January 2015

Identifying Barriers to HIV Testing Among Men who have Sex with Men

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Men who have Sex with Men

A Senior Honors Thesis

Submitted in Partial Fulfillment of the Requirements
for Graduation in the College Honors Program

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May 15, 2013

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Abstract

HIV incidence rates have remained relatively stable throughout the past five years; however, among men who have sex with men (MSM), particularly young MSM, incidence has increased. According to national surveillance data, MSM accounted for 61% of HIV cases diagnosed in 2010. A low viral load reduces the risk of HIV transmission and slows the progression of HIV to AIDS. Treatment as prevention (TasP) has been identified as a major part of the solution to ending the HIV epidemic. This research focuses specifically on reasons for not taking an HIV-test among MSM. For TasP to be effective, widespread testing in order to identify HIV-positive people is needed. For the purpose of the present study, a survey was distributed at gay pride events in Rochester and Buffalo, NY during June and July 2012. Barriers to HIV testing and HIV risk were evaluated using a four-point Likert scale adapted from an instrument developed by Mikolajczak (2006). It was hypothesized that months since last HIV test would be positively correlated with barriers to testing. Months since last HIV test was positively skewed, ranging from 0 to 348 months. Therefore, Spearman rank-order correlations were used. Three items measuring barriers to testing were significantly correlated with months since last HIV test. These were perceived peer support, knowledge of HIV testing sites, and partnered relationship status. Interestingly, previous research suggested that fear of a positive result and low perceived risk were barriers to testing. These findings were not replicated in this sample. Nearly 40% of subjects had not been tested within the last year. TasP would not effectively prevent transmission among an untested group such as this. For TasP to be effective, interventions must be designed to encourage more frequent HIV testing and safer sex among those who have not been recently tested.

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Introduction

For decades our world has fought one of the most devastating threats to human health. The World Health Organization (WHO) estimated that there are approximately 34 million people living with HIV/AIDS.[1] Within the United States, there are roughly 1.2 million people living with HIV/AIDS.[2] Through the course of the AIDS epidemic, men who have sex with men (MSM) have been one of the groups at highest risk for HIV-infection in developed nations.[3] Overall, HIV incidence rates have remained relatively stable throughout the past five years; however, among MSM, particularly young MSM, incidence has increased.[4] The Centers for Disease Control and Prevention (CDC) estimated that MSM account for just 2% of the male population aged 13 and older.[3] According to national surveillance data, MSM accounted for 61% of HIV cases diagnosed in 2010.[3]

These current prevalence and incidence rates suggest a serious threat for the future social and economic development of the United States. In 2012, the federal budget request included a total of $21.5 billion for domestic HIV/AIDS funding.[5] The 2013 federal budget request includes a $22.25 billion for domestic HIV/AIDS funding.[6] Gay and bisexual men living with HIV/AIDS are forced to undergo serious financial, social, emotional, and medical changes.[7] Stigma and discrimination are still very much associated with this condition, as well as high costs of anti-retroviral therapy (ART).[7] HIV/AIDS damages the immune system, causing a higher risk for opportunistic infections, like other sexually transmitted infections (STI).[7] In many cases, there is an associated need for counseling and support groups for the friends and family affected by this condition.[7]

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Still, the number of people living with HIV in the United States is growing by approximately 54,000 every year. ART is significantly extending lives, but funding will have to increase substantially to keep up with the needs of HIV-positive people.[8] Treatment as prevention (TasP) has been identified as a major part of the solution to ending the HIV epidemic, which is why this research is so essential.[9] In order for TasP to be effective, there are a number of issues to address.

It is important to understand how TasP is used to prevent the transmission of HIV. ART decreases the amount of the virus in the person's body, known as the viral load. A low viral load reduces the risk of HIV transmission and slows the progression of HIV to AIDS. A study reported by the HIV Prevention Trials Network (HPTN), reported that HIV-positive individuals who take ART could reduce their transmissibility of HIV by 96%. This clinical trial, known as HPTN 052, demonstrated that treating HIV infected individuals could have a major impact when reducing HIV transmission.[10] Based on this finding, TasP has become a major focus of the primary prevention, potentially reducing the behavioral risk reduction approaches used to date (e.g. safer sex).

Research has indicated that ART is safe and highly effective in suppressing the replication of HIV. Nevertheless, HIV does replicate, and with the accumulation of resistant mutations, HIV becomes resilient to the effects of ART.[11] Research has identified common and predictable adverse reactions associated with ART. ART must be taken properly, as adherence to ART is one of the most important predictors to treatment effectiveness. Adverse reactions to medications must be managed individually to assure proper adherence to ART. Patients have described any number of adverse effects after starting new medications, all in which will decide the success of TasP.[12]

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To identify HIV infections, the CDC recommends sexually active MSM undergo routine HIV testing at least once every 12 months. MSM must perform routine testing and prevent the unknowing transmission of HIV.[13] However, if MSM test too soon after exposure, there is a chance that HIV is not detected. Testing during a window period may give a false negative result and this could be anywhere from 9 days to 3-6 months.[14]

Since 2010, the WHO guidelines recommend starting treatment when CD4 count reaches 350 cells/mm^3.[15] The AIDS Drug Assistance Programs (ADAPs) provides ART to underinsured and uninsured patients living with HIV/AIDS in the United States. Each state operates its own ADAP under Title II of the Ryan White Comprehensive AIDS Resources Emergency (CARE) Act. The Patient Protection and Affordable Health Care Act (PPACA) will increase access to treatment and care for HIV-positive people. However, most of these changes do not come into force until 2014 and there are still many inequalities and barriers to overcome.[16][17] The Medicare Part D prescription drug benefit plan will provide patients with lower cost ART. Beginning in 2014, under the Pre-existing Condition Insurance Plan, insurers will not be allowed to deny coverage to anyone living with HIV/AIDS.[16][17][18] Implementing TasP requires ART commencing immediately upon the detection of infection, not waiting for immune suppression. This greatly expands the number of people needing ART and a mechanism to pay for it. All of this assumes early detection through regular HIV testing.

The following research explored barriers to HIV testing within the MSM community. Research has suggested that the top barriers for testing in the MSM community are fear of a positive test result and low perceived risk for HIV infection.[19][20][21] This study reports on findings from a survey that was distributed among MSM in

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Buffalo and Rochester, New York. This research focused specifically on reasons for not taking an HIV test among MSM. For TasP to be effective, widespread testing in order to identify HIV-positive people is needed.[22] There are significant barriers to TasP, including the barriers to getting an HIV test. This study furthered assessed the barriers that exist and proposed ways to combat them. We hypothesized similar results to the 2006 study by Mikolajczak, in which a majority of MSM recorded that a fear of a positive test result and low perceived risk for HIV infection were their top reasons for not taking an HIV test.[19]

Methods

Subjects

Surveys were conducted during June and July 2012 in gay pride venues in Rochester and Buffalo, NY. The survey included a brief consent statement in the directions. Participants were eligible if they self-reported being 18 years of age or older. This study examined responses from MSM, but all people were welcomed to participate. The College at Brockport Institutional Review Board granted ethical approval for this study. For ethical considerations, data recorded on the survey remained anonymous.

Of the completed surveys, 84 identified as male and were included in the analysis; 50 (59.5%) were from Buffalo, while 34 (40.5%) were from Rochester. Researchers conducted an independent samples T test using baseline data from Buffalo and Rochester. There were no significant differences in the means of descriptive variables between the two cities, thus allowing us to merge the two samples into one. Participants were of mixed ethnicities, but predominantly white (79.8%). Most (89.3%) of respondents identified as homosexual, while 10.7% identified as bisexual. There were five respondents who were HIV-positive, which yielded a prevalence of 6.8%. All participants

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reported an age between 18 and 72, with the mean age of the population being 36 (SD =

13.9) and a median age of 32.5. Respondents were generally well educated with a mean

of 15.7 (SD = 3.1) years of education completed. The income reported showed a mean

salary of approximately $45,000 (SD = $32,405).

Instruments

The survey included questions regarding demographics, sexual behavior,

substance use behavior, testing behavior, knowledge about HIV risk, and barriers to HIV

testing. The specific items of interests included barriers to HIV testing and testing

behavior.

Barriers to HIV testing. Respondents were asked to rate the importance of 15

reasons for not taking an HIV test. Barriers to HIV testing and HIV risk were evaluated

using a four-point Likert scale (1-strongly agree, 2-mildly agree, 3-mildy disagree, 4-

strongly disagree). Portions of the survey were adapted from an instrument developed by

Mikolajczak.[19]

HIV testing behavior. Research suggests that in order for TasP to work

effectively, routine testing must occur. In order to assess compliance with the

recommendation to take an HIV test annually, the instrument included the prompt

"Months since last HIV test" with a space for a numeric response. Subjects who wrote in

a number and indicated the response was in years (e.g., "10 years") were coded with the

appropriate number of months (e.g., 120 months).

Based on previous research, the researches hypothesized a positive correlation

between perceived risk of HIV infection and HIV testing behavior. Also, researchers

hypothesized that there will be a negative correlation between fear of a positive test result

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and HIV testing behavior. Spearman's rank-order correlation coefficients were used to evaluate the relationship between each of the 15 HIV testing barrier items and months since last HIV test.

Procedure

For the purpose of the present study, a survey was created and distributed at pride venues in Rochester and Buffalo, NY. A small pencil was taped to each survey. Research staff administered the survey in person through tabling and canvassing the venue. To encourage the completion of the survey, a bottle of water was offered as an incentive. For convenience purposes, all surveys included a pre-paid postage; this would allow participants to complete the survey and return it after the event. There was no identifying information on the survey.

In Buffalo, 920 surveys were distributed and 150 were completed, yielding a response rate of 16.3%. In Rochester, 222 surveys were distributed and 67 were completed, yielding a response rate of 30.2%. Overall, 1142 surveys were distributed and 217 were completed, yielding a response rate of 19.0%. Male, female, and transgender respondents were among the 217 surveys completed. However, only the 84 male-identified surveys were utilized for the current study. Surveys were stored in a locked file and remained confidential. Once the study concluded and surveys were received, the data was entered and analyzed using SPSS.

Results

In order for TasP to work successfully, there must be regular HIV testing to identify and treat HIV-positive people, thus decreasing viral load and transmissibility. This will only be accomplished through routine HIV testing, which should be performed

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once every 12-months.[13] It was hypothesized that the dependent variable of HIV testing would be related to barriers to testing. Months since last HIV test ranged from 0 to 348 months (Mean = 24.59, SD = 62.01, Median = 5.0), resulting in a positively skewed dataset.

The CDC recommends that sexually active MSM undergo routine testing at least once every 12 months. Among the participants, 5 (6.8%) identified as HIV-positive. Since they are unlikely to continue routine testing, these participants were excluded from further analysis. The study was continued with 79 participants who either identified as HIV negative or did not respond. Of those, 31 (39.2%) did not comply with the recommendation to get tested within the past 12 months. Forty-eight participants (60.8%) did comply with the recommendation and were tested within the past 12 months.

There were 65 participants who answered the question regarding months since last HIV test. Responses were analyzed by correlating the 15 questions regarding barriers to HIV testing with months since last HIV test using a Spearman's correlation. Three items were significantly correlated with months since last HIV test (see Table 1). The positive correlation of lack of perceived support with months since last HIV test (r = .210, p = .047) suggested that participants who receive more support are more likely to have not been tested recently. The positive correlation between being partnered and months since last HIV test (r = .343, p = .003) suggested that participants in relationships were more likely to have not been tested recently. The positive correlation between not knowing where to get tested and months since last HIV test (r = .216, p = .042) suggested that participants who were knowledgeable about testing sites were more likely to have not been tested recently.

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In summary, three barriers were significantly correlated with HIV testing. These were relationship status, perceived support, and knowledge of test sites. However, two of these relationships, perceived support and knowledge of test sites, were opposite of the expected direction. The barriers identified by previous research, fear of a positive test result and low perceived risk were not significantly correlated with months since last HIV test.

<p style="text-align:center">Discussion</p>

In order to reduce incidence and prevalence of HIV, TasP has been identified as an important public health strategy. Reduced transmissibility would be achieved via reduced viral load subsequent to ART. However, successful ART requires identification of new HIV infections through regular HIV testing. Therefore, barriers to HIV testing were the focus this study.

This study discovered that roughly 40% of participants had not been tested within the last year. TasP would not be an effective technique to prevent transmission among an untested group such as this. Previous research suggested that fear of a positive result and low perceived risk were barriers to testing. Interestingly, these findings were not replicated in this sample. However, previous research reported the means of variables but did not correlate them with testing behaviors.[19] Among respondents, three reasons for not taking an HIV test were found to be significantly correlated with months since last HIV test.

The findings from this study showed that partnered men were less recently tested. TasP would not prevent HIV transmission among non-monogamous or recently single men who were not regularly tested. Also, this study suggested that participants who

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receive more support were less recently tested. In addition, participants who were knowledgeable about testing sites were less recently tested. These two correlations were in the reverse direction than were hypothesized. The meaning of these findings is unclear and merits further quantitative or qualitative exploration. For TasP to be effective, interventions must be designed to encourage more frequent HIV testing and safer sex among partnered men and those who have not been recently tested.

There are several limitations of this study that should be carefully considered. The number of participants was small and may not be representative of the overall MSM population. The current sample was not ethnically diverse, which was likely because of the traditional recruiting technique of advertising in highly attended MSM venues. In addition, recruiting participants solely in Rochester and Buffalo created a selection bias based on geography. As such, the barriers reported cannot be statistically generalized to a different sample and should only be compared with similar samples that are predominately white, college-educated, and of a similar socio-economic status.

Self-reported behaviors can only be assessed in the context of a willingness to report. Participants may be less open and honest when answering questions on sensitive topics, especially in the presence of others. Further, correlation can only imply a relationship and cannot suggest cause and effect. This suggests the limitation that there may also be a third variable that caused the increase in months since last HIV test. A third variable may be related to the unexpected direction of the perceived support and knowledge of testing site barriers. For example, perhaps high levels of acculturation in the MSM/gay and HIV-aware community led to perceived support, knowledge of testing sites, a lowered perceived risk of HIV, and subsequently decreased testing compliance.

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Additional research, perhaps qualitative or mixed-methods designs could shed light on these findings.

There is a substantial proportion of MSM who are not participating in routine HIV testing. Existing prevention strategies might be somewhat effective, but further research should be completed to identify barriers to HIV testing. An increase in HIV testing rates might be evidenced with the availability of new diagnostic methods such as in-home oral HIV testing. Healthcare providers should discuss the benefits of early diagnosis and routine HIV testing with patients. Additional MSM-targeted prevention interventions and improved access to HIV testing will be needed to further reduce the risk of HIV infection.

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Table I. Correlation Coefficients of 15 Reasons for Not Taking an HIV-Test and
Months Since Last HIV Test

I have never taken an HIV test because…	Correlation Coefficient	Sig. 1(tailed)
1. I think I have never been at risk for infection	-.012	.461
2. A positive result would turn my life upside down	-.043	.365
3. I have never had unprotected sex	.115	.180
4. I am afraid of the consequences of a positive test result	-.024	.425
5. I don't like talking about my sex life with a doctor or nurse	.067	.299
6. I would rather not know whether I am infected	.041	.372
7. I would rather not have counseling before and after the test	-.004	.489
8. I don't expect a lot of support and understanding of my friends if I would do it	**.210**	**.047**
9. I don't expect a lot of support and understanding of my friends when I turn out HIV-positive	.081	.263
10. I would rather not talk about it with my partner	.035	.392
11. I am sure that the current medicines still have too many side effects	.064	.309
12. I have not yet met the "right guy"	**.343**	**.003**
13. I do not know where I can get tested	**.216**	**.042**
14. There are no good medicines and you can't do anything about it	.106	.201
15. Because I am afraid of blood and needles	.020	.437

Note. Items adapted from Mikolajczak (2006)

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