The Linacre Quarterly

Volume 61 | Number 3 Article 12

August 1994

# Condoms and Adolescent HIV: A Medical Evaluation

Raul Alessandri

Zelig Friedman

Liliana Trivelli

# Condoms and Adolescent HIV: A Medical Evaluation

by

**Raul Alessandri, M.D.**

**Zelig Friedman, M.D.**

**Liliana Trivelli, M.D.**

*Dr. Alessandri has been a pathologist at Long Beach Memorial Hospital since 1986. Dr. Friedman, an allergist, is also an Orthodox rabbi. Dr. Trivelli is Inspector for the American Association of Blood Banks.*

---

The much publicized sexual revolution, as it is often the case, has involved unintended levels of society: carefree youngsters have become sexually active at younger and younger ages, with a cohort of promiscuity, sexually transmitted diseases, ectopic pregnancies and a several-fold increase in the number of pregnancies and out-of-wedlock babies, growing up in an environment of emotional deprivation. To this we have to add the risk that HIV/AIDS may become highly prevalent in this group, in spite of the political decision that AIDS is not a sexually transmitted disease.

Condoms, virtually discarded as an effective contraceptive, due to the high rate of failure, pleasure reduction and awkward deployment, have been resuscitated and chosen as the means to "safer sex", to shelter our youngsters from this plague.

There are major flaws with this approach, which with a modicum of honesty and goodwill, does not claim to be "the 100% solution, only the best we can offer to those who will become sexually active." It is not only no solution at all, but it may be a multiplier of the problem. Dr. Noble, an infectious diseases specialist puts it this way: "Passing out condoms to teenagers is like issuing them squirt guns for a four alarm blaze."[1]

## Condom Mechanical Failure

**A)** It is well know that condoms break and slip off, even in the best of hands, so to speak. There are two recent controlled studies by Trussel et al. reporting breakage and slip-off rates of 14.6%. In the first study the authors summarize: "A prospective study using two brands of condoms found that of 405 condoms used for intercourse, 7.9% either broke during intercourse or withdrawal, or slipped off during intercourse; none of these events were related to condoms, 7.2% slipped off during withdrawal; slippage was not related to condom brand or past use of

condoms, but it was significantly higher when additional lubricant was used."[2] In the second study, a comment in *Family Planning Perspectives* reads: "The investigators observe that the high rate at which condoms slipped down and fell off during withdrawal - 17% of the condoms that had not broken or fallen off during intercourse - indicate a considerable level of imperfect use. They caution that better compliance might be hard to achieve, because the participating women had all received written and verbal instructions in proper use."[3]

**B)** FDA Quality Control. In the spring of 1987, the FDA began using a water leak test, in which "a condom is filled up with 300 ml. of water and checked for leaks" . . . "Acceptable quality levels specify that in any given batch the failure rate due to water leakage cannot exceed 4 condoms per 1000. Batches exceeding the specified rejection criteria are recalled or barred from sale. Among batches of condoms that have met the acceptable quality level, the failure rate observed was 2.3/1000." As of 2/88 there was a 12% failure rate of all batches, and there had been 16 recalls of defective condoms.[4] Relatively recent recalls include "Ramses Extra Strength" (March, 1991) due to "unacceptable levels of holes and ring tears"[5], "Saxon Wet Lubricated" (May, 1991) due to FDA QC failure[6], and another large recall was cited by *The New York Times* in November of 1991.

Permeability tests have shown that latex is not impermeable to Human Immunodeficiency Viral particles.[7] Latex surgical gloves, required for infection control, are often permeable: It is not rare to get blood in one's hands, and the practical solution is to wear two pairs of gloves. This technique does not appear practical or acceptable for condoms.

**C)** Anal Sex. In spite of our involvement in the subject, we are unaware of any wide availability of condoms for anal sex. It is possible that manufacturers are reluctant to advertise such products. "Because of greater friction during anal intercourse, condoms must be stronger than normal" states a study on safety and acceptability of condoms by homosexual men. The safer (thicker) the condom, the lower the acceptability.[8] And the failure rate in anal sex is much higher than for vaginal sex, because for anatomic and physiologic reasons, rectum and vagina are not homologous. Given the figures reported by the New York City Department of Health on AIDS, gender and mode of transmission, anal sex is particularly dangerous among young people: up to age 30, implying contagion at an early age, as of December 1992, there were 4587 cases of AIDS in men, in New York City. The probable mode of transmission had been determined in 4352 cases. Of these, 2687 had sex with men at risk, 261 had used IV drugs *and* had sex with men, and 2 had sex with women at risk. The problem is quite different for women: The total number of cases up to age 29 were 1454, of these, 1298 had good information, and of these, 511, almost 40% had gotten it through sex with men at risk.[9] It is important to look at these figures, because it would seem that the reported increase in "heterosexual AIDS" is basically a problem of women. The figures are not as extreme in the data collected by the CDC, but there is a clear and enormous difference in the risk that heterosexual sex represents for women and for men.

## User Failure

The contraceptive failure of condoms for the teenage population has been reported to be as high as 50%.[10] Although it is true that a very high percentage of these failures are due to non-use of the devices, we have to recognize that there are numerous scientific publications stating that Sex/HIV education has consistently failed to produce any significant behavioral changes in adolescents, especially with reference to risk-reducing behavior.[11-16]

The findings are well summarized by A.R. Shiffman, who states the following: "Knowledge about AIDS or HIV infection and its prevention was not associated with any change in risk behavior, nor were the number of sources of information about the epidemic, acquaintance with those who are infected, estimates of personal risk, or exposure to HIV-test counseling. In fact, youths whose risk behaviors increased the most, were more likely to know someone who had died of AIDS and to estimate their own risk as high. Most youths reported that they did not use condoms regularly, disliked them, and had little confidence in their protective ability."[17]

A serious obstacle for the use of condoms in adolescents is that more often than not, sexual intercourse develops on impulse. A well known 1986 Harris poll, commissioned by Planned PArenthood, found that 83% of youngsters aged 14-15 stated that their first sexual experience was unexpected.[18]

Dr. D. Kirby wrote in *Family Planning Perspectives* that, in controlled school based clinic settings, there was no impact in contraceptive use. He found that the two most common reasons given by youngsters were "didn't expect to have sex" and "just didn't think that pregnancy would occur". Most of the reasons, he goes on to state, "were not related to access to contraceptives."[19] In a more recent study, in the same publication, he found no decrease in birth rates in clinic clients.[20]

A number of authors who have studied psychosocial factors and predictors of condom use among students found that *inconsistent condom use* was highly prevalent, and associated with high risk behavior (promiscuity, drugs) which in turn were associated with adverse life circumstances: poor parental support, substance abuse, academic problems.

For example, Anderson found that inconsistent or non-use of condoms involved 65.6% of those children taught about AIDS and 66.6% for those never taught. The "always" condom rate was 34.4% and 33.4% respectively. He also found that HIV/AIDS instruction is not associated with less risky sexual behavior.[21]

Weisman reported that the overall rate of consistent condom use for adolescents was 16%, somewhat higher for "monogamous relationships" and lower for multiple-partner cases.[22] H. Walter found, in a study of New York City and Rockland County schools, that out of the 36% sexually active 10th graders, 25.2% were inconsistent condom users, and this was associated with promiscuity and drug abuse.[23] And DiClemente found that the number of lifetime sexual partners was inversely related to the frequency of condom use.[24]

D. Orr found that only 22% of the girls in his study had used a condom the last

time they had sexual intercourse. 55 of the "always" group had not used it the last time. Of these, 23% had already been pregnant and 19% had an STD (Chlamydia) at the time.[25] And according to the Morbidity and Mortality Review of 1/92, less than 50% of the students used a condom during their last sexual intercourse.[26]

A previous report of D. Orr on "Premature Sexual Activity as an Indicator of Psychosocial Risk" states that his data "supports that sexual activity is a significant associate of other health endangering behaviors, and that with increasing age, coitus is more frequently linked with alcohol or marijuana, and this link is stronger for girls"[27] Gillmore et al. reported that risky sexual behavior is associated with drug and alcohol abuse, smoking and delinquency. On the other hand, in their study, adolescents committed to conventional values, activities and institutions such as family and church, were less likely to engage in sexual risky behavior "presumably because they have a stake in the future."[28] A recent comment in *Family Planning Perspectives* entitled "Teenage Sex and other Risky Acts" states that individual adolescents rarely engage in single problematic behavior (drugs, violence, theft, being suspended or expelled from school). Instead, they tend to engage in multiple-problem behaviors.[29]

Condoms "may help reduce the risk" but they must be used *correctly and consistently.* This is not likely to be the case among adolescents, and it is not the case in the adult population, either: Recent surveys have shown that among College students, although they are concerned about the risk of acquiring STD's, and are familiar with "Safer Sex" practices, few follow them. Only 23% use condoms "always".[30] Even among young homosexual men, as reported by Klepinger et al. their perceptions of the disease's severity seem to have little impact on their sexual behavior, with no clear relationship between men's knowledge of AIDS and their recent number of sex acts, their condom use or their participation in anal or casual sex."[31] Hemophiliacs and their wives constitute a special group: most patients were infected by the use of contaminated blood products prior to the development of HIV testing. A large group of these couples, usually in a stable, monogamous relationship, were counseld about "safer sex" practices. In spite of the obvious risk involved, non-compliance was a common problem, at a rate of 45% - 55%.[32,33]

Use of condoms requires sophistication, maturity, self discipline, planning, motivation. Immature, impulsive, risk taking adolescents in search of instant gratification, do not appear as likely candidates to aquire and practice those qualities. And if we were able to teach them this, we would not have the crisis in education, with the high drop out rate that we experience.

The bottom line is that adolescents engage in sexual activity due to deeper problems, and no amount of sex education will persuade them to use condoms correctly and consistently.

### Condoms for HIV Protection Seroconversion

Our detailed search of the recent literature has failed to reveal any medical publication showing a strong positive correlation between condom reliance and prevention of HIV (sexual) transmission.[32-39] There are, it is true, statements of

faith in condoms, but the well controlled, scientific evidence fails to support this faith. (In fact, we have been unable to find any well controlled recent study of condom usage providing protection against any sexually transmitted disease. If anything, there seems to be a positive correlation between the easier availability of condoms, reflected for example, in laws requiring open display of condoms in pharmacies, and the current epidemic of STD).

Most studies have been conducted over short periods of time, do not have suitable control groups or involve groups that are not representative of our young population. For example, some of these studies have been performed involving married hemophiliacs, hardly representative of the sexual activity of youngsters. Besides, in those groups something different seems to be at play, because there were a number of pregnancies, not accompanied of seroconversion.[33] The prevalence of seroconversion in this group is only about 10%,[32,33,38,40] and this low rate has been confirmed by PCR and viral cultures.[41,42] This leads us to question all studies of "condom prevention" in couples involving hemophiliacs.

Documented studies of prostitutes in an African country revealed high levels of seroconversion, leading to the discontinuation of the study. This study also included the use of Nonoxynol 9, which has been touted as protective, because it seems to have antiviral activity "in vitro". At the time the study was stopped, prostitutes using Nonoxynol had had a higher number of seroconversions, although the difference had not reached statistical significance.[43]

Hearst et al. have attempted to estimate the risk of seroconversion. His conclusion: "Using a condom with an IV drug user, bisexual man, or prostitute is far more dangerous than sex without a condom with someone who does not belong to a high risk group.[44]

Similar conclusions have been reached studying the frequency of reinfection of patients treated for STD, who have been educated in the use of condoms. According to Cohen et al., 19.9% of males and 12.6% of females became reinfected after a follow up of only 9 months.[45]

Finally, a detailed and statistically exhaustive study by Susan C, Weller, from the University of Texas Medical School at Galveston, and published recently in *Social Science and Medicine,* after examining 87 scientific papers, concludes that the careful selection of sexual partners reduces the risk by a factor of from two to four orders of magnitude. Condoms, on the other hand, if we assume an effectiveness of 90%, would reduce the risk by only one order of magnitude, and, according to her analysis of the empirical data, the protective effect can be estimated at only 69%.[46]

Many of the previously mentioned authors reviewed emphasize that the false sense of security provided by "protected sex", when the degree of protection is so low, may lead to an actual increase in the number of cases, as it seems to have occured with teenage pregnancies, following the introduction of condom-dispensing, school-based clinics.

## Sexually Transmitted Diseases (STD)

Adolescents have a high rate of STD's. A recent report of the Alan Guttmacher Institute, reproduced in The New York Times (3/31/93) states that the

incidence of STD in the US is 12 million new cases per year, and out of these, 3 million, 25%, occur in people under 25 years old. STD's affect women disproportionately, leading to Pelvic Inflammatory Disease (PID), infertility and ectopic pregnancies, and rendering these women much more susceptible to AIDS. According to William R. Archer, "one in three sexually active teenagers will acquire an STD before graduating from High School."[47] And McCray states: "Persons with an STD characterized by genital or anal ulceration (syphilis, chancroid, herpes simplex) may, for biological reasons, be at increased risk of acquiring and transmitting HIV infection."[48] To complicate matters, 80% of these patients do not know that they have STD, and can transmit it unknowingly.[49] And those teenagers who use drugs, are sexually promiscuous or engage in anal coitus are especially susceptible to STD and HIV.[50]

Condoms do not offer good protection against STD. The official publication of the CDC, *Morbidity and Mortality Weekly Review* (MMWR) states the following: "Abstinence and sexual intercourse with one mutually faithful uninfected partner are the only totally effective prevention strategies. Proper use of condoms with each act of sexual intercourse can reduce, but not eliminate the risk of STD. Individuals likely to become infected or known to be infected with HIV should be aware that condom use cannot completely eliminate the risk of transmission to themselves or to others . . . condoms may offer less protection because areas of skin not covered by the condom may be infectious or vulnerable to infection. The actual effectiveness of condom use in STD prevention is more difficult to assess. Condoms are not always effective in preventing STD."[4] And Cates, in *Family Practice Perspectives,* makes things even more difficult to evaluate: "Case control studies among women provide less convincing evidence than corresponding investigations among men, that condoms protect against STD". In the same study, he finds no difference in the prevalence of Chlamydia among condom and non-condom groups.[51] And Samuels found that condom-using college students had an infection rate of 35.7%, and non-users, 37%, difference which is statistically non-significant.[52]

Condoms are particularly poor protection against transmission of Human Papillomavirus (HPV), some strains of this virus being associated with cancer of the uterine cervix. Disseminated carcinoma of the cervix has been recently added to the AIDS definition. Cates quotes a Finnish study in which condoms had no protective value against cervical HPV infections[51], and Dr. Richart, Director of Gynecological Pathology at Columbia Presbyterian Medical Center, in an interview with *Oncology Times,* stated that 20% of infected men carried HPV lesions in non-penile sites, many of those extremely difficult to visualize, but infectious nonetheless. Apparently 20% of women between the ages of 14 and 18 are already infected with HPV, and three out of four carry strains of the virus associated with cervical cancer.[53] And Dr. Dervin, at the annual review in family Medicine, sponsored by the University of California, San Francisco School of Medicine, emphasized that HPV is a regional rather than localized disease, not suseptible to control with local measures like a condom.[54]

Condoms and STD's are problematic not only because of their own pathology as summarized above, but by the fact that STD's facilitate the sexual transmission

of HIV. This occurs not only by skin/mucosa breakdown but also by the inflammatory cellular response, which include cells heavily infected with the virus.

### Contraceptive Sex Education and Sexual Activity

Since the early fifties there has been a slow increase in adolescent sexual activity and pregnancies out of wedlock. The figures at that time were of the order of 3-5%, always more numerous among poor minorities. In the mid sixties the rate of single parenthood had reached the astonishing level of 16%, leading Prof. Moynihan (currently Senator Moynihan) to advocate powerful measures to help reestablish the two parent family. Planned Parenthood and the Sex Information and Education Council of the United States (SIECUS) observing the same problem, advocated successfully the development of sex education curricula, emphasizing contraception, and the establishment of school-based clinics from which parents are excluded. Aspirins and throat cultures could not be administered secretly, but these restrictions did not apply to contraceptives and advice on how to use them. Following *Roe v. Wade,* abortion counseling has also been a frequent element in the armamentarium of these clinics. The striking parallel between the development of explicit sex education curricula, contraceptive availability, and the explosion of adolescent pregnancies has been well documented by S. Roylance, J.A. Ford and J. Kasun in their testimony in front of the US Senate Committee on Labor and Human Resources, in March of 1981. Their data showed that pregnancies increased as these new programs were introduced, and the pregnancy rate grew in parallel to the expenditures in these programs: those States with the highest expenditures showed the highest levels of pregnancies and abortions. In California, a leading state, from 1970 to 1976 the pregnancy rate rose 20 times faster than in the rest of the nation, and in Humboldt County, this increase was 40 times faster after the introduction of sex education programs.[55]

These findings have to be contrasted with the results of a law approved in Utah in 1980, requiring parental consent for the administration of contraceptives to minors; there was a substantial decline in clinic attendance, pregnancy rates and abortions by teenagers.[55] A similar result was observed in Minnesota following a parental notification law in 1981.[56]

In 1982 Dr. H.H. Newman, Medical Director of the New Haven Dept. of Health wrote that, under the guise of reducing teen age pregnancies, the sex education programs attempted to instruct children to achieve sexual adjustment, exploring areas such as masturbation, sexual techniques, homosexuality and rape. In his words: "Instead of teaching young people to avoid an unwanted pregnancy and its consequences, we are teaching them that the joy of sex is their human birthright." He goes on to say that there is no scientific evidence that such courses have a positive impact on teen age pregnancies. His own experience suggests the opposite, and he quotes the case of Sweden that experienced an increase in what was then called "illegitimate births", except among those too old, or those who did not receive sex education. In New Haven there were three similar schools. One of them instituted a comprehensive sex education program

11 years earlier, leading to a disturbing increase in the number of pregnancies, compared with the other two schools that did not offer the program. He concluded that more research and statistical evidence was necessary before adopting such programs, that, in his opinion, "may be contributing to the problem."[57]

Numerous published studies reinforce this opinion. Papers by Marsiglio and Mott, and Dawson found that children who received early sex education were 1.2 to 1.5 times more likely to engage in early sexual activity.[58,59] A Harris Poll commissioned by Planned Parenthood confirmed these findings.[18] And more recently, the daily press has reported similar experience in Los Angeles and in Colorado.[60,61]

The CDC has reported an increase in sexual activity by fifteen year old women from 4.6% in 1970 to 25.6% in 1988.[62] Analysis of this data published in *Family Planning Perspectives* revealed increased promiscuityy and poor contraceptive practices.[63] Given the nature of the evidence, and the pro-contraceptive stance of the questioners, the true figures of non-compliance may be even higher than the 30-50% failure to use condoms, acknowledged by these young men and women. The data is confirmed again in a CDC report on September of 1992 which addresses adolescents' promiscuity, AIDS and condoms.[64]

For society at large, it would seem evident that sex education has failed. But to assess success or failure, we have to look at the goals. Given the information available in the preceding paragraphs, it would appear that the stated goal to reduce teen age pregnancies has been frustrated, and the insistence on these programs leads to the inevitable conclusion that the true goal has been to change societal attitudes towards sex, abolishing traditional restrictions in this field and encouraging the acceptance of practices that many parents consider deviant. Such goals might be difficult to defend in public debate, so that myth of AIDS and pregnancy prevention have to be perpetuated.

A recent article in *Parents Magazine* states openly that the goal of the Sex Information and Education Council of the United States (SIECUS) and Planned Parenthood is to "promote healthy sexuality in young people by giving them the skills they need to help them make responsible sexual decisions"[65] but they will not assume any responsibility for the disasters left behind, affecting our children, when their attempts at social engineering fail, and young, immature human beings are taught as fact ideas based on untested but fashionable opinions, rejecting outright the wisdom of centuries of civilization. The universal perception of marriage as the adequate environment for the enjoyment of a healthy sexual life and the raising of family cannot be attributed to particular religious or moral beliefs, but has to be recognized as the result of innumerable examples of trial and error. Any modification of established customs would require scientific evidence that the modern advocates of unrestricted sexual activity have been unable to provide. The New York City public school system provides a choice opportunity to develop a carefully controlled scientific study, comparing traditional, abstinence based techniques that worked for older

generations, and the new, enthusiastically advocated protected promiscuity.

### Alternatives to Condom/HIV Sex Education

**D).** Kirby has analyzed the different approaches to sex education and prevention of pregnancies and STD. He concludes that Knowledge Oriented Curriculum has failed, discovery that belatedly confirms the conclusion of old Greek Philosophers, that knowledge and the practice of virtue did not go hand in hand. What Kirby calls "second generation", values clarification and decision making, he also considers a failure. And without analysis, he also discards "third generation" programs based on abstinence. There seems to be a superior knowledge among the experts, that allow them to eliminate from consideration this approach, without even looking at the results of those experiments where these methods have been employed. He proceeds to advocate, then, a "fourth generation" program, mixture of abstinence and contraception, that he calls "Reducing The Risk". In their analysis, this program did not reduce sexual activity, and was deemed successful in increasing contraceptive practices in females and "lower risk youths".[66]

As already stated, statistics from the CDC and the New York City Board of Health reveal a striking disparity in the rates of HIV transmission through heterosexual sex among the male and female partners, disparity which, for unknown reasons, is much more noticeable among whites than blacks or hispanics. Contraceptive methods received favorably by women, and not by men, assuming correct responses from the youngsters, can only be of types that have no effect on HIV transmission, and methods which benefit lower risk groups, leaving higher risk ones untouched, do not seem worthy of much effort. If, on the other side, we could develop programs that turn the High Risk into Low Risk, and the Low Risk into No Risk, it behooves our authorities to explore and to evaluate them in carefully controlled, comparative studies.

Title XX of the Public Health Service Act of 1981 attempted to do just that. It helped in the development and evaluation of abstinence-based methods. The first such program, labeled "Postponing Sexual Involvement" was started in Atlanta in 1983, in the inner city schools. "By the end of the 8th grade, students who had not participated in the program were as much as five times more likely to have begun sexual activity than those who had followed the program."[67]

A large number of similar programs have been developed, and although many of them tend to be the work of people with a spiritual orientation, all those that have received any financing from Federal sources, have been kept strictly non-religious. Among them, we can name the Joseph Kennedy Foundation "Community of Caring"[68], "Teen Aid"[69], "Sex Respect"[70], "Teen Choice"[71] and "Free Teens".[72] The common denominator of all these programs is that abstinence is the healthiest choice for adolescents, that sexual activity should be reserved for a committed, mature relationship and that character building is a desirable part of any educational system. All these programs have shown remarkable effectiveness in reducing sexual activity and pregnancy rates, results that cannot be claimed by any of the programs based on contraceptive devices or

drugs. Similar or better results are to be expected on the transmission of HIV: if the risk of a new life acts as a deterrent, given the positive reinforcement, it is logical to expect the same or better when the risk is death. And based on anecdotal experience, those programs that emphasize abstinence, but give out condoms as a fail-safe strategy, have not been as effective as those that rely exclusively on abstinence.[73]

## Conclusion

The sexual revolution that has taken place in recent decades has led to a profound change in the thoughts and outlook of many experts, especially among those who do not have children of their own. Behavior that has become acceptable for adults acting in private, is now being advocated for children. Those who think this way tend to forget that it takes time to turn a child into an adult, and that the mere indoctrination of ideas that may not have obvious tragic consequences for adults, may be misunderstood and irresponsibly acted upon by immature youngsters. We are confronted with another problem in our schools: that of murderous violence. No expert, at least as yet, has suggested that all youngsters should attend school with a bullet-proof vest, or that we should provide them with adequate instruction in the correct handling of firearms, to avoid deaths due to stray bullets, as if each bullet should hit its target. We are also aware of the problems of irresponsible drinking, perhaps in combination with irresponsible driving. We are all of the same mind in these fields, but we have not been able to find reliable ways to teach responsibility to youngsters, except to attempt to ban those activities that are particularly dangerous, and hope that they will survive until life itself teaches them more responsible behavior, the traditional marriage being one of the most successful schools to this end.

## REFERENCES


1. Noble RC. The Myth of "Safe Sex". *Newsweek.* April 1, 1991.
2. Trussel J, Warner DL, Hatcher R, et al. Condom Slippage and Breakage Rates. *Fam Plann Perspect* 1992; 24: 20-23.
3. Digest. Study Finds Low Condom Breakage Rate, ties most Slippage to Improper Use. *Fam Plann Perspect* 1992; 24: 191.
4. CDC. Condoms for Prevention of Sexually Trasmitted Diseases. MMWR 1988; 37: 133-134.
5. National Recall Alert Center. Recall Warning Alert #842 (condoms). March 26, 1991 p.8.
6. Recalls, an Update List. *Good Housekeeping* May 1991, p.121.
7. Carey RF, Herman WA, Retta SM, et al. Effectiveness of Latex Condom As a Barrier to HIV Sized Particles under Conditions of Simulated Use. *Sex Transm Dis* 1992; 718:230-234.
8. Wigersma L, Oud R. Safety and Acceptability of Condoms for Use by Homosexual Men as a Prophylactic against Transmission of HIV During Anogenital Sexual Intercourse, *Br Med J* 1987; 295:94.
9. *AIDS Surveillance Update,* New York, NY: New York City Department of Health; January 1993.
10. Jones EF, Forest JD. Contraceptive Failure Rates Based on the 1988 NSFG. *Fam Plann Perspect* 1992; 24:12-19.
11. Strunin L, Hingson R. Acquired Immunodeficiency Syndrome and Adolescents: Knowledge, Beliefs, Attitudes and Behaviors. *Pediatrics* 1987; 79:825-828.

12. Kegeles SM, Adler NE, Irwin ChE. Sexually Active Adolescents and Condoms: Changes over one Year Knowledge, Attitudes and Use. *Am J Public Health* 1988; 78: 460-461.

13. Stout JW, Rivara FP. Schools and Sex Education: Does it Work? *Pediatrics* 1989; 83-375-379.

14. Goodman E, Cohall AT. Acquired Immunodeficiency Syndrome and Adolescents: Knowledge, Attitudes, Beliefs, and Behaviors in a New York City Adolescent Minority Population. *Pediatrics* 1989; 36-42.

15. Kann L, Anderson JE, Holtzman D, et al. HIV Knowledge, Beliefs, and Behaviors among High School Students in the United States: Results from a National Survey. *J School Health* 1991; 61: 397-401.

16. Millstein SG, Irwin ChE, Adler NE, et al. Health Risk Behaviors and Health Concerns Among Young Adolescents. *Pediatrics* 1992; 89: 422-428.

17. Stiffman AR, Earl SF, Dore P, et al. Changes in Aquired Immunodeficiency Syndrome -Related Risk Behavior After Adolescence: Relationships to Knowledge and Experience Concerning Human Immunodeficiency Virus Infection. *Pediatrics* 1992; 89: 950-956.

18. Harris and Associates Survey "American Teens Speak: Sex, Myths, TV and Birth Control", conducted for Planned Parenthood, 1986.

19. Kirby D, Warza KC, Ziegler J. Six School Based Clinics: Their reproductive Health Services and Impact on Sexual Behavior. *Fam Plann Perspect* 1991; 23: 6-16.

20. Kirby D, Resnik MD, Downes B, et al. The Effects of School Based Health Clinics in St. Paul on School Wide Birth Rates. *Fam Plann Perspect* 1993; 25: 12-16.

21. Anderson JE, Kann L, Holtzman D et al. HIV/AIDS Knowledge and Sexual Behavior Among High School Students. *Fam Plann Perspect* 1990; 22: 252-255.

22. Weisman C, Plichta S, Nathanson CA, et al. Consistency of Condom Use for Disease Prevention Among Adolescent Users of Oral Contraceptives. *Fam Plann Perspect* 1991; 23: 71-74.

23. Walter HJ, Vaughan RD, Cohall AT. Psychosocial Influence on Aquired Immunodeficiency Syndrome - Risk Behaviors Among High School Students. *Pediatrics* 1991; 88: 846-852.

24. DiClemente RJ, Dubin M, Siegel D, et al: Determinants of Condom Use Among Junior High School Students in a Minority, Inner City School District. *Pediatrics* 1992; 89: 197-202.

25. Orr DP, Langefeld CD, Katz BP, et al. Factors Associated with Condom Use Among Sexually Active Female Adolescents. *J Pediatrics* 1992; 120: 311-317.

26. CDC. Sexual Behavior Among High School Students - United States, 1990. *MMWR* 1992; 40: 885-887.

27. Orr DP, Beiler M, Ingersoll G. Premature Sexual Activity as an Indicator of Psychological Risk. *Pediatrics* 1991; 87: 141-147.

28. Gillmore MR, Butler SS, Lohr MJ, et al. Substance Use and Other Factors Associated with Risky Sexual Behavior Among Pregnant Adolescents. *Fam Plann Perspect* 1992; 24: 255-268.

29. Digest. Teenage Sex and Other Risky Acts. *Fam Plann Perspect* 1993; 25:3.

30. Joffe Gp, Foxman B, Schmidt A, et al: Multiple Partners and Partner Choice as Risk Factors for Sexually Transmitted Disease Among Female College Students. *Sex Transm Dis* 1992; 19: 272-278.

31. Klepinger DH, Billy J, Tanfer K, Grady WR. Perceptions of AIDS Risk and Severity and Their Association With Risk Related Behavior Among US Men. *Fam Plann Perspect* 1993; 25: 74-82.

32. Laurian Y, Peynet J, Verroust F. HIV Infection in Sexual Partners of HIV Seropositive Patients with Hemophilia. *N Engl J Med.* 1989; 320: 183.

33. Lusher JM, Operskalski EA, Alerdot LM, et al. Risk of Human Immunodeficiency Virus Type 1 Infection Among Sexual/non Sexual Household Contacts of Persons With Congenital Clotting Disorders. *Pediatrics* 1991; 88: 242-249.

34. Fischl MA, Dickinson G, Scott GB, et al. Evaluation of Household Partners, Children and Household Contacts of Adults with AIDS. *JAMA* 1987; 257:640-644.

35. Padian N, Marquis L, Francis DP. Male to Female Transmission of Human Immunodeficiency Virus. *JAMA* 1987; 253: 788-790.

36. Detels R, English P, Visscher BR, et al. Seroconversion, Sexual Activity, and Condom Use Among 2915 HIV Seronegative Men Followed For Up to 2 Years. *J Acquired Immun Def Syn* 1989; 2: 77-83.

37. Frosner GG. How Efficient is "Safer Sex" in Preventing HIV Infection? *Infection* 1989; 17: 3-5.

38. Kreiss JK, Kitchen LW, Prince HE, et al. Antibody to Human T Lymphotropic Virus Type III in Wives of Hemophiliacs. *Ann Intern Med* 1988; 148:1299-1301.

39. Brettler DB, Forsberg AD, Levine PH, et al. Human Immunodeficiency Virus Isolation Studies and Antibody Testing. *Arch Intern Med* 1988; 148: 1299-1301.

40. CDC. HIV Infection and Pregnancies in Sexual Partners of HIV Seropositve Hemophilic Men-United States. *MMWR* 1987; 36: 593-595.

41. Jackson JB, Kwok SY, Hopsicker JS, et al. Absence of HIV 1 Infection in Antibody Negative Sexual Partners of HIV 1 Infected Hemophiliacs. *Transfusion* 1989; 29: 265-267.

42. Brettler DB, Somasunduran M, Forsberg AF, et al. Silent Immunodeficiency Virus Type 1 Infection: A Rare Occurence in a High Risk Heterosexual Population. *Blood* 1992; 80: 2396-2400.

43. Kreiss J, Ngugi E, Holmes K, et al. Efficacy of Nonoxynol 9 Contraceptive Sponge Use in Preventing Heterosexual Acquisition of HIV in Nairobi Prostitutes. *JAMA* 1992; 268: 477-482.

44. Hearst N, Hulley SB. Preventing the Heterosexual Spread of AIDS. *JAMA* 1988; 259: 2428-2433.

45. Cohen DA, Dent C, MacKinnon D, et al. Condoms for Men, Not Women. *Sex Transm Dis* 1992; 19: 245-251.

46. Weller SC. A Meta-Analysis of Condom Effectiveness in Reducing Sexually Transmitted HIV. *Soc Sci Med* 1993; 36: 1635-1644.

47. Archer WR II, (former) Deputy Assistant Secretary for Population Affairs, in a letter to HC McCall, President, New York City Board of Education, December 1992.

48. McCray E, Onorato IM. Sentinel Surveillance of Human Immunodeficiency Virus Infection in Sexually Transmitted Disease Clinic in the United States. *Sex Transm Dis* 1992; 19: 235-241.

49. McIlhaney Jr. JS: *Safe Sex. A Doctor Explains the Realities of AIDS and Other STD's.* Grand Rapids Michigan: Baker Book House, 1990.

50. Wendell DA, Onorato IM, McCray E, et al. Youth at Risk. Sex, Drugs, and Human Immunodeficiency Virus. *Am J Dis Children* 1992; 146: 76-81.

51. Cates W, Stone KN. Family Planning, Sexually Transmitted Diseases and Contraceptive Choice: a Literature Update- Part 1. *Fam Plann Perspect* 1992; 24: 75-84.

52. Samuels S. Clamydia: Epidemic Among America's Young. *Med Aspects Hum Sex* 1989; Dec: 16-24.

53. Richart RM. *Oncology Times* 1992; June, p 50, and personal communication.

54. Dervin JV. Condom Won't Prevent Transmission of Human Papillomavirus. *Family Practice News* 1992; 22: 12.

55. Kasun J. *The War Against Population.* San Francisco CA: Ignatius Press, 1988.

56. Rogers JL, Boruch RF, Stoms GB, et al. Impact of the Minnesota Prenatal Notification Law on Abortion and Birth. *Am J Public Health* 1991; 81: 294-298.

57. Newman HH. Does Sex Education in School Help of Hurt? *Medical Economics* 1992; May 24: 35-37.

58. Marsiglio W, Mott F. The Impact of Sexual Activity, Contraceptive Use and Premarital Pregnancy Among Teenagers. *Fam Plann Perspect* 1986; 18: 151-161.

59. Dawson DA, The Effects of Sex Education on Adolescent Behavior. *Fam Plann Perspect* 1986; 18: 162-170.

60. *Washington Times* 3/8/91.

61. *USA Today* 5/19/92.

62. CDC. Premarital Sexual Experience Among Adolescent Women - United States, 1970-1988. *MMWR* 1991; 31: 929-932.

63. Kost K, Forresr JD. American Women's Sexual Behavior and Exposure to Risk of STD's. *Fam Plann Perspect* 1992; 24: 244-254.

64. CDC: *HIV/AIDS Prevention-Adolescents and HIV.* September 1992.

65. Hopkins E. Special Report. Why Sex Ed Fails. *Parents Magazine* September 1993.

66. Kirby D, Barth RP, Leland N, et al. Reducing the Risk. *Fam Plann Perspect* 1991; 23: 253-263.

67. Howard M, McCabe JB. Helping Teenagers postpone Sexual Involvement. *Fam Plann Perspect* 1990; 22: 21-26.

68. *Community of Caring.* Joseph P Kennedy Jr. Fnd. 1350 NY Av Washington DC. 20005
69. *Teen Aid. Me, My World and my Future.* N 1330 Calispel, Spokane WA 99201
70. *Sex Respect. Project Respect* PO Box 97 Golf IL 60029
71. *Teen Choice.* 6201 Leesburg Pike, Falls Church VA 22044.
72. *Free Teens.* 7 Park Av. Westwood NJ 07675.
73. Funderburk Patricia, (former) Director of the Office of Adolescent Pregnancy Programs in the USA. "Abstinence Education and Public Policy". Teaching Abstinence in the Public Schools. Jacob Javits Convention Center New York, NY. September 19, 1992. Ms Funderburk is presently Director of Educational Services, Americans for a Sound AIDS Policy.