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An HIV/AIDS Educational Workshop for Adolescents

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Abstract

Adolescents are threatened with infection by the Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS). Data reveal that the number of adolescents infected with HIV is increasing. Adolescent risk taking behaviors and lack of preventive education are major factors associated with this rise. Family nurse practitioners (FNPs) who care for adolescents have a duty to offer their patients preventive health care. Adolescents can participate by attending HIV and AIDS prevention workshops that will present them with facts. Adolescents who attend these workshops will gain the knowledge to protect themselves against HIV and AIDS. The workshop in this study was initiated in a school setting; the results of this workshop showed that the adolescents' knowledge on HIV and AIDS prevention did increase. It is anticipated that similar results would occur in the health care setting.

Key Words: HIV and AIDS, prevention education, adolescent risk factors, workshops, advance practice nurse (APN), family nurse practitioner (FNP).

A major health care issue facing our nation today is the education of our youth on the prevention of Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS). Although HIV and AIDS affects all age groups, the focus of this report is the 13-19 year old age group.

Adolescents are unique in that most of them believe they are immortal (Crosby, 1996). This perception of immunity is compounded by the low incidence of adolescent AIDS cases. In one California (CA) County between 1983 and 1993, there were only seven cases of AIDS in the 13-19 year old age group (Centers for Disease Control [CDC], 1995). But considering the variable time frame (7-10 years) between the onset of HIV to when AIDS develops, AIDS cases would likely be higher in the next age group. In the 20-29 year old age group, AIDS cases did indeed increase to 369 (CDC, 1995). These statistics suggest that initial infection with HIV occurred in the teenage years (Morton, Nelson, Walsh, Zimmerman, & Coe, 1996).

Many Americans begin having sexual intercourse as adolescents (CDC, 1994). The average age for first time sexual intercourse in the United States (US) is 16 years for girls and 15 years for boys (CDC, 1994). The risk of sexually transmitted diseases (STD) is significantly increased in this age group (US Department of Health and Human Services, 1992). According to the CDC (1995), an adolescent in the US contracts a STD every 13 seconds; this is equivalent to approximately 3 million teenagers per year (CDC, 1994). One in every seven teenagers has a STD. Only one third of sexually active adolescents use condoms regularly; the most common reason for not using a condom was decreased availability (Sullivan, 1996). In a Planned Parenthood Poll, it was found that only 3% of adolescents using condoms used them for the prevention of AIDS (Pharo Books, 1992). Although condoms do not provide 100% protection from contracting HIV, we must accept the fact that some adolescents are having sexual

intercourse; condoms with spermicide can decrease their chances of contracting HIV, the virus that leads to AIDS (CDC, 1995).

The family nurse practitioner (FNP) should realize that HIV/AIDS infection can lead to a progressive increase in the utilization of health care resources. As one would expect, the cost for the treatment of AIDS and its associated complications would be greater than the cost of preventive medicine. According to a study by Hellinger (1992), the national cost for HIV/AIDS care was \$10.3 billion with a projected 50% increase for the year 1995. Hellinger (1992) also professed that the annual cost for an HIV positive individual in the US was \$10 thousand, while the annual cost for an individual afflicted with AIDS was \$38 thousand. According to Berkeley (1993), \$1.5 billion nationally was spent on prevention education. The researcher's projected cost for a local HIV/AIDS prevention workshop for 34 schools within one school district, reaching 850 adolescents, is \$8 thousand.

The purpose of this study was to assess the increase in knowledge of adolescents about HIV/AIDS prevention after a workshop. The following research question was applied: Does an HIV/AIDS prevention workshop improve HIV/AIDS prevention knowledge among adolescents?

Review of the Literature

HIV was first isolated in a laboratory setting in 1983; in 1984, HIV was shown to be the cause of AIDS (CDC, 1995). The World Health Organization (WHO) estimated by 1993 that 14-20 million people worldwide would be infected with HIV, that was, 5000 people per day, or one person every 17 seconds. WHO also estimated that 3 million persons worldwide would have developed AIDS by 1993. Currently, WHO estimates that in the year 2000, 40 million people of all ages will be infected with HIV, and that AIDS will be the third most common cause of death, with cases ranging well over 10 million (DeVita, Hellman, & Rosenberg, 1997).

According to the CDC (1995), at least 1 million people in the US (through August 1993) were infected with HIV, and 332,845 cases of AIDS were identified overall. In 1993, the number of AIDS cases among US adolescents in the 13-19 year old age group was over 45,000 (CDC, 1995). In California, the number of AIDS cases in the same age group had increased from one case in 1981, to 159 cases in 1992, to 1,412 cases in 1993 (CDC, 1995). As mentioned earlier, in one county between 1983 and 1993, there were seven known AIDS cases within the 13-19 year old age group. With the above statistics, it is clear we need to educate our adolescents.

It is the professional responsibility of FNPs to educate patients on disease prevention, and adolescents are part of the population of patients. Through educational workshops on HIV and AIDS prevention, and continued preventive education in the clinic, the FNP can help meet the need for health promotion education in the adolescent population.

Methodology

Setting

The workshop was offered as part of the health class curriculum at one high school in northern CA. According to an instructor at this school, there were no workshops on the prevention of HIV or AIDS within that district (personal communication October 14, 1997). Furthermore, statistical data reveal that Hispanic communities account for more than 20% of AIDS cases in the US (CDC, 1997). The population within the school district is predominately Hispanic and presumably would benefit from this workshop (McCormack Guide, 1993).

By offering the workshop in a school setting, and limiting the number of students per workshop, a convenient teaching environment was assured. The students were required to obtain written consent from their parents for participating in the workshop. The sessions consisted of students and the investigator as workshop educator. The regular instructor and parents were not

included in the students' sessions. By offering students this level of privacy, it was hoped they would be more likely to participate during discussions and role-play. The sessions were designed so that students enjoyed a safe non-threatening environment to (a) ask questions, (b) share experiences and (c) participate openly without the fear of discipline.

Sample

The workshop consisted of five 1-hour sessions given during one school week. A convenience sample of one class of 47 students participated. The students were varied in (a) age, (b) sex, and (c) ethnic background; these variables were recorded but were not included in this study. The only variable of interest in this study was increased knowledge related to the participation in an HIV/AIDS prevention workshop. All subjects participated in the same workshop activities; no control group was used.

Procedure

Prior to the initiation of the workshop, parents and teachers were invited to an open session. At this meeting, the FNP (a) shared the content of the workshop, (b) answered questions, (c) shared statistical data revealing the need for the workshop, (d) encouraged suggestions on content delivery, (e) encouraged suggestions on subject matter, (f) addressed sensitive issues such as religion, ethics, and personal beliefs, and (g) offered reassurance to parents and faculty of an objective delivery of workshop content.

The school-based workshops were spread over a 5-day period. The following interventions allowed students the opportunity to enhance their knowledge base and the ability to protect themselves from disease.

1. During the first day of the workshop, students completed a demographic sheet and a pretest of true/false and open-ended questions. The pretest was distributed to assess the students'

knowledge level of HIV/AIDS prior to the workshop. The investigator formulated the pretest; it was based on factual data obtained during a literature review.

The researcher was introduced to the participants as a FNP student; this role was described for them as a primary care provider who demonstrates leadership as a (a) clinician, (b) educator, (c) consultant, (d) diagnostician, (e) researcher, and (f) administrator of health care and disease prevention. A clear distinction between the FNP and a medical doctor (MD) was reinforced.

The purpose of the workshop was identified as a preventive health care measure to increase knowledge of HIV/AIDS prevention, in order to enhance the adolescent's health practices in the prevention of this disease. The remainder of the session focused on these objectives by: (a) presenting facts, (b) dispelling myths, (c) discussing modes of transmission and prevention, and (d) discussing HIV testing and other lab values, and what the results mean.

2. On the second day, the students participated in group discussions on the following topics: (a) reasons to maintain abstinence, (b) individual values and belief systems, (c) dealing with peer pressure regarding sex and drugs, (d) drug awareness, (e) decision making tactics, and (f) ways to show affection and express love without having sexual intercourse.

3. On the third day, the workshop included several opportunities to participate in role playing activities, such as: (a) saying "no" to an invitation to engage in sex or drug usage, (b) suggesting alternative activities to sex and drugs, (c) ways to suggest using a condom if sex is desired, and (d) discussing protection with your partner if sexually active.

4. On the fourth day, two HIV positive guest speakers, one male and one female, each from a different ethnic background, were invited to the class. These guests were people that the students related to because they (a) were young, (b) appeared healthy, and (c) lived active and productive lives. Time was allowed at the end of the class for a question/answer forum with the guests.

5. On the last day, students reviewed previously learned material and participated in group discussion on the following topics: (a) personalizing what it might be like to have HIV or AIDS, (b) sharing personal attitudes towards people with HIV or AIDS, (c) discussing the social, emotional, and physical impact of living with HIV or AIDS, (d) sharing personal experiences, and (e) offering each other emotional support.

As a conclusion to the workshop, a FNP from the on-campus clinic at this high school was invited to the class to discuss services available to the students. These services include: (a) health assessment, (b) physical examination, (c) diagnosis of health problems, (d) pharmacological and nonpharmacological treatment of health problems, and (e) referrals to outside agencies. This nurse was also a FNP who is very active in preventive education in the school's clinic as part of her professional role.

Before the students were dismissed, (a) post-tests were administered, (b) evaluations were completed, and (c) a list of resources was distributed. The posttest4 included the same questions from the pretest but arranged in a different order. The purpose of the posttest was to assess if knowledge of HIV and AIDS prevention had increased.

Instrumentation

The pretest included (a) 11 true/false questions, (b) seven open-ended questions, and (c) two multiple-choice questions. The posttest included the same questions as the pretest arranged in a different order. Face validity and reliability of the pretest and posttest were determined based on an agreement of content by the 10 district board members of the school district and the FNP coordinating the workshop. Finally, to protect the confidentiality of the students, the following measures were ensured: (a) the participant' names were not collected or recorded, (b) data were

numerically coded, (c) data were protected under lock and key protocols, and (d) the data were destroyed at the end of the study.

Data Analysis

Pretests and posttests were administered to quantitatively evaluate if knowledge of HIV and AIDS prevention increased. A descriptive analysis of correct responses to all questions before and after the workshop were calculated to arrive at a mean for the group. The equation for calculating the mean was as follows: $m = \frac{t}{n}$, where (a) m = the mean, (b) t= sum of all scores, and (c) n=number of subjects.

Each test score on the pretest/posttest was calculated and recorded; this number (t) was divided by the number of subjects (n) who took the exam. The mean (m) score was the result of this formula. This method of analysis was appropriate for this study and the number of subjects being studied. With this method, each score could be examined to ensure that the scores were representative for the group. If one student scored very poorly on the exam, this extreme score could skew the results of the study by significantly decreasing the mean for the entire group. By having a manageable sample, this extreme score could be identified and eliminated; in this manner, the representative mean for the group could be restored. In statistical literature, this extreme score is referred to as an “outlier” (DePoy & Gitlin, 1994, p. 245).

Results

As anticipated, there was a notable increase in scores among participants, indicating an increase in knowledge on HIV/AIDS prevention. The mean score for the pretest was calculated as follows: total score=497, n=45, m=11. The mean score for the posttest was calculated in the same manner: total score=775, n=45, m=17.2. These results suggest an increase in HIV/AIDS prevention knowledge. The individual participants' scores and change are shown in figure 1.

To demonstrate statistically that the participants did increase knowledge, and the calculated results did not occur by chance, a t-test was performed. The null hypothesis indicates that there would be no increase in knowledge among participants: $\text{posttest} - \text{pretest} = 0$. The alternative hypothesis indicates there is an increase in knowledge among participants: $\text{posttest} - \text{pretest} > 0$. There were 47 participants at the start of the workshop; two participants were eliminated because of absenteeism. The following data indicate an increase in knowledge on HIV/AIDS prevention:

n=45 df=44	mean	minimum	Maximum	standard deviation	median
Pretest	11.0	6	15	2.49	12
Posttest	17.2	12	20	1.72	17
Change	6.2	0	13	2.89	6

If a cutoff of $p=5\%$ is used, this yields a t-score equal to 1.64. For this data, the $t\text{-score}=14.32$, which yields a p-value equal to 0%. Therefore, the null hypothesis is rejected because knowledge did improve. The educational workshop on HIV and AIDS prevention did significantly increase the participants' knowledge (significance level, $p < 0.05$).

When examining the pretest, there was a minimum of six questions and a maximum of 15 questions answered correctly. The posttest had a minimum of 12 questions and a maximum of 20 questions answered correctly. Two participants had no change between the pretest and the posttest scores, with scores being 12 points and 15 points, respectively. The average change between the pretest and posttest was 6.2 points, with the greatest increase being 13 points, with a score of 6 on the pretest and 19 on the posttest for a single participant. When reviewing each

question, correct answers increased on all questions except for question one where the correct answers decreased by five. The greatest increase in correct answers was on question 19 where a 36-point increase was noted. Overall, the increase between pretest and posttest was impressive.

One month after the workshop, the participants sent spontaneous individual correspondence to the workshop instructor indicating that they had learned new information from the workshop. Some participants wrote that they were going to remain abstinent until marriage, and other sexually active participants wrote they would start using condoms for the prevention of HIV and AIDS. All students revealed concern for the HIV positive guest speakers and indicated that this portion of the workshop had the greatest impact on them.

Nursing Implications

Benefits

The benefits of this study for the FNP and students include: (a) identification of adolescents at risk, (b) potential money and personal suffering saved in health care as a result of prevention of disease, (c) FNPs can utilize similar HIV/AIDS educational workshops to assist their adolescent population in the prevention of disease, and (d) educational workshops provide a means for FNPs to demonstrate their understanding of the need to decrease costs through preventive measures and to direct adolescents to local resources.

Limitations

Even though the results of this study showed an increase in knowledge, it cannot be generalized that the same results would be duplicated in a similar educational workshop. The following factors show that duplication would be difficult: (a) The students who participated in this workshop were predominately Hispanic; the results may have been different if the students were from another ethnic background, (b) some students may possess a greater knowledge of

HIV and AIDS so that this workshop would not be as beneficial, (c) cooperation by students was anticipated in a structured setting where the threat of a bad grade was a motivator to participate, (d) the selection of participants was not random, (e) the students were mixed in gender and age, (f) by offering only one workshop, it is difficult to assess lasting benefits, and (g) with an increase in knowledge, it cannot be assumed that the students will change high-risk behaviors. If the students were later questioned about changes in behavior, there would be no way to know if they were truthful.

Barriers

There are many barriers to initiating an educational workshop on HIV/AIDS prevention. The following barriers are identified as the most significant ones that may affect this activity:

1. Obtaining the consent of parents to allow access to their adolescent for participation in the study may be difficult. Some parents believe that participation in a workshop on HIV/AIDS prevention may prompt their child to become sexually active (Guttmacher et al., 1995).
2. The religious beliefs of families may prohibit a child from participating in a workshop on HIV/AIDS prevention. The discussion of condom usage during intercourse may not be an acceptable topic; some religions prohibit intercourse prior to marriage and do not approve of contraceptive methods whether for prevention of disease or pregnancy (Egner, 1987). The focus of the workshop would be to advocate abstinence, but prevention methods must be discussed so adolescents know how to protect themselves if they do become sexually active.
3. If the community believes that the workshop is not needed or does not have value for them, resistance could impede the success of the workshop. The community may not allow the workshop to be integrated into their school curriculum.

4. Cultural beliefs may hinder the success of an HIV/AIDS prevention workshop in much the same way as religious beliefs could. In some cultures, it is preferred that the adolescent not engage in sexual intercourse prior to marriage (Slonim, 1987). The discussion of condom usage for prevention of HIV and AIDS would be a topic that would not be encouraged by some cultures. The discussion of condom usage may be interpreted as promoting sexual intercourse and contraception use.

5. Lack of finances could restrict the success of the workshop in the following ways: (a) fewer schools would be visited, (b) training for instructors would be limited, and (c) student supplies would be decreased. The result would be fewer students impacted by a much-needed workshop.

6. Lack of participation from disinterested adolescents would be the greatest barrier of all. The students may not (a) relate to the adult instructor, (b) refuse to participate, or (c) lack the needed enthusiasm for a successful learning experience.

Discussion

Future research

It was hoped that the students would develop a close relationship during the workshop and would continue to be a mode of support for each other. Future research to study this phenomenon would be interesting. It may be discovered that the students remain supportive of one another for a long period of time. Other research of interest would be the evaluation of behavioral changes after exposure to such a workshop. A measurement of behavioral changes may not be valid after a 5-day workshop; extended interactions with the subjects would be necessary to measure behavioral changes.

Conclusion

Health education has changed considerably in high schools with the primary focus being anatomy and reproduction. Today, the same topics are covered, but with the inclusion of HIV and AIDS in our society, more education is needed. To date, 34 states have passed legislation requiring sex education in the schools, but few teachers are prepared for this task (Sunwood et al., 1995).

As a future FNP, a diagnosis of a knowledge deficit for the adolescent on HIV/AIDS prevention is possible. This knowledge deficit would promote a referral of the adolescent to an HIV/AIDS prevention workshop. By offering the workshop to adolescents in an accessible high school setting, the FNP can easily make an assessment of usefulness. Since the workshop in this study has been successful in increasing HIV/AIDS prevention knowledge, then the same type of workshop could be successful in the healthcare setting. The results of this study will be shared with a health care institution, and a prevention workshop will be encouraged as part of the adolescents' health care education. The FNP could then refer their at risk adolescent population to a workshop where preventive practices would be encouraged.

Currently, many hospitals offer prevention workshops which mainly focus on (a) smoking cessation, (b) drug abuse prevention, and (c) pregnancy prevention. Today is a dangerous time to be a sexually active teen, but with the availability of HIV and AIDS prevention workshops, our adolescents can gain the knowledge to make informed choices concerning their sexual behavior.

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figure 1

