

Assessing Educational Administrators' Knowledge about HIV Transmission

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Abstract

The implementation of effective AIDS education within schools is based on numerous factors. Among such factors, support of the administrators is paramount to any implementation process. This study assessed the knowledge of HIV and HIV transmission among educational administrators in northeast Ohio and northwest Pennsylvania.

One hundred seventy elementary and secondary principals and superintendents completed the 38 item assessment that asked whether HIV has been transmitted via a variety of modes. Of the 38 items, 13 have been shown to be documented by the CDC or peer reviewed medical journals.

Results showed that overall, administrators were misinformed on how HIV is transmitted. Over 65% falsely believed that biting has transmitted the virus, whereas between 35-40% were unaware of the role that various oral-sex activities played in transmitting HIV. Discussion focused on the importance of providing in-service education to all administrators prior to establishing support for HIV education among the students.

Introduction

As the incidence of human immunodeficiency virus (HIV) infection continues to climb, more educational administrators will be called upon to make decisions concerning HIV infected faculty, staff, and students. The Centers for Disease Control & Prevention has identified nearly 612,078 (through June 30, 1997) individuals with acquired immunodeficiency syndrome (AIDS). Over 7,500 of these individuals are under the age of 13 (CDC, 1997a). Therefore, it is imperative that educational policymakers have access to the most current HIV information.

In-service programs on AIDS and HIV transmission must be provided to address concerns of educational administrators regarding this disease. Before developing any educational programs, however, a needs assessment should be made. Unfortunately, it seems educational administrators, like many health care practitioners tend to rely more on perceived needs than on needs identified on assessments (Gilmore, Campbell, & Becker, 1989).

This study was designed: (1) to assess the knowledge base of superintendents, secondary principals, and elementary principals concerning the transmission of HIV, and (2) to determine whether or not significant differences exist in this knowledge base among these groups. The intent of the study was to provide a database for future in-service program

planning for educational administrators. A complete understanding of how the AIDS virus is transmitted provides a foundation for informed decision-making in dealing with issues related to HIV-infected individuals.

Procedures

Over 1 million people reside in northern Ohio and western Pennsylvania, the area surveyed. The HIV Transmission Survey was distributed by mail to 554 educational administrators in these areas. The number of usable surveys returned was 170. This number is such that the sample proportion p will be $\pm 5\%$ of the population proportion P with a 90% level of confidence (Kish, 1965).

Respondents were asked to complete the HIV 38-item assessment anonymously and to identify modes of HIV transmission documented in the literature and recognized by the CDC. The questionnaires were color coded by professional level. This survey has been widely used in assessing knowledge of HIV transmission among a variety of groups, including health care practitioners, school teachers, and medical students (Foley & Kittleson, 1993; Kittleson, Ragon & Venglarcik, 1993; Kittleson et al., 1991; Kittleson & Venglarcik, 1990). Theoretically, there may be many ways that HIV is transmitted; however, the CDC has recognized only the following modes of transmission: receipt of HIV tainted blood (Curran et al, 1984), intercourse (male to male, male to female, female to male) (Padian et al, 1987; Jaffe & Lifson, 1988), oral

sex (Mayer & Degruittola, 1987; Monzon & Capellan, 1987; Spitzger & Weiner, 1989; CDC, 1988), mother to fetus (Lapointe et al., 1985), breast milk (Lepage et al., 1987; Ziegler et al., 1985), patient to medical worker via needlestick (McCray, 1986), and medical worker to patient (CDC, 1990). HIV transmission via injectable drugs, although a documented mode of transmission, was not assessed in this study. Subjects were asked to respond whether or not the various HIV transmission modes in the survey were documented by the CDC as transmitting HIV. One additional mode of possible transmission which the CDC has identified recently is mucuous membrane explore to blood-contaminated saliva during deep kissing. However, CDC points out that saliva as a mode of HIV transmission is rare (CDC, 1997b). In addition, the collection of data was completed prior to this CDC report, thus, deep kissing was considered a non-documented mode based on current research.

Internal consistency was assessed by a Cronbach alpha and found to be .85. This reliability did not differ significantly from reliabilities of other studies cited using this instrument. Based on this assessment, the instrument was deemed reliable.

Results

The results of the survey are found in Table 1. Of the 13 CDC documented modes of HIV transmission, respondents appropriately identified 7 of these methods at a 90% rate or higher. Of the remaining 6 CDC documented modes, the response rate ranged from a high of 74.7% to a low of 60%.

The test of significance used was the analysis of variance. Respondents differed significantly on 3 of the CDC documented HIV transmission modes, i.e., cunnilingus, anilingus, and female to female. For all 3 items, secondary principals indicated a greater awareness of CDC documented modes of transmission than both elementary principals and superintendents.

Of the 25 non-documented modes of transmission assessed, no significant differences were found among the three groups. The response rate for 10 of the 25 non-documented modes of transmission was 90% or higher; the response rate for 9 of the non-documented modes of transmission was between 80 and 89%; the response rate for the remaining 6 non-documented HIV modes of transmission ranged from 31.8% to 74.1%.

Discussion

Based upon the results of this survey, it would appear that there are gaps in the knowledge base among

these three groups of administrators. Assuming that a 100% knowledge base is ideal, but perhaps unrealistic, the important question is what knowledge base is acceptable on an important but relatively simple concept: modes of HIV transmission.

Some may argue that a 90% knowledge base is sufficient. Based upon the data, these administrators had a knowledge base of 90% or better on 17 of the 38 documented and non-documented items. If a knowledge base of 80% is sufficient, the number of documented and non-documented items at 80% or above climbs to 26. This also means that these administrators were correct 70% or less on one-third of the documented and non-documented items.

The documented and non-documented modes of transmission need to be reviewed separately. Is it more important for administrators to know how the virus is transmitted or how it is not transmitted? Since the topic of HIV transmission can bring many people to a level of hysteria, it may be best to focus on some of the factors that promote such hysteria--undocumented modes of transmission. Although most administrators responded accurately on the "casual" contact items (i.e., hugging, contact with teachers, being coughed upon), there were still major misconceptions regarding HIV transmission through activities that can take place in a classroom or school setting. Nearly seventy percent of the administrators responded that biting has transmitted HIV. Providing accurate information about this type of misconception in a form of educational in-service programs can assist in reducing any hysteria not only among administrators, staff, and students, but also parents and others associated with the school systems.

Many of the items listed in the non-documented modes of transmission section of Table 1 are activities relating to saliva. Saliva is a common factor in various types of kissing, CPR, sharing of toothbrushes, and biting. This specific area must be addressed in educational programs for school personnel especially with the unique circumstances surrounding the possibility of HIV explore through deep kissing.

It is also interesting to look at the four non-documented modes of transmission in Table 1 that relate to animals. Between 15 and 20% of the respondents believe that HIV has been transmitted by contact with animals. The HIV virus survives only in humans--thus the term HUMAN immunodeficiency virus. HIV cannot live in other species nor can other species' equivalent disease live in humans. Monkeys can suffer

Table 1. Knowledge of Documented and Nondocumented Modes of HIV Transmission as Reported by School Superintendents and Principals

| Documented Modes of Transmission | <u>Percent of Correct Responses</u> | | | |
|---|-------------------------------------|---------------------------|--------------------------------|---------------------------------|
| | Total (n=170) | Superintendents (n=34) | <u>Professional Role</u> | |
| | | | Secondary Principals (n=70) | Elementary Principals (n=66) |
| Receiving Blood | 99.5 | 100.0 | 98.6 | 100.0 |
| Male to female | 98.8 | 97.1 | 100.0 | 98.5 |
| Male to male | 98.2 | 97.1 | 98.6 | 98.2 |
| Female to male | 97.1 | 94.1 | 98.6 | 97.0 |
| Mother to fetus | 94.7 | 91.2 | 95.7 | 95.5 |
| Anal Intercourse | 94.1 | 97.1 | 95.7 | 90.9 |
| Via Needlestick | 91.2 | 97.1 | 90.0 | 89.4 |
| Fellatio | 74.7 | 70.6 | 81.4 | 69.7 |
| Cunnilingus | 74.1 | 61.8 | 87.1 | 66.7 ^{a,b} |
| From Medical Worker to | 66.5 | 61.8 | 70.0 | 62.1 |
| Female to female | 61.8 | 52.9 | 72.9 | 46.9 ^{a,b} |
| Anilingus | 60.6 | 55.9 | 71.4 | 51.5 ^{a,b} |
| Breast Milk | 60.0 | 67.6 | 60.0 | 56.1 |
| <u>Non-documented Modes of Transmission</u> | | | | |
| Sharing Toilets | 99.4 | 100.0 | 98.6 | 100.0 |
| Being Breathed on | 98.9 | 100.0 | 98.6 | 98.5 |
| Swimming Pool | 98.2 | 97.1 | 98.6 | 98.5 |
| Sharing of Bedding | 98.1 | 97.1 | 98.6 | 98.5 |
| Hugging | 97.5 | 97.1 | 95.7 | 100.0 |
| Tears | 97.1 | 97.1 | 94.3 | 87.9 |
| Coughed Upon | 95.3 | 97.1 | 92.3 | 97.0 |
| Lip Kissing | 95.3 | 97.1 | 92.9 | 97.0 |
| Mosquitoes | 95.3 | 97.1 | 94.3 | 95.5 |
| Sneezed Upon | 93.5 | 97.1 | 92.3 | 92.4 |
| Being Spit Upon | 89.4 | 94.1 | 88.6 | 87.9 |
| Cigarettes | 88.8 | 91.2 | 90.0 | 86.4 |
| Eating Utensils | 88.8 | 94.1 | 87.1 | 87.9 |
| CPR on Manikins | 87.6 | 91.2 | 82.9 | 90.9 |
| Donating Blood | 87.6 | 91.2 | 82.9 | 90.9 |
| Female to Animal | 84.1 | 79.4 | 87.1 | 83.3 |
| Animal to Female | 83.5 | 82.4 | 87.1 | 80.3 |
| Animal to Male | 82.9 | 82.4 | 85.7 | 80.3 |
| Male to Animal | 80.6 | 79.4 | 85.7 | 75.8 |
| Toothbrushes | 74.1 | 85.3 | 65.7 | 77.3 |
| CPR on Humans | 65.9 | 73.5 | 62.9 | 65.2 |
| Tongue Kissing | 65.3 | 73.5 | 61.4 | 65.2 |
| Father to Fetus | 62.9 | 79.4 | 58.6 | 57.6 |
| Sharing of Razors | 60.6 | 73.5 | 55.7 | 59.1 |
| Biting | 31.8 | 38.2 | 30.0 | 30.3 |

^a Significance between Elementary and Secondary Principals, $p \leq .05$ ^b Significance between Secondary Principals and the Superintendents, $p \leq .05$

from Simian immunodeficiency virus (SIV), a virus closely aligned to HIV but distinct enough that humans cannot contract it. It is hypothesized that the reason many of these administrators responded that HIV has been spread to or from animals is because the media often report on research with monkeys with AIDS. What they do not report is those monkeys have AIDS conditions caused by SIV, not HIV and it is not transmittable to humans. The media often distort or inaccurately report information about AIDS and HIV. One aspect of an in-service program should be a discussion of how one can review critically reports by the media in regard to HIV/AIDS. Since it has been shown that the main problem about teaching in this vital area is that administrators and teachers lack required knowledge about the modes of transmission of HIV, AIDS education in the schools is essential.

Providing AIDS education has been opposed for a variety of reasons, however, the most vocal of the opposition groups react negatively to any type of instruction dealing with human sexuality. A certain percentage of parents have the unrealistic belief that providing sex education that is anything other than abstinence based in the schools will signal children it is permissible to have sex. However, in a study reported in *Parade* magazine in May of 1993, 88% of parents now support the teaching of comprehensive sex education in the schools. Parents are now realizing that responsibility for teaching about sex and its relationship to such areas as HIV and AIDS prevention must be shared.

It is imperative that administrators, teachers, and staff be provided appropriate in-service education on HIV/AIDS in order that they be aware of up-to-date information and that they know how to meet community standards in this area. As with any body of knowledge, it is critical that administrators and teachers in the public schools have a clear understanding of HIV/AIDS and that the purveyors of the information are fully prepared.

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