HIV/AIDS Knowledge and Beliefs Scales for Adolescents

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Assessment is essential to the evaluation of educational and other interventions designed to increase knowledge and encourage the adoption of safer beliefs about preventing HIV/AIDS. We developed and evaluated measures for adolescents, who were at particularly high risk, owing to their sexual risk behaviors, for contracting HIV/AIDS and other sexually transmitted diseases (Whaley, 1999).

Description
Two advisory councils, composed of experts in the area, evaluated a pool of items on the basis of content, accuracy, reading level, and clarity. After revising items, knowledge and beliefs measures were developed, which were revised again based on pilot testing with adolescents.

These instruments were then administered to adolescents involved in research programs with homeless and gay-identified adolescents in New York City (Koopman, Rotheram-Borus, Henderson, Bradley, & Hunter, 1990) and with incarcerated delinquents in Virginia (Canterbury, Clavet, McGarvey, & Koopman, 1998; Chang, Bendel, Koopman, McGarvey, & Canterbury, 2003; Otto-Salaj, Gore-Felton, McGarvey, & Canterbury, 2002). In the research with homeless and gay-identified adolescents, a consecutive series of 450 youths aged 11 to 19 years ($M = 16.0, SD = 1.7$) were recruited at four homeless shelters and one agency providing social and recreational services to gay-identified youths in New York City. Participants included 153 homeless females, 158 homeless males, and 139 gay or bisexual males. Ethnicities were African American (49%), Hispanic/Latino (35%), White (10%), and other (6%).

Incarcerated youths were recruited from a juvenile detention facility in Virginia. Youths ranged in age from 12 to 19 years old, with a mean of 15.8. A total of 893 participants were assessed, including 754 male participants and 139 female participants. Participants’ ethnic backgrounds were 55% African American, 39% Caucasian, 3% Native American, and 3% other.

Since their original development, these measures have been adapted for other purposes. To ascertain that participants had at least a minimal level of HIV/AIDS knowledge (Patel, Gutnik, Yoskowitz, O’Sullivan, & Kaufman, 2006; Patel, Yoskowitz, & Kaufman, 2007), a modified, 12-item Knowledge scale was used as a screening instrument of heterosexual undergraduate college students (ages 18 to 24) in New York City. Items from the HIV/AIDS Knowledge and Beliefs measures have been included in research with adult Kenyan males and females (Volk & Koopman, 2001), Indian women (Ananth & Koopman, 2003), and adult women in Botswana (Greig & Koopman, 2003).

Response Mode and Timing
The HIV/AIDS Knowledge Scale uses true-false response options and also includes a separate Safer Alternatives subscale in which the respondent is asked to identify the safer action of two alternatives. The response format for the Beliefs About Preventing HIV/AIDS instrument is a 4-point Likert-type scale for each item (1 = Agree Strongly to 4 = Disagree Strongly). It takes respondents about 20 minutes to complete the HIV/AIDS Knowledge Scale and 15 minutes to complete the Beliefs About Preventing HIV/AIDS Scale.

Scoring
For the HIV/AIDS Knowledge Scale, item scores are recoded as correct = 1 or incorrect = 0 and then summed for the total score. In the computation of the Beliefs About Preventing HIV/AIDS scores, 19 items are first reverse scored, as shown in the scoring instructions. Higher Beliefs scores indicate stronger endorsement of beliefs about preventing HIV/AIDS.

Reliability and Validity
For both measures, the process used in their development contributed to the content validity of the measures (Koopman et al., 1990). Items were generated to ensure content validity across relevant domains.

Homeless and Gay-Identified Adolescents
Of the original 49 HIV/AIDS Knowledge items, 45 loaded on three factors: Medical/Scientific Knowledge (23 items,
alpha = .71), Myths of HIV Transmission (9 items, alpha = .72), and Knowledge of High-Risk and Prevention Behaviors (13 items, alpha = .68). For the full 45-item true-false scale, alpha = .85 and test-retest reliability at 1 week was strong ($r = .82, p < .0001$). For the seven Safer Alternative subscale items, alpha = .69 and test-retest reliability was $r = .40, p < .01$.

Of the Beliefs items, 36 loaded on five factors that generated five corresponding subscales. Internal consistencies for these subscales were calculated: Peer Support for Safe Acts, alpha = .61; Expectation to Prevent Pregnancy, alpha = .72; Perceived Threat, alpha = .81; Self-Control, alpha = .82; and Self-Efficacy, alpha = .90. Test-retest reliability of the overall Beliefs measure was $r = .49, p < .001$.

Correlations among the HIV/AIDS Knowledge subscales ranged from .26 to .61 ($p < .0001$); among the Beliefs subscales, correlations ranged from .37 to .74 ($p < .0001$ for all). However, the correlations between Knowledge and Beliefs subscales ranged from .00 to .19. Subscales were significantly correlated with age ($r = .12$ to $r = .34$), with the exception of Expectation to Prevent Pregnancy.

Gay/bisexual males scored highest on every Knowledge subscale. Homeless females scored significantly lower than gay/bisexual males on the Expectation to Prevent Pregnancy subscale. No other significant differences between male homeless, female homeless, and gay/bisexual male youths were found.

**Incarcerated Adolescents**

In the research with incarcerated adolescents, for the overall Knowledge true-false scale, the alpha equaled .81. The Safer Alternatives subscale was not administered, so it could not be evaluated with this sample. The Beliefs measure demonstrated strong internal consistency for the overall scale when administered to incarcerated adolescents (alpha = .88). The subscales demonstrated marginal to good internal consistencies: Peer Support for Safe Acts (alpha = .56); Perceived Threat (alpha = .58); Expectation to Prevent Pregnancy (alpha = .60); Self-Control (alpha = .75); and Self-Efficacy (alpha = .79).

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**References**


10. AIDS weakens the body’s ability to fight off disease.
11. People have been known to get HIV and develop AIDS from toilet seats.
12. A negative HIV antibody test means that a person probably has AIDS.
13. You can’t get HIV (which can lead to AIDS) if you only have intercourse with one person for the rest of your life.
14. It is a good idea to ask someone about his/her past sexual activities before having sex with them, even though some partners may lie to you.
15. If the HIV test comes out negative, it means that the person has AIDS.
16. People get other diseases because of AIDS.
17. You can die from AIDS.
18. Men have a higher chance of getting AIDS from having sex with a woman than from having sex with a man.
19. Using a condom will lessen the chance of getting AIDS.
20. People who have AIDS get pneumonia more often than the average person.
21. Women are more likely to get AIDS from having sex with a straight (heterosexual) man than with a bisexual man.
22. It is safe to have intercourse without a condom with a person who shoots drugs as long as you don’t shoot drugs.
23. People have been known to get HIV and develop AIDS from a swimming pool used by someone with AIDS.
24. People of any race can get HIV and develop AIDS.
25. People get other diseases because of AIDS.
26. Lambskin condoms are better than latex condoms for preventing HIV infection.
27. People usually become very sick with AIDS a few days after being infected with HIV.
28. Getting AIDS depends on whether or not you practice safe sex, not on the group you hang out with.
29. People have been known to get HIV and develop AIDS from insect bites.
30. It is safer not to have sexual intercourse at all than to have sexual intercourse using a condom.
31. You only need one HIV test to come out positive to be sure that you are infected.
32. Pregnant women are safe from getting HIV infection.
33. A vaccine has recently been developed that prevents people from getting HIV infection (which can lead to AIDS).
34. The virus that can lead to AIDS can be passed by an infected person even though that person isn’t sick.
35. If you are really healthy, then exercising daily can prevent getting HIV (which can lead to AIDS).
36. If the person you are now having sex with has been tested and does not have HIV infection, it means that you are not infected.
37. People have been known to get HIV and develop AIDS by eating at a restaurant where a worker has AIDS.
38. When using condoms, it is better to use one with a spermicide like Nonoxynol-9.
39. You can get HIV and eventually AIDS through an open cut or wound.
40. You are safe from AIDS if you have oral sex (with mouth to penis or mouth to vagina) without a condom.
41. A) Giving blood.
   B) Getting a blood transfusion.
2. A) Working in the same office with someone who has AIDS or HIV.
   B) Contact with HIV or the AIDS virus through an open cut or sore.
3. A) Heterosexual vaginal intercourse with a woman who has AIDS.
   B) Anal intercourse with a man who has AIDS.
4. A) Using a needle just used by a person with HIV.
   B) A man having unprotected vaginal intercourse with a woman who has AIDS.
5. A) Having sexual intercourse with a person who shoots drugs.
   B) Spending time in the same house or room with a person who has AIDS.
6. A) Homosexual anal intercourse with someone who has AIDS.
   B) Receiving a blood transfusion.
7. A) Unprotected sexual intercourse with a lesbian.
   B) Unprotected sexual intercourse with a bisexual man.
Beliefs About Preventing HIV/AIDS

Directions: Read each statement carefully. Then show your agreement or disagreement with each statement by marking 1, 2, 3, or 4.

Mark:
1 if you agree strongly
2 if you agree somewhat
3 if you disagree somewhat
4 if you disagree strongly

1. I would feel uncomfortable buying condoms.
2. I would be too embarrassed to carry a condom around with me, even if I kept it hidden.
3. It doesn’t bother me if others make fun of me because I believe in having safe sex.
4. If my partner won’t use (or let me use) a condom, I won’t have sex.
5. My friends have changed the way they have sex because of the AIDS epidemic.
6. I will have safe sex even if people make fun of me for it.
7. AIDS is a health scare that I take very seriously.
8. There is a good chance I will get AIDS during the next five years.
9. If I ask to use condoms, it might make my partner not want to have sex with me.
10. A person who gets AIDS has a good chance of being cured.
11. I plan on being very careful about who I have sex with.
13. I have no control over my sexual urges.
14. My friends feel that it is too much trouble to use condoms.
15. I have a high chance of getting AIDS because of my past history.
16. My partner will know I really care about him/her if I ask to use condoms.
17. I don’t know how to use a condom.
18. AIDS is the scariest disease I know.
19. If I was going to have sex with someone and they made fun of me for wanting to have safe sex, I would probably give in.
20. There is still time for me to protect myself against AIDS.
21. Trying to have safe sex gets in the way of having fun.
22. I feel almost sure that I will get AIDS.
23. I know how to have safe sex.
24. Using condoms would be a sexual “turn-off” for me.
25. I am not doing anything now that is sexually unsafe.
26. In the future I will always be able to practice safe sex.
27. Before I decide to have intercourse, I will make sure we have a condom.
28. Once I get sexually excited, I lose all control over what happens.
29. Most of my friends think that practicing safe sex can lower the spread of AIDS.
30. If I ask to use a condom, it will look like I don’t trust my partner.
31. Carrying condoms with me every day is a habit I can keep.
32. I am too young to take care of a baby right now.
33. Not getting pregnant (or not getting a girl pregnant) is very important to me.
34. I will not bother with birth control when I have intercourse with a member of the opposite sex.
35. In the future, whenever I have sexual intercourse with a member of the opposite sex, I plan to make sure we are using birth control.
36. If I wanted to have sex with a member of the opposite sex, and did not have protection, I would go ahead and have intercourse anyway.

Note. Reverse scored: 3, 4, 5, 6, 7, 11, 12, 16, 18, 20, 23, 25, 26, 27, 29, 31, 32, 33, 35. Subscales: Perceived Threat (7, 8, 10, 15, 18, 22); Self-Control (9, 13, 19, 21, 24, 28, 30, 36); Self-Efficacy (1, 2, 3, 4, 6, 11, 16, 17, 20, 23, 25, 26, 27, 31); Peer Support for Safe Acts (5, 12, 14, 29); Expectation to Prevent Pregnancy (32, 33, 34, 35, 36).