

Emergency contraceptives over the counter

Allowing easy access is important

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Requiring an adolescent to consult a clinician before obtaining emergency hormonal contraception is analogous to mandating that she consults a fire station before buying a fire extinguisher for her home. Why does she need supervision to buy several innocuous pills at the drug store when none is necessary to buy pressurized cylinders of chemicals at the hardware store? This double standard in prevention services hurts women, especially adolescents, for whom gaining access to care may often be difficult.

The rate of pregnancy among adolescents is declining across the United States.¹ Nevertheless, it is still higher than in other industrialized nations. Coitus among adolescents is often unanticipated and unprotected. Hence, the easy availability of emergency contraception is important.

Two emergency regimens of hormonal contraception are available in the United States. Both regimens are approved for use up to 72 hours after unprotected coitus. The first to be approved by the Food and Drug Administration was the Yuzpe regimen, which consists of an initial dose of two combination oral contraceptives (0.5 mg levonorgestrel plus 100 µg ethinyl estradiol), followed 12 hours later by two more. The second regimen to be approved was levonorgestrel alone: one 0.75 mg tablet followed 12 hours later by another. In a randomized controlled trial the levonorgestrel regimen prevented about 85% of the pregnancies that would have otherwise occurred in contrast with the Yuzpe regimen which prevented 57%.² The levonorgestrel regimen was also much less likely to cause nausea.

Given this impressive efficacy, why is emergency contraception used so infrequently in the United States? Only 1% of women who might have benefited from emergency contraception in the United States have ever used it.³ In settings as diverse as Scotland and Hong Kong, adolescents know more about emergency contraception and use it more frequently.⁴ The reasons for this disparity are complex but two issues are important: a lack of information and lack of access.⁵ Public service campaigns and pharmaceutical advertisements are beginning to address the lack of information.⁶ Allowing easier access to emergency contraception may not lead directly to greater use, but barriers to access are a hindrance.

In addition, an innovative experiment in Washington state that allows pharmacists to provide emergency contraception⁷ is popular with patients, pharmacists, and physicians. We should now go a step further and eliminate the requirement for the pharmacist as well. For example, the levonorgestrel regimen recently became available over the

counter in France (<http://www.opr.princeton.edu/ec/cnfrance.html>).⁸

There are four questions that need to be addressed in considering whether a drug should only be available by prescription: is the condition for which the drug is to be used difficult to diagnose, does the dose need to be tailored to the patient's needs or the virulence of the disease, are the risks and benefits of the treatment finely balanced, and is the drug dangerous (from an overdose or from its potential for addition).⁹

First, in considering emergency regimens of hormonal contraception, no learned intermediary is needed to diagnose a torn condom. Second, the dose is the same for all women with either regimen. Third, rather than being finely tuned, the risk-benefit equation for emergency contraception is weighted heavily in favor of benefit. Although side effects such as nausea and vomiting are common (especially with the Yuzpe regimen), no serious adverse events have been linked to its use, and the benefit of avoiding an unintended pregnancy is a strong argument for providing liberal access. The only contraindication to the use of emergency contraception is an existing pregnancy, although there is no evidence that emergency contraception harms a fetus.¹⁰ Fourth, emergency contraception is safe. The regimens are packaged as single doses, reducing the possibility of an accidental overdose. However, should a woman intentionally take an overdose, vomiting would be the most serious consequence.

Our aim as clinicians should be to maximize the effectiveness of our interventions: for emergency contraception, sooner means better. The longer a woman waits before starting emergency contraception, the less well it works.¹¹ Requests for emergency contraception often arise on weekends when offices are closed.⁵ The costs associated with a visit to a physician or clinic may be prohibitive. Many other factors may deter young women from seeking prescriptions: embarrassment, fear of discovery of sexual activity, and the inability to take time off from school. If emergency contraception were available over the counter in drug stores that are open evenings and weekends, many of these obstacles would be removed.

Like fire extinguishers, emergency contraception may be most useful if stored where the need may arise.¹² This may mean it will be stored in a medicine cabinet, purse, or the glove compartment of a car. A trial in Scotland showed that providing emergency contraception to women in advance does not undermine their ongoing use of their current method.¹³ Similarly, keeping a fire extinguisher in the kitchen is unlikely to lead to risky cooking practices. If

women had to go to the hardware store to buy a fire extinguisher after a fire began, its usefulness would be compromised. The same may hold for emergency contraception.¹¹

Most of the popular medicines sold over the counter in the United States were initially available only by prescription.⁹ The transition from being available only by prescription to over the counter sales is a natural evolution for many medicines (for example, cimetidine, miconazole, and ibuprofen).

Critics of deregulation inevitably cite the importance of counseling. Yet what evidence is there that offering counseling with emergency contraception improves outcomes for women? The availability of emergency contraception over the counter could supplement rather than replace the current distribution of other contraceptives.

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Making condoms available in schools

The evidence is not conclusive

There are three main controversial approaches to reducing rates of sexually transmitted diseases and unintended pregnancy among North American teenagers: abstinence-only programs, safer sex education, and making condoms available in schools. Which of these is effective? The American Medical Association (AMA) Council on Scientific Affairs recently concluded that “there are no published studies that measure behavioral effects of the ‘abstinence-only’ curricula,” that “evaluations of safer-sex sexuality education show inconsistent but promising results,” and that programs that make condoms available in schools “usually demonstrate increased condom use.”¹

United States Representative Tom Coburn attacked that conclusion, claiming that the distribution of school condoms conflicts with “common sense” and increases condom use but does not necessarily lead to lower rates of either pregnancy or sexually transmitted diseases. The implementation of abstinence education in schools, he maintained, was followed by lower rates of teen pregnancies out of wedlock.²

The AMA report is a carefully conducted and thoughtful review of the evaluations of all these programs. However, some abstinence-only programs may delay sex; there

is strong evidence that some safer sex programs reduce unprotected sex; and the evidence that the availability of condoms increases their use is not strong.

In regard to abstinence-only programs, the AMA Council on Scientific Affairs correctly states that many youths are sexually experienced and need the knowledge, motivation, skills, and access to condoms and contraceptives to avoid sexually transmitted diseases and unintended pregnancies. It finds no good evidence that any abstinence-only programs actually delay the onset of sexual intercourse. All of these facts support the position that abstinence-only programs should not be widely implemented in schools in place of programs that cover both abstinence and contraception.

On the other hand, in fairness to abstinence-only programs, only one study has rigorously evaluated an abstinence-only program.³ That study, conducted in California, was designed to detect small changes in delay in the onset of sexual intercourse; it randomly assigned 7,753 youths in middle school to either treatment or control conditions and tracked them for 17 months. It found no significant difference in the initiation of sex or other sexual behaviors.

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It is unfair to judge the results of the diverse range of abstinence-only programs on this one study. Some of these programs, especially those that are more comprehensive and those with qualities found in effective safer sex programs, may delay the onset of intercourse, and rigorous research should be completed to find out which are effective. Until then, we should remain cautious about broadly replicating any programs that have not been shown to be effective.

While Coburn's claim that the emergence of abstinence education in recent years "coincides with the first recorded reduction in sexual activity and out-of-wedlock pregnancy among adolescents" is supported by some survey data, the decrease in pregnancy is also due in small part to a stabilization or fall in the percentage of youths who are sexually active and in large part to an increase in the use of contraception among those who are sexually active. These trends support the position that programs covering both abstinence and contraception should be broadly implemented.

Most safer sex programs do cover both abstinence and the use of condoms, and some address other forms of contraception. The AMA review properly notes that some studies of safer sex programs show positive effects on behavior—such as delaying sex, reducing the frequency of sex, and increasing the use of condoms—whereas other studies have not found such effects. However, the evidence for some safer sex programs is a little stronger than that presented by the AMA review. After all, several studies showing positive effects on behavior for a year or more were well designed with random assignment, large sample sizes (up to 3,600 students) and long-term measures of behavior (up to 31 months). One safer sex program has been independently evaluated in several schools in California and Arkansas and was found to be effective in both studies.^{4,5} Furthermore, the curricula found to be effective at changing behavior have common characteristics that are thought to contribute to their success.

Both the AMA report and Coburn state that making condoms available in schools leads to greater condom use, but the evidence is not consistent. Only four studies of programs making condoms available in schools have been published.⁶⁻⁹ Only one of these studies evaluated the effects of making condoms available in several schools, collected baseline and follow-up data, had a comparison group, and had large sample sizes (7,179 students in 10 intervention schools and 16,296 students in comparison schools in Seattle, Washington).⁶ That study found that students did take a large number of condoms from the schools when condoms were made available without any restrictions in open baskets in school health centers. However, that study also found that condom use among youths who were sexually experienced did not increase; it decreased. Students simply took condoms from the schools'

health centers instead of from other sources. To understand the decline in condom use, the authors conducted focus groups with groups of students and examined schoolwide survey data. They found that even before condoms were made available in the schools, condoms were available from other sources in the community. The reasons youths gave for not using condoms did not typically include lack of access.

Of the three other published studies, two found significant increases in condom use,^{7,8} and the third found nonsignificant trends in that direction.⁹ Each of these three studies, however, was limited by one or more of the following methodologic problems: lack of baseline data, lack of comparison groups, insufficient sample sizes, or changes in parental consent procedures resulting in serious attrition at follow-up. In addition, two of these studies measured the effects of broader, more comprehensive programs directed at preventing human immunodeficiency virus infection or health promotion programs,^{7,8} not solely the availability of condoms in schools.

Three possible conclusions can be made from these studies of making condoms available in schools. First, the differences in results could be due to differences in the research methods. These studies would provide only weak evidence that making condoms available in schools increases their use, because the strongest study failed to find such an effect.

Second, the differences could be caused by differences in the communities and in student needs. If communities do not provide condoms in convenient and confidential locations, then their availability at school may increase their use, whereas if communities already make them available, then adding school availability may not increase their use. Before making condoms available, schools should assess whether doing so would meet a real need.

Third, in two of the studies, the differences in study results could be due to other factors (for example, educational components). This suggests that schools should determine why youths have sex without condoms. If students have little motivation to avoid having sex or to use condoms, or if they lack the skills to refuse sexual advances, insist on condom use, or use condoms properly, then effective programs to promote safer sex should be implemented. If unsafe sex is part of a larger pattern of substance misuse, poor school performance, family dysfunction, and community disorganization—as it often is—then these causes also need to be addressed.

Schools should also consider the costs of making condoms available. The financial costs are small, but the social or political costs may be large. For religious or moral reasons, some people may strongly oppose making condoms available in schools, and both their beliefs and the community conflicts that might ensue should be properly considered.

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Adolescent injury prevention and clinicians: time for instant messaging

Physicians can help to reduce pointless and early deaths

Slightly more than 50% of all deaths among children between the ages of 1 to 14 years and almost 75% of deaths among youths aged between 15 and 24 years are not caused by disease. They are caused by injuries, which include unintentional injuries (the term preferred to accidents which implies randomness and fatalism), suicides, and homicides. In fact, many strategies to prevent injury are more effective than many medical interventions.^{1,2} Because rates of acute and chronic diseases are low in this age group, injuries are unmasked as the clear preventable cause of death that physicians must face. Family physicians, pediatricians, and internists can all play a role to introduce these strategies to patients during clinical encounters.

What can primary care physicians who care for ado-

lescents do to prevent injuries among their patients? Systematic reviews show there have been few randomized controlled trials to determine if counseling by physicians can improve practices to prevent injury among adolescents or their parents.^{3,4} There is evidence, however, that physicians can improve parental practices with smaller children, so the lack of evidence should not be taken as a signal to retreat. Clinicians use anticipatory guidance to persuade children, adolescents, and parents to change behavior and to adopt behaviors to promote health. The same principles apply toward injury control. Often, counseling with regard to injury prevention involves promotion of the use of a piece of technology (for example, the use of seat belts, helmets, and smoke detectors).

Physicians should screen adolescents for problems re-

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Ways to reduce risk of death among adolescents	Reduction in risk of death
Motor vehicle passengers	
Wear three-point restraints properly	47%
Always use lap belt if your car has automatic seat belts	58% (with seat belt)
Choose a car with an airbag, if possible	20% (without seat belt)
Do not ride with an intoxicated driver	>90%
Teen drivers	
Avoid driving at night for first year	>50%
Avoid driving with >1 passenger	Unknown
Cyclists	
Wear a helmet	85% (bicycle) 55% (motorcycle)
Boaters	
Do not drink alcohol while boating	>90%
Wear a personal flotation device while boating in open water	Unknown

lated to alcohol use and to refer them for treatment if any problems are detected.⁵⁻⁶ Recent evidence suggests that early intervention after trauma incidents involving alcohol misuse can reduce the risk of injury recurrence by about 50%.⁷ Brief interventions include giving facts and feedback about a behavior, clearly recommending a change in behavior, presenting options to achieve this change, checking and responding to the reaction of the adolescent, and providing follow-up care.^{8,9}

Parents of teens have an important role to play in reducing the risk of road injuries in their children. They should try to provide vehicles for their children to drive that protect occupants well during crash (see http://www.hwysafety.org/vehicle_ratings/ratings.htm for crash ratings), and restrict their teen's exposure to night driving, especially with other adolescent passengers.

Any parent who owns firearms should restrict their access by locking them in secured storage or placing them in a combination gun safe. It is recommended to avoid keyed devices because adolescents know where to find keys. Parents should strongly consider removing firearms from the home if any member is a substance misuser or has a mental illness.

How effective these measure are in reducing the risk of death among adolescents is largely unknown. Some evidence shows, however, that the use of smoke alarms can reduce the risk of death by between 50% and 70%.¹⁰ One smoke alarm should be placed on each floor of the home, and the alarm should be connected to the electrical circuit or powered by long lasting lithium batteries, if possible.

Other key measures to prevent injury are outlined below (see box), along with their risk reduction of death.

Adolescence is a developmental period characterized by behavior that involves taking risks. Some of this behavior is associated with a misperception of the risks associated with certain activities. Physicians can help by providing accurate information to both adolescents and their parents about the magnitude of risk reduction afforded by key measures designed to prevent injury.

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Netphiles

<http://www.chebucto.ns.ca/Health/TeenHealth/SexOrien/gay.html> provides answers to many questions that young people may have about their sexual orientation. The web site was developed as a result of the Teen Health Project in Canada by students from Dalhousie Medical School, who used material from their tutorials to meet the health needs of local teenagers. The site offers comprehensive information using simple, nonprejudicial, and sensitive language. By explaining, for example, that sexual orientation is determined by the "sex or sexes you are romantically, physically, emotionally, and sexually attracted to," the information is suitable for a young person who is unsure of their sexual identity. Visitors to the site learn that feelings of isolation or guilt are common, but depression, low self-esteem, and suicidal thoughts indicate a need to seek professional help. Also, there is useful advice on how to come out to your family, how to meet other gay and lesbian teenagers, and how to find a support group in your area.

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We welcome suggestions for Web sites to be included in future Netphiles