Interventions for Preventing Unintended Pregnancies Among Adolescents

COCHRANE ABSTRACT

BACKGROUND: Unintended pregnancy among adolescents represents an important public health challenge in developed and developing countries. Numerous prevention strategies such as health education, skills-building and improving accessibility to contraceptives have been employed by countries across the world, in an effort to address this problem. However, there is uncertainty regarding the effects of these intervention, and hence the need to review their evidence-base.

OBJECTIVE: To assess the effects of primary prevention interventions (school-based, community/home-based, clinic-based, and faith-based) on unintended pregnancies among adolescents.

SEARCH STRATEGY: We searched electronic databases (CENTRAL, PubMed, EMBASE) ending December 2008. Cross-referencing, hand-searching, and contacting experts yielded additional citations.

SELECTION CRITERIA: We included both individual and cluster randomized controlled trials (RCTs) evaluating any interventions that aimed to increase knowledge and attitudes relating to risk of unintended pregnancies, promote delay in the initiation of sexual intercourse and encourage consistent use of birth control methods to reduce unintended pregnancies in adolescents aged 10–19 years.

DATA COLLECTION AND ANALYSIS: Two reviewers independently assessed trial eligibility and risk of bias in studies that met the inclusion criteria. Where appropriate, binary outcomes were pooled using random effects model with a 95% confidence interval (CI).

MAIN RESULTS: Forty one RCTs that enrolled 95,662 adolescents were included. Participants were ethnically diverse. Eleven studies randomized individuals, twenty seven randomized clusters (schools (19), classrooms (5), and communities/neighborhoods (3)). Three studies were mixed (individually and cluster randomized). The length of follow up varied from 3 months to 4.5 years. Data could only be pooled for a number of studies (15) because of variations in the reporting of outcomes.

Results showed that multiple interventions (combination of educational and contraceptive interventions) lowered the rate of unintended pregnancy among adolescents. Evidence on the possible effects of interventions on secondary outcomes (initiation of sexual intercourse, use of birth control methods, abortion, child birth, sexually transmitted diseases) is not conclusive.

Methodological strengths included a relatively large sample size and statistical control for baseline differences, while limitations included lack of biological outcomes, possible self-report bias, analysis neglecting clustered randomization and the use of different statistical test in reporting outcomes.

AUTHORS' CONCLUSION: Combination of educational and contraceptive interventions appears to reduce unintended pregnancy among adolescents. Evidence for program effects on biological measures is limited. The variability in study populations, interventions and outcomes of included trials, and the paucity of studies directly comparing different interventions preclude a definitive conclusion regarding which type of intervention is most effective.

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COMMENTARY

Preliminary birth data for 2007 show a 1% increase in births to adolescent mothers since 2006 and a 5% increase from 2005 to 2007. This rise contrasts with the trend of the 15 preceding years in which there was a 34% decline in teenage births from 1991 to 2005.[1] In 2007, only the youngest adolescents, aged 10–14 years, had no increase in births; birth rates increased for all other age groups (15–16 and 17–19 years). Birthrates declined for Latino teenagers in 2007 while they increased for non-Hispanic whites and blacks (2% from 2006 to 2007 for each).[1]

For many young women, the personal cost of pregnancy is high. Those who choose to parent face low rates of high school and college graduation (40% graduate high school and less than 2% complete college by age 30).[2] Poor educational achievement results in low-skilled jobs and low income, thereby increasing the risk of poverty, economic hardship, and the need for public health, medical, and welfare assistance.[3]

In this month's review, the Cochrane collaborators examine a range of randomized controlled trials aimed at decreasing rates of teenage pregnancy. The authors considered studies in which individuals were randomly

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assigned and cluster designs in which households, schools, classrooms, etc, were the unit of randomization. Interventions ranged from health education, counseling, skills-building, contraception, contraceptive education, and faith-based group or individual counseling. In all, more than 95,600 youths took part in the studies.

The complexities of such a review must be noted. The interventions were heterogenous, the allocation methods were not always provided, the outcomes varied, there were different lengths of follow up, and multiple outcomes were considered. It is also very difficult to create a true control group for the school-based studies as both cohorts receive education. Thus, the results of the review must be taken with caution.

Yet, in contrast to a prior review in 2002,[4] the current review provides limited evidence that programs entailing multiple concurrent interventions (education, skills-building, and contraception promotion) can reduce rates of unintended pregnancy in adolescents. The authors suggest that the inclusion of two studies positively affected the results. The first was the Chilean abstinence-focused randomized study in which ninth graders were randomly assigned by classroom to a 1-year program of a 45-minute intervention focusing on health, contraception, skills building, and abstinence or to no intervention in the control arm.[5] The second was the Children's Aid Society Carrera Program, in which teenagers aged 13–15 years were randomly assigned to a year-long, 5-days-per-week comprehensive program of job clubs; academic skills, family life, and sexuality education; recreational and creative activities; and medical care and counseling, and compared with an alternative youth program of recreation, homework help, or art.[6] Conversely, there are limited data to support the effectiveness of interventions on secondary outcomes such as condom use, sexually transmitted infections, and age at first intercourse. Similarly, there is a lack of evidence that these components are effective individually. Finally, the majority of studies were conducted in the developed world. There is insufficient evidence that countries with fewer resources for conducting large intervention programs will have similar outcomes.

Ultimately, we should take heart that this review provides evidence of effective strategies of reducing teenage pregnancy rates. The findings also indicate a possible role for clinicians as education, skills-building, and contraception promotion all fall within the purview of providers of women's health care. Yet, the authors also caution that the field of teenage pregnancy research still has a long way to go as do efforts to combat this problem.

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