Abstinence Pledges Don't Protect Against STDs

Delaying first intercourse had no significant effect on sexually transmitted disease incidence.

BY MICHELE G. SULLIVAN
Mid-Atlantic Bureau

Teens who take a sexual abstinence pledge delay their sexual debut for a few years, but they have just as many sexually transmitted infections as nonpledgers, probably because they are more likely to engage in noncoital sex and aren't as likely to use a condom during any sexual activity.

Hannah Brückner, Ph.D., and Peter Bearman, Ph.D., said their findings might put a new spin on programs that stress abstinence as the only way to avoid STDs and pregnancy. "The all-or-nothing approach … may create additional barriers to knowledge and protection for adolescents. For example, the emphasis on virginity may encourage adolescents to limit their sexual activity to noncoital behaviors, which may nevertheless expose them to risks of infection" (J. Adolesc. Health 2005;36:271-8).

Health care behavior by pledgers further complicates the problem, they noted. "It is important to know that pledgers are less likely than nonpledgers to be tested for STDs and to have ever seen a doctor because they are worried about an STD," said the investigators of Yale University, New Haven, Conn., and Columbia University, New York.

The researchers extracted data gathered from 2001 to 2002, during the third wave of the National Longitudinal Study of Adolescent Health. During this wave, respondents were age 18-24 years. A total of 11,471 respondents provided urine samples for STD testing (chlamydia, gonorrhea, and trichomoniasis). An additional 3,317 sexually active female respondents were randomly selected for human papilloma virus (HPV) testing.

Pledge status was collected from all three waves of the survey. Nonpledgers reported no abstinence pledge during any of the waves. Consistent pledgers reported pledging during all waves or pledging for the first time during wave 3. Inconsistent pledgers reported pledging during an early wave but not a subsequent wave.

Most of the group (80%) were nonpledgers. Only 7% were consistent pledgers; 13% were inconsistent pledgers.

Consistent and inconsistent pledgers delayed their time to first coitus by several years, compared with nonpledgers. Among nonpledgers, 75% reported first intercourse by age 18. Inconsistent pledgers reached the 75th percentile by age 20, and consistent pledgers by age 24.

Male pledgers delayed intercourse the longest. By age 25, 25% of consistent male pledgers were still virgins, compared with 15% of inconsistent pledgers and 7% of nonpledgers. By age 25, 21% of female consistent pledgers were still virgins, compared with 10% of inconsistent pledgers and 6% of nonpledgers.

Delaying first intercourse had no significant effect on STD incidence in the groups, however.

About 6.9% of nonpledgers, 6.4% of inconsistent pledgers, and 4.6% of the consistent pledgers tested positive for trichomoniasis, chlamydia, and/or gonorrhea.

For HPV infection, the rates were 26.5% among nonpledgers, 28.5% among inconsistent pledgers, and 26.7% among consistent pledgers.

Pledgers did have fewer sexual partners than nonpledgers (average of 1.5 partners vs. 2.4 partners), and were not exposed as long to STD risk. However, they were more likely to engage in noncoital sexual contact.

About 3% of respondents reported oral sex but no vaginal sex. About 2% of nonpledgers fell into that group, compared with 13% of consistent pledgers and 5% of inconsistent pledgers. About 0.7% of nonpledgers reported anal sex but not vaginal sex, compared with 1.2% of pledgers.

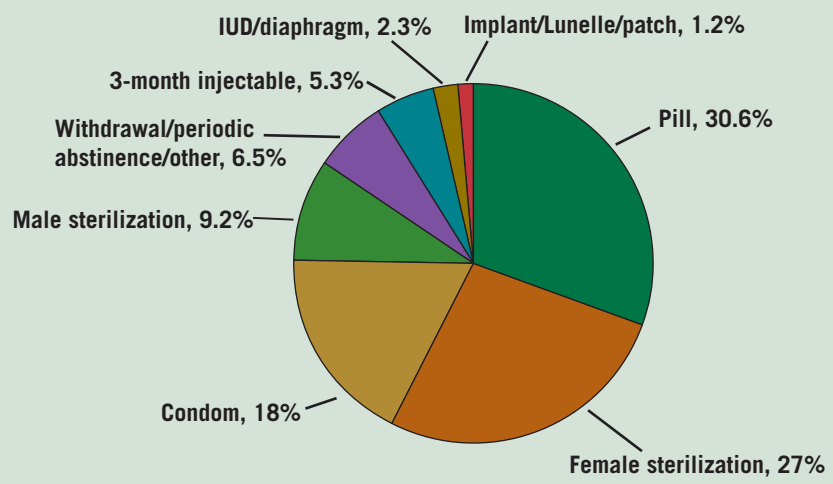
About 1% of male nonpledgers reported anal, but not vaginal, sex, compared with 3% of male inconsistent pledgers and 4% of male consistent pledgers.

Condom use during these experiences was very low for all respondents: Only 4% reported using a condom during oral sex, and about 30% reported using one for anal sex.

"The combination of low condom use and overrepresentation of pledgers [in noncoital sex] provides some support for the hypothesis that this behavioral pattern is associated with greater than expected STD acquisition among pledgers, although the numbers are small and provide an insufficient basis from which to make inference," the authors said. ■

DATA WATCH

Contraceptive Methods Used by Women Aged 15-44 Years



Note: Numbers may not equal 100% because of rounding.
Source: 2002 data, Centers for Disease Control and Prevention

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Risk of Sepsis Death Soars With Antibiotic Delays

BY JANE SALODOF MACNEIL
Contributing Writer

PHOENIX, ARIZ. — Risk of death from sepsis increases by 6%-10% with every hour that passes from the onset of septic shock until the start of effective antimicrobial therapy, according to a review of more than 2,600 consecutive cases at 15 intensive care units in five U.S. and Canadian cities.

"You already have a substantially increased risk of death if you get antibiotics by the second hour after onset of hypotension compared with the first hour—and that odds ratio continues to climb out to 36 hours," principal investigator Anand Kumar, M.D., said at a meeting sponsored by the Society of Critical Care Medicine.

Relatively few patients received appropriate antibiotics within 2 hours, however.

Dr. Kumar, head of the emergency department at the University of Manitoba in Winnipeg, reported that at every hospital studied, "Only half of septic shock patients received an antibiotic within 6 hours of onset of recurrent or persistent hypotension."

Early administration of appropriate antibiotics is crucial because it eliminates the source of sepsis, according to Dr. Kumar. "You can keep the patients alive for days, but if you don't eliminate the source in the first couple of hours, they are not going to make it," he said.

All told, 43.8% of 2,731 septic shock patients reviewed by Dr. Kumar and his colleagues survived to hospital discharge. Removing patients who were moribund at presentation (those who required intubation or cardiopulmonary resuscitation in the field) reduced the population to 2,675 patients, but barely nudged the survival rate up to 44.7%.

The population had slightly more men than women and an average age of 62.5 years. Nearly half the patients, 43%, came from emergency departments. Another 28% had been in medical wards, and 18% on surgical floors.

Nosocomial infections accounted for 42% of cases. Malignancy was the most common comorbidity (20%), followed by chemotherapy and elective surgery, each about 15%. The average Acute Physiology and Chronic Health Evaluation II score was 25.9.

Dr. Kumar said emergency departments were about an hour faster than other areas of the hospital in delivering antibiotics, but still too slow. The median emergency department time to treat was 4.5-5 hours, he said.

The investigation started with animal studies. In those experiments, mortality was held to 10% if the animals were given an antibiotic within a 12-hour window before the onset of hypotension, according to Dr. Kumar. The mortality became 80% if the antibiotic was started 15 hours afterward, and 100% at 24 hours.

In the human retrospective study reported at the meeting, 89% of patients who received an appropriate antibiotic within the first half hour survived, he said. By the second hour, the survival rate dropped to 84%, and it continued to drop at a rate of 7.5% every hour thereafter.

Subset analyses by numerous factors mostly produced *P* values of .0001 without changing the risk, according to Dr. Kumar. Patients who were obviously sicker at presentation received antibiotics faster, improving their odds of surviving, he said.

Only about 50 patients, all in the United States, had methicillin-resistant *Staphylococcus aureus*, which was not seen in Winnipeg, according to Dr. Kumar.

He noted that the investigators focused on time to effective antibiotics. If the first choice is not effective, the effects of any initial delay can be all the more overwhelming, he said.

Dr. Kumar called for hospitals to use medical response teams with algorithm protocols for patients in septic shock. He reported that his hospital has instituted the following changes in response to the study:

- ► Staff can start intravenous antibiotics in hypotensive sepsis patients without waiting for approval.
- ► Nurses have been told that the first dose of any new antibiotic is an automatic stat order.
- ► No sepsis patient is transferred to an intensive care unit without receiving an antibiotic before leaving the emergency department.

Many emergency physicians do not realize that an antibiotic order may wait for hours if it is not marked "stat," according to Dr. Kumar. If the patient is transferred to an ICU, more hours might pass before the antibiotic is delivered with scheduled medications, he warned.

"These simple administrative changes can reduce time to antibiotics by 2 hours," he said. "And, if these data hold, that's a translation to a 15% absolute improvement in mortality." ■