of the intervention a longer time frame would need to be used in a study. Another weakness in this study was the sample; the participants were a select group of mostly white students from a rural school, and these students may not represent adolescents from other ethnicities or socioeconomic statuses. Despite the limitations, this study showed that school based programs using computers can be effective in educating teens about making informed decisions.

To examine whether or not sex education is effective at all, Mueller, Gavid and Kulkarni (2008) used a survey of adolescents to determine if exposure to any formal sex education was associated with having had sex, the age at first time of sex, and the use of contraception at first sex. “Formal sex education” was defined as any type of sex education the adolescents received through school, church or the community. Mueller et al. found that teens who had received sex education before their first sex were less likely to have started having sex and less likely to have had sex before age 15 than those who had not received sex education. Females who had sex education were found to be more likely to have used contraception at their first sex than females who had not received sex education (Mueller et al.). The researchers concluded that overall, having participated in some kind of formal sex education increased the likelihood of abstaining

from sex, delaying initiation of sex and using contraception at first sex (Mueller et al.).

A strength in this study was the large nationally representative sample of adolescents aged 15 to 19 who were either white, Hispanic or African American (Mueller et al., 2008); however, a weakness was that the study might not have represented all ethnicities. Other limitations in this study included self-report, the inability to make conclusions about the best type of education, and the inability to conclude cause and effect about the receipt of sex education and behavior. However, the conclusions made from this study are important: having sex education before having sex for the first time "helps protect youth from risky sexual behaviors" (Mueller et al.).

In addition to school and community based programs, a community program with emphasis on the family can also help educate adolescents to make informed decisions about sex (Murry, Berkel, Brody, Gibbons & Gibbons, 2007). Murry et al. completed a study on a family-community based intervention for adolescents and their engagement in risky sexual behavior. African American families were randomly assigned to either the intervention group or the control group, and the intervention group participated in a seven week program of weekly educational sessions about issues such as family values, racial pride, community support, and sex and risky situations. At post-testing at three and 29 months, Murry et al. found that parents who communicated about their values, history and strength decreased adolescents' participation in risky behaviors. Murry et al. (2007, p. 341) concluded that a "culturally competent program" can induce changes in parenting that can have a long term-effect of teenagers' sexual behavior.

A strength in this study was the evaluation of an intervention in a high risk group of adolescents and the implications for future programs that can promote well-being and decrease risky behavior (Murry et al., 2007). A limitation was that this study only looked at one group of

high risk adolescents, rural African Americans, when there are other groups of adolescents who may also be at high risk.

Together these studies on school and community based education programs show that formal sex education can be effective (Mueller et al., 2008), that various types of programs can be effective for different teenagers, such as teens with differing social dating goals, teens in rural schools with computer access, and African American families who participate in community based family programs (Sanderson & Cantor, 1995; Roberto et al., 2007; Murry et al., 2007).

Comprehensive Sexual Education

Even though the presence of formal sex education has been shown to be effective (Mueller et al., 2008), the type of sexual education is also important. Research has shown that comprehensive sex education is associated with less risky sexual behavior and that abstinence-only education is no different from having had no education (Kohler, Manhart & Lafferty, 2008; Trenholm, Devaney, Fortson, Quay, Wheeler & Clark, 2007). Comprehensive sex education, as opposed to abstinence-only education, includes information on safe sex and birth control.

To evaluate the effectiveness of comprehensive sexual education compared to abstinence-only education, Kohler et al. (2008) had participants complete a survey about sexual behaviors and their extent of sex education: no formal sex education, abstinence-only education on saying no to sex, or comprehensive sex education on saying no to sex and using proper contraception. Kohler et al. found that teens who had received comprehensive sexual education had a 50% lower risk for teen pregnancy than adolescents who had abstinence-only education and that teens who had comprehensive sex education were significantly less likely to have teen pregnancy than those with no formal sex education. Abstinence-only education was also found to have no significant effect on delaying sex or in reducing the risks for pregnancy or STDs (Kohler et al.).

Some limitations this study included the retrospective design and the self-report measures. The participants may not have answered truthfully or accurately due to recalling past information about their sexual education (Kohler et al., 2008). The design of the study also did not allow for cause and effect analysis since there was no intervention tested. Another limitation in this study was that it only evaluated heterosexual teenagers, leaving out analysis on teens who are gay, lesbian or bisexual. However, understanding that a certain type of sex education, comprehensive sex-education, is more effective than other programs is important. With this knowledge money can be placed into developing effective programs to educate adolescents.

In order to determine if the abstinence-only programs supported by the annual $87.5 million from the federal government were effective, Congress authorized a study to analyze the effects of the programs (Trenholm et al., 2007). To report to Congress, Trenholm et al. completed a longitudinal study to examine the effects of four different abstinence-only programs across the United States, with adolescents who were randomly assigned to either the program or a control group with no education program. Overall, the adolescents in the education groups were found to be no more likely than those in the control groups to have abstained from sex, and among those having had sex, both the experimental and control groups had began having sex at the same mean age and had similar numbers of sexual partners (Trenholm et al.). Trenholm et al. also found that the two groups did not differ in rates of having unprotected sex, in knowledge about unprotected sex risks and the effects of STDs, or in their perceptions about condom effectiveness. In fact, teens who had participated in the program were more likely to say that condoms are never effective at preventing STDs and less likely to say that condoms are usually effective at preventing STDs (Trenholm et. al). Overall, Trenholm et al. concluded that the abstinence-only programs had no impacts on teen sexual activity, rates of unprotected sex, or

knowledge of the risks of unprotected sex and the consequences of STDs.

Some limitations of this study include the programs evaluated and the age of intervention. Only abstinence-only programs were evaluated in this study, so no conclusions can be made about comprehensive sex education. The targeted age for the intervention, late elementary and middle school students, may not have been optimal since sexual activity increases in high school (Trenholm et al., 2007). There were, however, many strengths in the study; the large sample of youth, the random assignment and the experimental design allowed the researchers to conclude cause and effect regarding the program intervention. The conclusions from the study are also very important; knowing that abstinence-only education is ineffective will hopefully guide policy- and lawmakers to redirect money into effective sexual education programs that will help adolescents make informed choices about sex.

Limitations and Future Directions

Overall, the research shows that comprehensive sexual education in families, schools and communities that is not abstinence-only is most effective in helping teens to make informed choices about sex, including decisions about when to have sex and using contraception. Research suggests that parents need to communicate with their teens about sex and that programs in schools and communities, through classes, computers, or family sessions, can be effective if they are not abstinence-only (Troth & Paterson, 2000; Hutchinson, 2002; Sanderson & Cantor, 1995; Roberto et al., 2007; Murry et al., 2007; Kohler et al., 2008; Trenholm et al., 2007.).

The limitations in the studies on adolescent sexual education include problems with generalizing the results and the lack of longitudinal, prospective studies. In many studies, the participants may not accurately represent the adolescent population as a whole, so conclusions may not always apply to other groups of people, including youth of minority sexual orientations.

Many studies are also retrospective and do not allow researchers to determine cause and effect. To address these limitations, future directions of study need to include more groups of people, including ethnic and sexual orientation minorities, and the studies need to be experimental and longitudinal, to study behavior over time after the program. Having more studies and including more groups of people in the studies would help educators, parents and policy and law makers to make good decisions regarding the type of sexual educations adolescents receive.

The findings from these studies also suggest some implications for public policy. Knowing that abstinence-only education is as effective as no education and knowing that comprehensive sex education is effective should guide policy makers to develop comprehensive sex education programs for schools, and stop the funding of abstinence-only programs. Changing the laws about sex education and implementing effective programs in schools will hopefully lead to increased knowledge in teens, reduced transmission of STDs, and reduced teen pregnancies. Encouraging and improving family communication, and implementing effective programs in schools and communities that are comprehensive and not abstinence-only will give adolescents a better chance to make informed and responsible decisions for themselves about sexual behavior.

References

Centers for Disease Control and Prevention (2004). NCHS data on teenage pregnancy. National Centers for Health Statistics. Retrieved March 6, 2008, from http://www.cdc.gov/nchs/data/factsheets/teenpreg.pdf

Centers for Disease Control and Prevention. (2006). Youth behavior surveillance – United States, 2005. *Morbidity and Mortality Weekly Report, 55* 1-108.

Centers for Disease Control and Prevention. (2007). Cases of HIV infection and AIDS in the United States and dependent areas, 2005. *HIV/AIDS Surveillance Report, 17*, 1-54.

Hutchinson, M.K. (2002). The influence of sexual risk communication between parents and daughters on sexual risk behaviors. Family Relations, 51, 238-247. [journal article]

Kohler, P.K., Manhart, L.E., & Lafferty, W.E. (2008). Abstinence-only and comprehensive sex education and the initiation of sexual activity and teen pregnancy. *Journal of Adolescent Health*. [journal article, in press]

Mueller, T.E., Gavin, L.E., & Kulkarni, A. (2008). The association between sex education and youth's engagement in sexual intercourse, age at first intercourse, and birth control use at first sex. *Journal of Adolescent Health, 42*, 89-96. [journal article]

Murry, V.M., Berkel, C., Brody, G.H., Gibbons, M., & Gibbons, F.X. (2007). The strong African American families program: longitudinal pathways to sexual risk reduction. *Journal of Adolescent Health, 41*, 333-342. [journal article]

Roberto, A.J., Zimmerman, R.S., Carlyle, K.E., & Abner, E.L. (2007). A computer-based approach to preventing pregnancy, STD, and HIV in rural adolescents. *Journal of Health Communication, 12*, 53-86. [journal article]

Sanderson, C.A., & Cantor, N. (1995). Social dating goals in late adolescence: implications for safer sexual activity. *Journal of Personality and Social Psychology, 68*, 1121-1134. [journal article]

Trenholm, C., Devaney, B., Fortson, K., Quay, L, Wheeler, J., & Clark, M. (2007). Impacts of Four Title V, Section 510 Abstinence Education Programs. Washington, CD. Retrieved

February 1, 2008, from http://www.mathematica-mpr.com/publications/pdfs/impactabstinence.pdf

Troth, A., & Peterson, C.C. (2000). Factors predicting safe-sex talk and condom use in early sexual relationships. *Health Communication, 12*, 195-218. [journal article]

Weinstock, H., Berman, S., & Crates, W. Jr. (2004). Sexually transmitted diseases among American youth: incidence and prevalence estimates, 2000. *Perspectives on Sexual and Reproductive Health, 36*, 6-10. [journal article]