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ABSTRACT

Preventing the spread of the Acquired Immune Deficiency Syndrome (AIDS) among sexually active adolescents and adults has become a primary social concern. This study was designed to investigate the following areas relevant to safer and unsafe sexual behavior among college students: knowledge and practice; personal risk assessment; and risk tolerance. Undergraduate college students (N=100) were surveyed concerning components of knowledge and practices related to safer sexual behavior, risk assessment for Human Immune Virus (HIV), and general life style risk behaviors. One of the most significant findings was that while college students had an understanding of the global, rudimentary facts pertaining to AIDS and HIV, there is an information gap regarding actual safe-sex behaviors that can lead to the reduction of the risk of HIV transmission. Students clearly assess themselves to be at less risk than either their best friend or an attractive stranger of the opposite sex. No significant relationship was found with regard to high-risk sexual behaviors and high-risk non-sexual behaviors. Since it appears that high-risk sex may be a unique behavior that cannot be predicted from other high-risk areas of a person's life. (ABL)

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College Student Knowledge, Attitudes, and Risk Tolerance
Toward Safe and Unsafe Sexual Behaviors

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Abstract:

College students do not totally understand the what constitutes safer sexual behavior, estimate themselves as being at lower risk for HIV infection than their peers, and students engaging in risker sexual behavior estimate themselves to be at significantly lower risk than students who do not. Implications and recommendations are offered.

Preventing the spread of the Acquired Immune Deficiency Syndrome (AIDS) among sexually active adolescents and adults has become a primary social concern. While research efforts are being made to find an AIDS vaccine to prevent the spread of this deadly disease, estimates are that such a vaccine will not become available any time in the near future (Barnes, 1987; Weisburd, 1987). Therefore, education is the primary vehicle to curb the ever increasing infection rate of the AIDS virus (Norman, 1986; Lenaghan & Lenaghan, 1987).

The goals of AIDS education programs have been to inform sexually active individuals as to the nature of the AIDS virus, how Human Immunodeficiency Virus (HIV) infection occurs, the behaviors that place one at risk, the consequences of HIV infection, and how individuals can protect themselves and others.

HIV Transmission and the College Population

There are two major transmission modes for the AIDS virus which are of concern when dealing with an adult population. The first is through the sharing of hypodermic needles by intravenous drug users. The second is through the practice of higher risk sexual behaviors. The mode of transmission that is of primary concern when dealing with college students has been within the realm of sexual behavior.

Beeghley and Sellers (1986) offered evidence that the incidence of premarital sex by adolescents has steadily increased. They proposed that the increase in sexual activity by younger members of the population is primarily due to basic changes in the elements of societal structure. These elements include the increasing span of years between puberty and marriage, the pervasiveness of sexually oriented media that provides sexual behavior modeling, greater social autonomy, and the lessening of sex-role differences regarding sexual behavior (Beeghley & Sellers, 1986). If the increase in adolescent sexual activity is linked to societal structure, it is not likely

that such behavior will discontinue in the near future. Therefore, it is crucial that those individuals who are sexually active engage in behaviors that are safer.

It has been well documented that college students are sexually active and engage in sexual activity with many partners during their young adult lives (Clayton & Bokemeire, 1980; DeLamater & MacCoquodale, 1979; Earle & Perricone, 1986; Story, 1982). According to Platt (1987), college students comprise a large portion of the population for which the potential transmission of the AIDS virus is high. Results from a Center of Disease Control (CDC) study, released in The Chronicle of Higher Education, tended to confirm Platt's view of the AIDS issue on college campuses (Keeling, 1989). The CDC study indicated that the HIV seropositive rate for college students (n=20,000), from 20 campuses nationwide, to be 2 students per 1,000. This rate of infection falls between that for military personnel and that for the "high risk" male prison inmate population who currently are found to have an infection rate of 4 per 1,000 ("AIDS on Campus," 1988).

While educational efforts have been made to inform sexually active individuals about AIDS and HIV infection, recent research investigating sexual behavior of college students has not shown evidence that there is consistent practice of safer sexual behaviors (Baldwin & Baldwin, 1988; Mangan, 1988; Menter katzman, Mulholland & Sutherland, 1988).

The Baldwin and Baldwin (1988) study examined the practice of higher and lower sexual risk-taking behavior as related to other factors such as perceived risk for contracting the AIDS virus, and risk-taking behaviors in other areas of one's life, such as not wearing seatbelts. The researchers found that while a sample of 851 college students from a university in southern California were knowledgeable about HIV infection, only 13% of the sample consistently used condoms and 66% reported never using condoms. It was also found, however, that those students who

engage in less risk-taking behavior in other low risk/high potential for serious consequence situations (wearing seatbelts) were also more likely to use condoms and not engage in casual sex. Baldwin and Baldwin (1988) stated: "... people's general habits of caution and sexual conservativeness may be important precursors of safer sexual practices" (p. 195).

The present study was designed to investigate three areas relevant to safer and unsafe sexual behavior among college students:

1. Knowledge and Practice: The first section of the study assessed how knowledgeable college students were as to what is meant by safer sexual behaviors, established the primary reasons students give for practicing safer sexual behaviors and what students viewed as the primary obstacles to consistently practicing safer behaviors.

2. Personal Risk Assessment: The second section of this study surveyed students' risk assessment of HIV infection for self and others as well as the chances of HIV infection as a result of protected and unprotected intercourse.

3. Risk Tolerance: The third area of investigation was to investigate students' level of risk tolerance in other areas of life and if that might be related to safer sexual behaviors.

METHOD

Sample

The participants were 100 undergraduate students who were attending college in the northeast. Of the participants, 37 were male and 63 were female. The age of the participants ranged from 18 to 38 years of age with a mean age of 20.75 years. The class profile of the sample consisted of 9 freshmen, 24 sophomores, 26 juniors, and 41 seniors all of whom were enrolled in introductory level educational psychology classes. Sixty eight percent of the sample reported they engage in sexual intercourse

on a regular basis and 92% of the sample reported having had sexual intercourse at some point in their lives prior to completing the survey.

Measures

The survey used in this study was constructed by the researchers. This survey was composed of a combination of both open-ended and closed-ended questions that addressed participants' attitudes and practices in lifestyle risk areas. Survey items were written to assess components of knowledge and practices related to safer sexual behavior, risk assessment for HIV infection (e.g., chance of HIV infection for self in the next five to seven years), and general lifestyle risk behaviors (e.g., the wearing of seatbelts, number of moving traffic violations, driving under the influence of alcohol, etc.). A pilot study ($n = 20$) of the survey items was conducted for the purpose of obtaining information as to how students' interpreted what was being asked in each of the items. Pilot data were used to refine the final items for the form and content of the survey used in this study.

Procedure

Participation in this study was voluntary. Students were told they were being asked to participate in a study designed to learn more about how college students think and feel about current life issues that they face as young adults. The three lifestyle decision-making areas (driving behavior, sexual behavior, and drinking behavior) addressed in the survey were outlined during an information briefing that introduced the study. Each student agreeing to take part in the study was given a survey for completion. The researchers requested that students wishing to take part in the study complete the survey anonymously.

RESULTS

Knowledge and Practice

Results suggest the sample as a whole tended to have general knowledge of AIDS and HIV. This knowledge was shown to be somewhat limited across related issues. A good example of this is that 97% of the sample reported that heterosexuals need to be concerned about HIV infection. This would suggest that participants have reasonable concern about the spread of HIV infection and have an understanding that one now has to think past the "risk group" concept. Yet 44% of the sample also reported they would be worried about casual social contact if their roommate became infected with HIV after a blood transfusion, suggesting that these participants were less than well informed about modes of HIV transmission.

This same lack of consistency in general knowledge was also shown to be evident in relationship to the practice of safer sexual behaviors. A total of four students (4%) reported themselves as having little knowledge of safer sex behaviors while 64% of the students rated themselves as being very knowledgeable as to what constitutes safer sexual behaviors. The data also showed that 77% of the sample reported using safer sex behaviors more than 80% of the time with 57% of the sample reporting engaging in safer sexual behavior 100% of the time.

While these results suggest that knowledge and practice tended to be fairly consistent, when participants were asked to list as many safer sex behaviors as they could, the complexion of these results changes. Qualitatively, participants were shown to have fairly limited knowledge in both the breadth and depth of safer sex behaviors. Participants' responses to an item asking them to list as many safer sexual behaviors as they could are as follows (reported as the response to the item and the number of times each response was given): use of condoms (74), abstinence (38), single partner (23), get medical/ drug, and/or sexual history (19), AIDS

testing (13), general birth control methods such as the pill, diaphragm, etc. (11), no oral contact with genitals (8), no anal intercourse (3), no sharing needles (3), use of nonoxynol-9 (2), closed mouth kissing (2), disease control cards (1), hugging (1), touching/caressing (1), heterosexual relationships (1), no rimming or fisting (1), "don't be a homo" (1), withdrawal (1), no oral sex with homosexuals (1), don't sleep with bisexuals or drug users (1), left item blank (20).

These results were somewhat alarming in that 41% of the sample listed as least one and in some cases as many as four behaviors which would not be considered safe. When the sample was blocked high and low on reported frequency of practicing safer sex behaviors, the group indicating that they either do or would practice safer sexual behavior 100% of the time ($n=43$), 37% listed one or more erroneous safer sexual behaviors. Of those students indicating that they practice safer sexual behavior < 75% of the time ($n=23$), 57% listed at least one or more behaviors that would not be considered as safe.

There were no significant gender differences with respect to reported frequency of safer sexual behavior. In post hoc analysis one factor that did emerge as being significant in the practice of safer sex was that of being in a steady relationship. Those reporting being involved in a steady relationship ($n = 46$) also reported practicing safer sexual behaviors 87% of the time. In contrast, those reporting not being involved in a steady relationship ($n = 43$) reported practicing safer sexual behaviors 71% of the time. A one-factor ANOVA and subsequent Scheffe F-test ($F = 5.58$) showed this difference to be significant ($p = < .05$).

The second section of survey items in the study focused on what students feel are the obstacles to consistently practicing safer sexual behaviors and what education programs need to emphasize to foster behavior change among college students. The sample group was first asked what might account for students failing to consistently

practice safer behaviors. Responses and the number of times each response was given were as follows: Heat of the moment (49), Don't think AIDS will happen to them (45), Disregard or ignore the danger (35), Not prepared with a condom (30), Embarrassment/Don't want to talk about it (22), Judgment impaired by alcohol or other drugs (17), Partner does not fit profile of a risk group (17), Lack of knowledge (9), Safer sex behaviors are less pleasurable (8), Irresponsible/Immaturity (5), Not natural (4), Pressure from partner not to use condom (2), Selfish (1), Claim to know they are not infected but don't (1), Against religion (1), Forget (1), Heterosexuality (1).

A third item in this group of questions asked, "What do you think is the most difficult part of actually making safer sex a consistent practice?" Responses to this item and the number of times each response was given were as follows: Embarrassed to talk to your partner (12), Not spontaneous or romantic (10), Condoms are not there when needed (10), Accepting it can happen to you (8), Not difficult at all, buy condoms and use them (6), Lack of control over sexual desire (4), Realizing the consequences (3), Selecting partners who think the same way as you do about safer sex (3), Physical discomfort of condoms (3), Staying with one person (3), Lazy (2), American attitude (1), Affordability of condoms (1), More pleasure without condoms (1), Use of condoms by males (1), Embarrassment of having to stop to put on a condom (1).

The fourth item in this section of the survey addressed educational approaches to AIDS education on college campuses. Participants were asked to write what they thought should be emphasized in education programs so as to get students to use safer sexual behaviors. The ideas generated tended to cluster in five general categories. These categories were 1) personal vulnerability, 2) personal responsibility for

protection, 3) instilling fear of consequences, 4) pervasive nature of HIV spread, 5) help in communication between partners. Personal vulnerability accounted for 26% of the responses and included responses such as: "It could happen to them even though they don't think so" or "It is easy to get AIDS." Personal responsibility for protection drew 24% of the responses, some of which include: "Being faithful to one person," "Have condoms ready," and "It is not unromantic to protect your life." The third category, instilling fear, accounted for 23% of the responses and contained items such as: "Tell the symptoms and suffering a person with AIDS goes through," "You will die if you take too many chances," or "Get them scared of the virus." The pervasive nature of HIV spread accounted for 18% of the responses, which generally suggested giving numbers and statistics relating to infection rates. Finally, the category of better communication between partners drew 2% of the responses. Seven percent of the sample left this item blank.

Personal Risk Assessment

In this section of the study participants were asked to assess their risk of HIV infection. Participants were to assume that they had had sexual intercourse with a member of the opposite sex who had been infected with HIV and then estimate their chances for infection in the case where a condom had been used and in the case where a condom had not been used.

The findings show that the participants knew the protective nature of condom use related to reducing the risk of HIV infection. The sample means (in percents) for risk of HIV infection were 20% if a condom was used and 79% if a condom had not been used.

Condom use and infection risk assessment was also examined after blocking the sample on whether or not they engage in casual sex. In the case where a condom was to be used, no significant difference between groups was found. The "no casual sex"

group (n =76) assessed their risk of HIV infection to be 21% while the "engaged in casual sex group" (n=19) assessed their risk of HIV infection to be 14%. In the case where no condom was used, the "no casual sex" group assessed their risk of HIV infection to be 83% and the "engaged in casual sex group" assessed their risk of HIV infection to be 59%. A one-factor ANOVA and subsequent Scheffe F-test showed a significant difference ($p < .05$) in perceived level of assessed risk between members of the two groups. Those who engaged in casual sex assessed their risk to be significantly lower than did those who did not have casual sex in the case where a condom is not used.

Participants were also asked to assess HIV infection risk for themselves and others. The results showed that participants assessed themselves to be at lower risk ($M = 5.6\%$) for HIV infection than was their best friend ($M = 17.4\%$) over the next five to seven years.

Participants were then asked to assess the likelihood that an attractive stranger of the opposite sex whom they met in a bar was infected with HIV. The sample mean for this estimation was found to be 18%. A one-way ANOVA showed that the assessed risk for one's self to be significantly lower than the assessed risk for either a best friend or an attractive stranger of the opposite sex. The results of Scheffe F-tests showed significant differences ($p < .01$) in chance estimates between self and best friend ($F = 12.985$) and between self and attractive stranger ($F = 14.297$). No significant differences were found, however, between mean risk assessments for best friend and attractive stranger.

Risk Tolerance and Behavior

The third area of investigation focused on the participants' risk behaviors related to sexual activity as well as in other areas of life. The results of data analysis did not

show any significant differences in levels of reported safer sexual behavior when the sample was blocked high and low on other life risk variables. These life risk variables included: seatbelt usage, driving under the influence of alcohol, number of alcohol drinks consumed in an evening, average highway driving speed, number of parking tickets, number of moving violations, auto accidents and property damage, or whether the person is a smoker or non-smoker.

DISCUSSION

This study was conducted to establish a better understanding of the present state of knowledge and perceptions regarding AIDS and AIDS-related issues among the college population. Three general areas, Knowledge and Practice, Personal Risk Assessment and Risk Tolerance were examined.

Knowledge and Practice

One of the most significant findings is that while college students have an understanding of the global, rudimentary facts pertaining to AIDS and HIV, there is an information gap regarding actual safe-sex behaviors that can lead to the reduction of the risk of HIV transmission. It is striking to note that of those students reporting to practice safe sex 100% of the time, more than a third (37%) listed at least one erroneous safer sex behavior. This appears to indicate that either college students lack the necessary information or that they have access to misleading or confusing information. Given that college students are typically at the developmental level where intimacy is a major issue (Erikson, 1968), this lack of knowledge is very concerning.

The term 'safer sex' is undefined or, at best, unclear. Students reporting to be in a steady relationship also reported to employing safer sex behaviors significantly more than those not in a committed relationship. When asked to list perceived obstacles to practicing safe sex, a number of respondents included embarrassment or

a difficulty in communication with their partners around this issue. It is possible that those in a committed relationship have come to a point where this uneasiness is no longer an obstacle. Discussion of this intimate issue may be more comfortable in a committed or steady relationship.

Personal Risk Assessment

In terms of the subjective assessment of personal risk, students in this study clearly assessed themselves to be at less risk than either their best friend or an attractive stranger of the opposite sex. The reality, however, is that college students are at risk (AIDS On Campus; Keeling, 1989; Platt, 1987). This distancing from reality may further help to psychologically inoculate themselves against the real risk of contracting the HIV virus. This is also borne out in the finding that students correctly assess people who do not use a condom to be at a higher risk. However, those who also engage in casual sex and do not use a condom see themselves as being at significantly less risk than do those who do not engage in casual sex. Thus, students who engage in higher risk behavior (e.g., engage in casual sex without a condom) do not seem to view this behavior as risky as those who tend to be safer in their sexual activity. While 19% of our sample reported engaging in casual sexual activity, some solace can be taken in that 76% reported that they did not.

Risk Tolerance

In this study, no significant relationship was found with regard to high-risk sexual behaviors and high-risk non sexual behaviors. Since there is no significant relationship, it appears that high-risk sex may be a unique behavior that cannot be predicted from other high-risk areas of a person's life. In practical terms, this means that high-risk sexual behavior can occur regardless of the presence or absence of other high-risk behavior. These findings contradict those from the Baldwin and Baldwin (1988) study where it was found that higher risk sexual

behaviors were shown to correlate with risk behaviors in other areas of life (e.g., not wearing seatbelts).

While the present study adds to understanding of how students view issues related to HIV infection, there are several factors that must be taken into account as one attempts to generalize from our findings. Data collection was accomplished by surveying students from introductory educational psychology classes. The fact that participants were not selected randomly from an entire student body may have influenced our findings. A second issue related to data collection is that of demand characteristics that may have been experienced by the participants by virtue of the areas that were addressed on our survey. Although the data did not show any overwhelming trend of one particular response set by the participants, there was no way to be sure that our results could not also be explained by variables not accounted for in our analysis.

A third limitation is the disproportionate number of females and of upperclassman in our sample. While there was nothing to suggest that knowledge, attitudes, or personal risk assessment differed by gender or class, small sample sizes precluded us from reporting this conclusively. It would be desirable for other researchers to explore these and related questions. Despite these limitations, the present study offers further insight regarding the issue of HIV infection and risk behavior, lending support to the conclusions we have drawn and suggesting the need for further work in this area.

IMPLICATIONS

The evidence suggests that, in the absence of any known vaccine or pharmacological cure, education regarding AIDS is the single most important step in preventing and controlling AIDS (Lenaghan & Lenaghan, 1987). Hearst and Hulley

(1988) emphasized the importance of limiting sexual contact to a member of a low-risk group. While this is clearly rational, at this point in time it is not possible to definitively determine, on an individual-by-individual basis, just who is at low risk for HIV infection. In fact, results of the present study indicate that college students may choose to ignore or cognitively distort their risk for HIV infection when they find a person who is physically attractive. Therefore, fostering the consistent practice of safer sexual behaviors among the college student population is crucial. Beyond a general notion of AIDS and HIV infection, students are often confused and uninformed as to what safer sex behavior is. In addition, they also assess themselves to be at significantly less of a risk than reality infers. A lack of knowledge coupled with a denial of the facts can make for a devastating combination. Two modes of general education are suggested.

University Programing

The findings of the present study make it clear that AIDS education programs must be made available to college students. These programs should disseminate accurate, easy-to-understand, and practical information to participants. The residence hall is an environment conducive to preventive mental health services (Halstead & Derbort, 1988). This environment is also fruitful for a proactive effort in the form of programing for residents regarding AIDS education and awareness. This study indicates that efforts to incorporate clear and explicit information not only regarding HIV transmission, but also on what constitutes safer sex practices that prevent HIV infection are imperative. This can be done via lectures within the university community, media services, or workshops from community health educators. An example of this type of programing is in the Freshman Empowerment Orientation program conducted for incoming freshman at Boston University. In this workshop, the students were offered presentations from

experts as well as from persons with AIDS. Students have an opportunity to ask questions and exchange ideas about the physiological and psychological aspects of this disease.

College Counseling Center

Along with a programmatic approach to AIDS education, college counselors find themselves in a particularly suitable role to address the AIDS issue in that they concern themselves with the intimate aspects of students' lives. Every college student who is sexually active, and we must recognize this is a large majority of them, is vulnerable to some degree for HIV infection. College counselors should make it standard practice to inform and educate each and every client about HIV infection and the personal choices that students have for protecting themselves and others. Additionally, college counselors need to help students overcome the obstacles of practicing safer sex. Counselors can help students attain better or more effective communications skills, teach precautionary measures to individuals and couples, and deal with the myriad of emotional obstacles such as embarrassment, intimacy, and fear. These issues are well within the counselors domain and must be addressed.

CONCLUSIONS

Facing the potentially catastrophic public health challenge created by the AIDS virus in the years to come is bound to heighten awareness and uncertainty in all segments of society. Today, however, while the general population tries to make sense of this threat, college students are at greater risk vis-a-vis the developmental issues of intimacy, establishing relationships, and sexual experimentation. Efforts must be made in the form of explicit and detailed education to help the student understand the facts of AIDS and HIV infection, the reality of risk, and the appropriate ways to reduce that risk. The results of the present study are offered to help clarify the types of information that students need as well as to offer a guideline

for some of the areas of education that those conducting AIDS education programs on college campuses must address.

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