Hepatitis C and HIV Awareness Among College Students | Liz Levy

Sub-Saharan Africa or Southeast Asia usually come to mind when most people think about epidemic infectious diseases such as HIV/AIDS. However, HIV/AIDS and other preventable diseases such as hepatitis C remain significant problems in industrialized countries including the United States, making health education more important than ever. Approximately four million Americans are infected with hepatitis C, making it four times more prevalent than HIV. In addition, hepatitis C is the leading cause of liver transplantation in the United States. Since not all 50 states are required to report HIV cases, the exact prevalence of HIV in the United States is unknown, but the CDC estimates that between 850,000 and 950,000 Americans are infected with it. Could the discrepancy in prevalence of these two diseases be a result of a lack of knowledge of hepatitis C in comparison with HIV, or are there other causes that need to be investigated? This research study will evaluate knowledge and awareness of both hepatitis C and HIV/AIDS among college undergraduate students at the University of Virginia. It is hypothesized that college students will be less knowledgeable and have lower risk perceptions of hepatitis C than HIV. College students typically participate in many high-risk behaviors for both of these bloodborne pathogens. Thus, it is vital that their knowledge, sources of knowledge and risk perceptions be evaluated in order to implement appropriate interventions, if found to be necessary, that will promote positive behavioral changes.

Awareness advocates have labeled Hepatitis C as a “silent epidemic” due to the lack of media attention it has received. The hepatitis C virus (HCV) is also considered to be a “mystery virus” because it has few symptoms and can remain hidden in the body for years before eventually destroying the infected person’s liver. While the disease affects one out of every sixty Americans, most people know nothing or very little about it. Population-based studies indicate that 40% of chronic liver disease is hepatitis C-related, and with 30,000 new cases being diagnosed every year in the United States alone, there are not enough liver donors to save all those infected. Therefore, between 8,000 and 10,000 people are dying from this preventable disease every year. Furthermore, the lifetime healthcare costs of all Americans currently infected with hepatitis C, excluding the costs of liver transplants which average $315,000 each, are estimated to be more than $400 billion.

Hepatitis C is the most common chronic bloodborne infection in the United States. It can be transmitted in many ways, all of which involve percutaneous or permucosal (under the skin or through mucous membranes) exposure to infectious blood or blood-derived body fluids. The CDC has reported that 60% of hepatitis C cases are transmitted by injection drug use while approximately 20% of cases are due to sexual activity in the absence of percutaneous risk factors. Ten percent of cases are due to other known risk factors including occupational exposure, hemodialysis, household exposure and perinatal exposure. Finally, 10% of hepatitis C patients do not know the source of their infection, but most of these sources are believed to be associated with low socioeconomic level. At this time, there is no vaccine or definitive cure for
hepatitis C. Since many patients are asymptomatic for up to twenty years, people may unknowingly transmit their HCV infection to others during this time. Thus, hepatitis C awareness is a crucial goal for public health workers to attain in order to suppress this epidemic.

AIDS (Acquired Immunodeficiency Syndrome), caused by HIV (Human Immunodeficiency Virus) is the fifth leading cause of death among people aged 25-44 in the United States. Every year, there are 40,000 new cases of HIV in America, half of which occur in people under age 25. The CDC estimates that one out of every three hundred people in the United States and two out of every thousand college students are infected with the virus. The estimated lifetime healthcare costs for all of the Americans currently infected with HIV are more than $100 billion. From these statistics, it is obvious that HIV/AIDS is an enormous public health issue here in the United States, thus validating the importance of evaluating college students’ levels of knowledge.

Once it enters the human body, HIV infects T4 cells and makes them less responsive to antigen identification. Macrophages become less responsive as well and are destroyed before T cells. A decline in a person’s T4 count signals progress of immune system deterioration. In addition, B cells produce fewer significant antibodies and lose their normal responsiveness. The immune system becomes dysfunctional and the host then becomes vulnerable to attack from opportunistic infections. There are three basic mechanisms by which HIV can be transmitted: sexual contact, needles and syringes, and mother to child (vertical). In the United States, approximately 60% of HIV cases have been transmitted by sexual exposure while 25% have been transmitted by injection drug use, and only about 1% of cases result from vertical transmission. Whereas hepatitis C cannot be transmitted through breast milk, HIV can. However, like hepatitis C, there is neither a vaccine or a cure for HIV. Also similar to Hepatitis C, widespread inadvertent transmission of HIV occurs due to a delay in manifestation of symptoms. HIV-infected persons are most highly infectious during the first stage of the disease which often occurs without symptoms. When symptoms do occur, they are similar to that of influenza and mononucleolus and are therefore often overlooked, especially in a college student population since students often suffer from flu and mono.

Due to a host of reasons, including newly found freedoms, experimenting, and sexual curiosity, college students typically participate in many high-risk behaviors that could lead to transmission of either hepatitis C, HIV, or both, thus making awareness of these diseases paramount. Because of the asymptomatic characteristics of hepatitis C and the first stage of HIV, college students could very well be infecting others without ever knowing that they have contracted the disease themselves.

The literature review for background information on hepatitis C, HIV/AIDS and risk perception was performed using the Medline search engine, literature from the CDC and a number of review books. Using recommended guidelines from the University of Virginia’s Center for Survey Research, eight hundred undergraduate students who were enrolled as full-time students at the time of the survey were randomly selected and recruited via e-mail to take a
confidential and anonymous online survey created on www.freeonlinesurveys.com. Specifically, participants responded to a 24-item survey that included true/false and multiple choice questions about transmission, prevalence, primary sources of knowledge and personal concern of contracting hepatitis C and HIV. The survey results were then transferred into SPSS (Statistical Package for the Social Sciences) 11.5 for Windows in order to undergo statistical analysis. T-tests were used to determine statistical differences relating to the number of correct answers given for each disease. Univariate analyses of variants and bivariate correlations were used to examine relationships between concern of contracting HIV and hepatitis C and the following independent variables: disease, knowledge, gender, and year of undergraduate study.

Out of the 800 students recruited, 293 took the online survey for an overall response rate of 37%. Statistical analyses of the survey results support the hypothesized claims. The average number of correct answers for HIV questions exceeded that for hepatitis C. The one-sample T-test indicated that the difference in number of correct answers for each disease (.7577) was statistically significant (p < .005), thus supporting that college students are indeed less knowledgeable of hepatitis C than HIV. The mean difference in concern of contracting the two disease (HIV concern minus hepatitis C concern) was .47 and was also found to be statistically significant (p < .005), indicating that college students were less concerned about contracting hepatitis C than HIV. The bivariate correlations indicated significant correlations between knowledge and disease (r = .316, p < .005) and between concern and disease (r = .250, p < .005). When the diseases were not split up, there was a moderately significant correlation between level of knowledge and concern of contracting a disease (r = .102, p < .02). However, this correlation disappeared when the two diseases were analyzed separately. One possible reason for this may be that people who have knowledge of a disease know how to protect themselves and therefore are not concerned about contracting the disease. The disease itself was the only variable found to significantly affect concern of contracting a disease, so it seems that for whatever reason, the disease itself directly drives concern. Thus, associations of each disease (by name) need to be reworked and incorporated into education campaigns in order to increase the accuracy of risk perceptions among college students. This in turn could lead to reduced disease burden and costs on the American society.

Nearly one-half and one-quarter of respondents indicated school as their primary source of knowledge of HIV and HCV, respectively. Interviews with health educators from the Virginia Department of Education were conducted in order to determine the level of knowledge Virginia public school students attain before coming to college. The interviews indicated that while HIV education is covered in Virginia public schools, hepatitis C education is not. In addition, a heavy emphasis is placed on abstinence-only education which may reduce the amount of information available to students about how to protect themselves if they do choose to engage in sexual activity. Interviews with health educators at UVA indicated that hepatitis C information is not available to students in literature at Student Health and that it is not covered in Peer Health Educator presentations to student groups. This information is consistent with the lack of
correlation found between year of undergraduate study and knowledge/concern of contracting HCV. If students do not have access to information about the disease, then they are not likely to have sufficient knowledge or be concerned of contracting it. The lack of correlation found between year of undergraduate study and knowledge/concern of contracting HIV may be explained by the lack of a mandatory HIV education program in college and by the feeling of invincibility that often characterizes many college student populations.

Research on risk perception suggests that people perceive their individual risk by using the Availability Heuristic in which an event is judged as likely or frequent if it is easy to imagine or recall instances of it. However, the use of this heuristic can lead to misperceptions. For example, people are often more afraid to fly than to drive even though statistically there is a much greater danger in driving. However, airplane crashes remain more vivid in our minds, thus often leading us to fear the wrong things. Similarly, because HIV is talked about more than other STIs in the media and in schools, we tend to fear it more even if its prevalence isn’t as high as that of other diseases.

The news/media were indicated to be a primary source of HIV knowledge for 39.4% of the survey participants while 27.1% indicated the news/media as their primary source of HCV knowledge. Teenagers are exposed to 15,000 sexual references each year, with less than 170 having any discussion of the consequences such as the risks of pregnancy, HIV or other STDs. According to Cognitive Social Learning Theory, people will imitate behaviors they see others perform when those models are either rewarded or not punished for their behavior. Thus, when kids see couples engaging in sexual intercourse or other high-risk behaviors without any negative consequences on television, they imitate these behaviors because they think that they will not encounter any negative consequences either. Studies show that the media is the number one source of information about sex for youth, yet the media does not include information about staying safe and the importance of protecting sexual health, which can certainly impact choices youth and even adults make regarding sex and protection. It can impact their level of sexual knowledge, their perceptions and definitions, how they prioritize choices, and the likelihood that they will make informed and safer choices. However, because the media do play such a vital role in our society, there is an enormous potential to do some good and to both portray positive images that would promote good sexual health practices and disseminate information on HIV, hepatitis C, and other STIs.

Peer education may be one possible remedy to the lack of knowledge/low risk perceptions found in this study. According to research, peer education is very effective in promoting healthy behaviors. Peer education draws on the credibility that young people have with their peers, leverages the power of role modeling, and provides flexibility in meeting the diverse needs of today’s youth. Research indicates that people are more likely to hear and personalize messages, and thus to change their attitudes and behaviors, if they believe the messenger is similar to them and that he/she faces similar concerns and pressures. Trained peer educators are seen as a more credible source of information for some youth than are adult
educators because they communicate in readily understandable ways and serve as positive role models while simultaneously dispelling misperceptions.

When adolescents reach the college age, they gain many freedoms since they are on their own away from parental figures, often for the first time. In addition, college students have easier access to alcohol and other drugs that alter their judgment and affect the decisions they make. For example, an individual who has consumed vast amounts of alcohol may have sexual relations when or with someone with whom they would not normally do so. Furthermore, their altered judgment may impair their decision on whether or not to use a condom or their ability to put one on properly. Consequently, many college students are vulnerable and at risk for contracting HIV, hepatitis C and other diseases, thus making education and prevention efforts a necessary priority. If students are given knowledge regarding the risks that their behaviors may involve, they will at least be aware of the risks they may be incurring when and if they participate in these behaviors. Aside from risks that college students may be incurring by participating in high-risk behaviors for contracting these diseases, they are also putting themselves and society at risk for incurring tremendous costs.

References:
3. Hepatitis C Remember to Ask Your Doctor. CD-ROM. (Department of Health and Human Services: Centers for Disease Control and Prevention, Atlanta, 2003).