

Taking a Stand: On Teaching the Epidemiology of Sexually Transmitted Infections

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Abstract Sexually transmitted infections affect over 15 million Americans per year. Teenagers and young adults are disproportionately affected by a sexually transmitted disease and the lack of protective resources to avoid exposure. Because many infections produce no immediate, visible, or indisposing outcomes, persons possessing an infection may be unaware of their infectious status, and, subsequently, may—quite unknowingly—pass the infectious agent on to others. The activity described in this paper demonstrates the epidemiological processes that contribute to infection. Participants learn how sexually transmitted infections (bacterial, viral, and ectoparasitic) can be transmitted within a sexual network from only one infected individual.

Keywords Epidemiology · Safer sex · Sexuality education · Sexually transmitted infections

Introduction

Sexually transmitted infections (STIs) affect more than 15 million persons in the United States annually and, globally, affect approximately 400 million individuals [1, 2]. Rates of STIs within the United States exceed those of all other industrialized nations [3]. A majority of the STI cases are among youth and young adults [4–8], the poor and socially marginalized [3], and persons with multiple sex partners [9, 10], or who engage in high risk sexual behavior [11]. Collectively, “STIs” refer to over 25 infectious organisms transmitted largely (but not exclusively) by intimate sexual contact. The government requires that four STIs (i.e., chlamydia, gonorrhea, HIV, syphilis) be reported to the Centers for Disease Control and Prevention and to state

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health departments; incidence rates for other infections, because they are not nationally mandated, are reported with greater inconsistency.

Many STIs produce no visible or otherwise obvious symptoms. Within females, there may be no outward symptomatology. Because of the shame associated with possessing a STI, a biological marker verifying sexual activity, individuals—including those who suspect they may have been exposed to an infectious micro-organism through sexual contact—may not seek medical treatment and may not evidence an understanding of how the infection can spread to others. Consequently, infections can be spread to others without an awareness that one is infected or is at risk for infection. Individuals who test positive for an STI are more likely both to acquire and to transmit HIV [12] and, if left untreated, experience a number of subsequent health risks, most notably infertility in women [13].

Converging evidence from the medical, epidemiological, and behavior sciences trumpet the need to prevent infection and to seek preventive or tertiary medical services if exposed to an infectious agent. But how can we demonstrate the epidemiological process of infection? How can individuals learn that they may have been exposed to a STI from someone they have never met? *Taking A Stand* is a brief group activity that dimensionalizes how multiple factors (e.g., use of safer sex behavioral strategies) are associated with STI infection. The activity demonstrates how persons can acquire a STI without having ever met the primary agent of transmission.

Goals

The goals of this activity are to illustrate, by use of a concrete and literal demonstration, how biological or ectoparasitic infections can be manifested in a sexual network and how the implementation of safer sex strategies eliminates or minimizes the likelihood of infection. This activity is intended to be used primarily in conjunction with a conversation or presentation about STIs and routes of common transmission. Participants' involvement in the activity crystallizes the interrelationships among infectious agents, partnered sexual activity, safer sex, and risk of a STI.

Objectives

Individuals participating in or observing this activity will be able to: (1) identify the epidemiological nature by which one character can transmit a STI to multiple others; (2) describe how the employment of sexual abstinence or safer sex strategies can minimize the chances of STI incidence; and, (3) demonstrate the process by which individuals may become infected by a micro-organism or parasite without ever having met the primary infectious vector.

Timing

This activity takes about 15 min. If the activity corresponds with a presentation or class lecture about STI/HIV infection, it is most helpful to implement *before* the presentation.

Rationale

A substantial portion of the population has been, is currently, or will be infected with one or more STIs of the course of his or her life. At present within the United States, sexual normativity includes more than one life-time sexual partner. Although many persons are able to memorize and parrot lines that emerged into popular discourse during a time of skyrocketing HIV incidence rates (e.g., “You’re not just sleeping with one person. You’re sleeping with every individual that person slept with.”), they do not display a solid understanding of how epidemiological processes propel disease transmission. STIs disproportionately affect teenagers, young adults, and disenfranchised social and economic groups. Yet, it is these very groups—comprised largely of the uninsured or of persons who report infrequent preventive medical care—who learn about health behavior best through concrete and tangible examples. The current demonstration is straight-forward and does not impugn persons who may have been exposed to or who possess a STI. Because the activity is designed solely to personify the epidemiological process of infection transmission, it is perceived by participants as a non-judgmental but dramatic display of how STIs are transmitted across a social network.

Intended audience

I have used this activity with high school and college students, medical students studying epidemiology, and professional sexuality educators and counselors. Although high school, college, and medical students report relating to the activity, the activity is so broad in scope that it can be used with virtually any sexually active or potentially sexually active audience, and it can be tailored to specific audiences (e.g., sexuality and health educators, outreach workers associated with departments of public health or community based organizations). For example, because the “transmitted infection” is undefined, a facilitator can alter the preface of the activity to accommodate any particular training goal.

Materials

Approximately $25 \times 3 \times 5$ index cards are required. Depending on the size of the potential audience, facilitators may require greater or fewer cards. When I use the activity, I use approximately 22 cards for an audience of about 30–35 persons. For my purposes, this is a deliberate calculation: I want to ensure that most the participants can participate in the activity while still having a few others be active observers, and I want to demonstrate how from one sexual network some persons avoid infection and others do not, and these percentages are based, roughly, on epidemiological rates. I laminate the cards so that they can retain a clean appearance upon reuse.

Procedure

Preparation

Index cards must be prepared in advance. There should be some consideration into the number of potential audience members, if known. This is important because only

a portion of the entire set of cards will implicate characters as potentially being infected, and the cards must be cross-referenced to ensure that all potential characters are included in the activity.

Character names are listed on the front of index cards. The name in the upper right-hand corner is the name of the character that a participant will assume for the duration of the activity. The names listed in the center of card are those persons with whom the character has had a “relationship.” On the back of *some* index cards (to be determined by facilitator) are capital letters. Some cards list a capital *A*; others list a capital *C*, and a few others list a capital *O*. *One* index card lists a capital *I*. The ratio of *A*, *C*, and *O* cards is flexible. Out of 22 cards, I list an *A* on the back of 5 cards, a *C* on the back of 6 cards, and an *O* on the back of 4 cards. But, again, other educators/facilitators can change this, depending on assessed needs of the group or goals of the target intervention.

Introduction

I disclose at the outset that the activity is designed to elucidate the nature by which sexually transmitted infectious agents can migrate across a social network (“population” could also be used). I state that the activity will take approximately 15 min and that, when the group is finished with the activity, there will be time allocated for all members of the audience (i.e., both those who participated as characters and those who observed) to discuss the activity.

Activity

1. I ask for volunteers to assume a character identity. I note that the assumption of a character in the role play in no way implicates the individual to the character they assume. (It could be, for example, that the character they are given has a relationship with members of both sexes; this does not imply that the participant is bisexual, lesbian, or gay.)
2. State that volunteers are to assume the character of the name in the upper right-hand corner. Distribute cards with the goal of matching male and female character names to male and female participants.
3. Repeat that participants “are the person” in the upper right-hand corner.
4. State that their characters have had “a relationship” with the person or persons listed in the middle of their card. It is important to state only that they have had a “relationship”—which, by itself, does not imply sexual intimacy. The activity demonstrates that all relationships do not include partnered sexual activity.
5. Once all participants are given a card, state that some individuals have a letter on the back of the index card, and ask them to turn the card over to see if their card lists a letter.
6. State that one person has a capital “I” on the back of the card, and ask for that person to stand up. In the example that follows, that character is Elena. Elena stands. Ask the group to list what they believe the “I” represents. Some participants may say “intercourse” but most will cite “infection.” (Fig. 1).
7. Elena is then asked to read all the persons with whom she has had a relationship. As she reads their names, those characters stand. The Figure lists an example of this process. Note that Elena has had relationships with Esther,

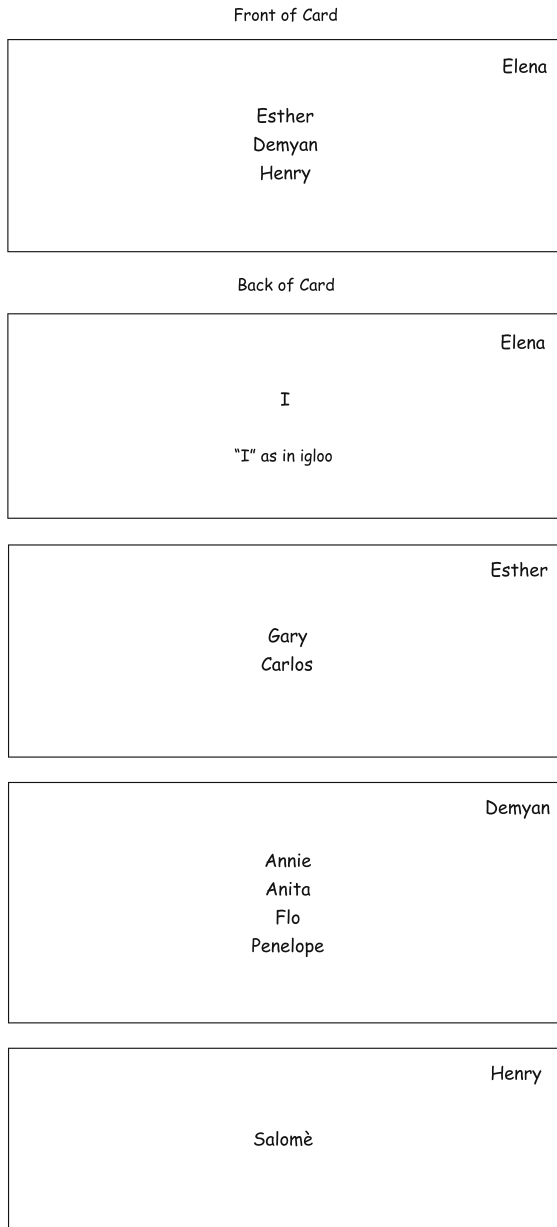


Fig. 1 Example of first few index cards listing names of characters and the names of persons with whom each character has had a relationship

Demyan, and Henry. All three of these actors stand. In turn, each reads the names of persons with whom *they have had* a relationship. As Esther reads “Gary” and “Carlos,” those actors stand. Demyan reads aloud that he has had relationships with Annie, Anita, Flo, and Penelope. Those characters stand. Henry reads that he has had only one relationship, with Salomè. This continues

until all characters have read the names on their cards. The final set of cards (however many facilitators choose to use) should ensure that all characters are standing. At the end, the audience sees a visual display of the number of *potentially infected persons*.

8. Once all characters are standing, state that on the back of some index cards is the capital letter *A*. Ask the group what “*A*” stands for; some members will say “abstinence.” The facilitator agrees, and reminds the group that the facilitator earlier stated only that these characters had “relationships” with one another, and it was not specified that the relationships were sexual. At this point, commentary may emerge among some participants that they assumed “a relationship” really meant “a sexual relationship.” The assumptions behind this claim are ripe for participant discussion. The facilitator now states, “All of you who have an *A* on the back of your card did not engage in any type of sexual activity that could have placed you at risk for a STI. The infection has passed you by. You may sit down.” Those characters with an *A* listed on the backs of their cards sit down.
9. Repeat the same procedure for those holding a card with a *C* (for having used a condom during any sexual activity) and an *O* (for outercourse, a sexual behavior repertoire including sexual contact but not placing the characters at high risk for infection transmission). Characters who have a *C* or an *O* on the backs of their index cards sit down.
10. Still standing are Elena, the character who was originally infected, and about one-third of the characters who were given index cards. The facilitator explains that, according to epidemiological probability, those persons standing are likely to be infected or at risk for infection from their relationships.
11. Discussion often emerges at this point (and sometimes while these participants are still standing!). Because all members know that the activity is artificially constructed, they tend to be light-hearted and fun in sharing their perceptions. It is not at all unusual for some of the characters standing at the end of the activity—that is, those identified as potentially infected—to state something along the lines of, “Well, if I was going to get this infection from Elena, I could have at least had some fun with her, but I didn’t even have a relationship with her! I had a relationship with someone who had a relationship with somebody else, and *that* person is who knew Elena.” Comments like these provide an excellent opportunity to discuss the nature by which infections occur and how, in real life, it can in fact be the case that an infection starts within a sexual network or a community and those who ultimately become infected are far removed from the original source of infection.
12. All characters are asked to resume their seats and cards are collected.

Commentary

I have used this activity for over 15 years. It has always been a positive experience for participants. In my experience, participants/learners often assume that any discussion about STIs/HIV is going to entail moralistic overtones, a consequence, I suspect, of the still-dominant cultural legacy that STIs reflect a sexual penance. I have found that this activity energizes participants to learn about STIs. They are able

to actualize the specific processes by which one infectious person can transmit a micro-organism or ectoparasite, and they are able to witness how behavior removes them from risk of infection. There is no moral agenda in this activity: it simply describes one way that STIs can be transmitted.

When I make the index cards and assign character names to them, I tend to use slightly more female names than male names. There are two reasons for this. First, the *biological sexism* associated with STIs refers to the fact females are more likely to become infected from a single exposure of an infectious agent, are less likely to transmit the infectious agent, and, depending on the infection, are less likely to exhibit physical symptomatology once infected. Second, in the classes I teach and the training workshops I facilitate, there tend to be more females than males, and I try to match characters' sex to participants' sex. On occasions when the number of male and female participants do not match characters (i.e., names listed in the upper right-hand corner of the index card), someone has always been willing to assume a character of the other sex (e.g., Dawn is willing to be Jack for the purposes of a role play).

I call this activity *Taking A Stand* because the perceptual demonstration of participants standing when they are at risk for infection and, then, for some, being able to sit down if their behavior eliminated or reduced their transmission of risk, creates a dramatic metaphor for infection transmission. Still, I have always been cautious that some participants—specifically, those in wheel chairs—may feel this activity excludes them. Only once in the many years I have used this activity has this possibility occurred. At the beginning of the activity, when I asked for volunteers, it was obvious that the participant seated in a wheel chair wanted to participate. I wanted to include this individual as it seemed clear to me that by omitting his participation I could be reinforcing—however unintentionally—a stereotype about the asexuality of persons with disabilities. In this case, the participant in my class stated that he could and wanted to stand when his character's name was called. I trusted his decision, handed him an index card listing his character, and the activity proceeded as usual (and was a success). Still, circumstances like this might be of relevance to other facilitators and the activity can be adapted so as not to exclude eager participants (e.g., all participants could remain seated, or participants could hold up a piece of colored card stock).

One of the key strengths of this activity is its adaptability. Because it is not related to any specific STI, it can be used as a demonstration of the epidemiological processes contributing to infection incidence more generally or, if the goals of a program or intervention are for a particular STI (e.g., Chlamydia, HIV), prefatory comments can frame the goals of the activity for the particular infectious agent. In addition, because a variety of relationships are indicated on the index cards (e.g., characters having a relationship with only one character, characters with multiple relationships; relationships with females and males) there is not a significant need to magnify issues of sexual orientation, race or ethnicity, or age. Because STIs cut across all social, demographic, geographic, and class levels, the activity can be used, with minimal alteration, in a variety of contexts. In terms demonstrating the epidemiological nature of infection transmission within a sample, names of listed characters, and the relationships that they have with specific others, are less salient than the individual behavior characters enact to protect themselves from infection (e.g., abstinence, use of male or female condom, outercourse).

Concluding Remarks

Taking A Stand is simple but effective in-class activity. The activity requires virtually no materials and can be executed in a brief amount time (e.g., 15 min). The activity can be used as a stand-alone demonstration illustrating the nature of infection transmission, or it can be used to accompany a presentation or lecture on disease/infection transmission routes. The activity is designed to be executed and is perceived by participants as a low-risk activity, and it can be used with a variety of groups. Participants' perceptions about the activity provide ripe opportunity for discussions on infection routes, choices that minimize personal susceptibility of infection, effective behavioral interventions shown to reduce incidence rates among particular at-risk groups, and discrimination (real or perceived) against persons with STIs.

In many spheres of American society, sexuality is enshrouded in fear and shame. The undercurrent of negativity is compounded when sexual behavior results in internal or ectoparasitic infections. Some persons diagnosed with a STI report feeling dirty and contaminated. Yet, individuals are uninformed about the exact nature by which organisms can be transmitted from one individual to another, the biological circumstances that can facilitate transmission, or the necessity of medical testing to treat infections. The activity presented in this article provides participants with a concrete illustration of how infections can spread to multiple others from one source and how self-protective behavior (abstinence or safer sexual practices) can reduce the probability of obtaining a sexually transmitted infection.

References

1. Darroch, J., Frost, J.: Women's interests in vaginal microbicides. *Fam. Plann. Perspect.* **31**, 16–23 (1999)
2. Tao, G., Irvin, K., Kassler, W.: Missed opportunities to assess sexually transmitted diseases in U.S. adults during routine medical check-ups. *Am. J. Prev. Med.* **18**, 109–114 (2000)
3. Eng, T.R., Butler, W.T. (eds.): *The Hidden Epidemic: Confronting Sexually Transmitted Diseases*. National Academy Press, Washington, DC (1997)
4. Calvert, H.: Sexually transmitted diseases other than human immunodeficiency virus infection in older adults. *Clin. Infect. Dis.* **36**, 609–614 (2003)
5. Ginocchio, R., Veenstra, D., Connell, F., Marrasso, J.: The clinical and economic consequences of screening young men for genital chlamydia infection. *Sex Transm. Dis.* **30**, 99–106 (2003)
6. Ku, L., St. Louis, M., Farshy, C., Aral, S., Turner, C., Lindberg, L.D., Sonenstein, F.: Risk behaviors, medical care, and chlamydial infection among young men in the U.S. *Am. J. Public Health* **92**, 1140–1144 (2002)
7. Summers, T., Kates, J., Murphy, G.: The global impact of HIV/AIDS on young people. *SIECUS Rep.* **31**, 14–23 (2002)
8. Whitten, K., Rein, M., Land, D., Reppucci, N., Turkheimer, E.: The emotional experience of intercourse and sexually transmitted diseases. *Sex Transm. Dis.* **30**, 348–356 (2003)
9. Holtzman, D., Bland, S., Lansky, A., Mack, K.: HIV-related behaviors and perceptions among adults in 25 states: 1997 behavioral risk factor surveillance system. *Am. J. Public Health* **91**, 1882–1888 (2001)
10. Tanfer, K., Cubbins, L.A., Billy, J.O.G.: Gender, race, class and self-reported sexually transmitted disease incidence. *Fam. Plann. Perspect.* **27**, 196–202 (1995)
11. Foxman, B., Aral, S.O., Holmes, K.K.: Interrelationships among douching practices, risky sexual practices, and history of self-reported sexually transmitted diseases in an urban population. *Sex Transm. Dis.* **25**, 90–99 (1998)

12. St. Louis, M.E., Wasserheit, J.N., Gayle, H.D.: Editorial: Janus considers the HIV pandemic—harnessing recent advances to enhance AIDS prevention. *Am. J. Public Health* **87**, 1012 (1997)
13. Donovan, P.: *Testing Positive: Sexually Transmitted Disease and the Public Health Response*. Alan Guttmacher Institute, New York (1993)