Towards the Development of an Intimate Partner Violence Screening Tool for Gay and Bisexual Men

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Introduction: Recent research suggests that gay and bisexual men experience intimate partner violence (IPV) at rates comparable to heterosexual women. However, current screening tools used to identify persons experiencing IPV were largely created for use with heterosexual women. Given the high prevalence of IPV among gay and bisexual men in the United States, the lack of IPV screening tools that reflect the lived realities of gay and bisexual men is problematic. This paper describes the development of a short-form IPV screening tool intended to be used with gay and bisexual men.

Methods: A novel definition of IPV, informed by formative Focus Group Discussions, was derived from a quantitative survey of approximately 1,100 venue-recruited gay and bisexual men. From this new definition, a draft IPV screening tool was created. After expert review (n=13) and cognitive interviews with gay and bisexual men (n=47), a screening tool of six questions was finalized. A national, online-recruited sample (n=822) was used to compare rates of IPV identified by the novel tool and current standard tools.

Results: The six-item, short-form tool created through the six-stage research process captured a significantly higher prevalence of recent experience of IPV compared to a current and commonly used screening tool (30.7% versus 7.5%, $p<0.05$). The novel short-form tool described additional domains of IPV not currently found in screening tools, including monitoring behaviors, controlling behaviors, and HIV-related IPV. The screener takes less than five minutes to complete and is 6th grade reading level.

Conclusion: Gay and bisexual men experiencing IPV must first be identified before services can reach them. Given emergent literature that demonstrates the high prevalence of IPV among gay and bisexual men and the known adverse health sequela of experiencing IPV, this novel screening tool may allow for the quick identification of men experiencing IPV and the opportunity for referrals for the synergistic management of IPV. Future work should focus on implementing this tool in primary or acute care settings in order to determine its acceptability and its feasibility of use more broadly. [West J Emerg Med. 2013; 14(4)XX-XX].

INTRODUCTION

Recent studies suggest that gay and bisexual men experience intimate partner violence (IPV) at rates that are substantially higher than those experienced by heterosexual men. Rates of IPV among gay and bisexual men are comparable or higher to those among heterosexual women.[4-6] Although the majority of data on IPV among gay and bisexual men are drawn from cross-sectional samples of United States (U.S.) men, and existing studies vary widely in their definitions of violence, the existing data suggest

that approximately 25-50% of gay and bisexual men report experiencing physical IPV over their lifetimes, and 12-30% report experiencing sexual IPV.[1-6] Fewer studies have measured perpetration of IPV among gay and bisexual, but existing estimates range from 12-36%[7], suggesting the victimization and perpetration often exist synergistically in male-male relationships.

A wealth of evidence has indicated that IPV, experienced and/or perpetrated, is correlated both with acute physical effects (e.g., trauma), sustained physical effects (e.g., substance abuse, sexually transmitted infections), and adverse mental health outcomes (e.g., suicidal ideation, depression, chronic mental illness).[8-10] These associations have been found in diverse settings and populations, and although such evidence is primarily drawn from heterosexual populations, similar associations are beginning to be documented among gay and bisexual men.[11-15] Of particular importance to this population is emergent evidence demonstrating a link between IPV and risk for human immunodeficiency virus (HIV) infection, as men who have sex with men (MSM) worldwide continue to be disproportionately affected by the HIV epidemic.[16-20]

Many national medical organizations, governmental agencies, and advocacy groups have recommended universal or routine IPV screening for women and the clinical value of screening for IPV in emergency departments and ambulatory settings has been endorsed by the American Medical Association.[21,22] The vast majority of tools currently used to screen for IPV were developed for use with heterosexual women; recently there have been calls for further research to develop a valid, brief screening tool to identify male victims of IPV in acute settings.[23] Additionally, there is currently a lack of screening tools that are developed specifically for use with or gay and bisexual men. Recent studies have shown that the lack of availability of appropriate resources, and perceptions that providers do not understand the experiences of gay and bisexual victims of IPV, plays a significant role in same-gender IPV victims' decisions to remain silent about their experiences of IPV.[24]

In this paper we describe the development of an IPV screening tool for gay and bisexual men. There are currently no universal screening tools solely addressing gay and bisexual men, and this study represents a significant response to calls for more inquiry into this area.[25] Previous research has suggested that the type of violence experienced by gay and bisexual men is categorically different from IPV experienced by heterosexuals;[26] hence screening tools are needed that capture IPV as experienced by this high-risk group. The development of a gay- and bisexual-specific IPV screening tool has the potential to improve screening and service provision for a population that currently experiences high level of IPV and is under-served by current IPV prevention efforts, and may add to our understanding of how IPV is uniquely perceived and experienced by gay and bisexual men in the U.S.

STAGE 1: UNDERSTANDING THE DEFINITIONS OF IPV AMONG GAY AND BISEXUAL MEN

Methods

In this stage, we aimed to identify how gay and bisexual men defined IPV, to establish whether IPV was defined differently to the measures commonly used to measure IPV in heterosexual populations. Two sources of data were used: focus group discussions with gay and bisexual men, and a venue-based sample (VBS) of 1100 gay and bisexual men. Both data sources were collected in Atlanta, Georgia. VBS is a derivative of time-space sampling, in which sampling occurs within prescribed blocks of time at previously-identified venues at which hard-to-reach populations congregate with greater frequency than elsewhere.[27] In order to reach a diverse population of gay and bisexual men in the Atlanta area, the venue sampling frame used for this study consisted of a wide variety of over 160 gay-themed or gay-friendly venues, including gay pride events, gay sports teams events, gay fund-raising events, downtown areas, gay bars, bathhouses, an AIDS service organization, and urban parks. Study recruiters stood adjacent to the venue, drew an imaginary line on the ground, and approached every *n*th man who crossed it; *n* varied between one and three depending on the volume of traffic at the venue. Knowledge of expected traffic at each venue was based on our previous experience of recruiting at each venue. If he agreed to be screened, he was then asked a series of eight questions to assess his eligibility. Men were eligible for study participation if they reported being 18 years of age or older, being male, identifying as gay/homosexual or bisexual, living in the Atlanta Metro Area, and having had sex with a man in the previous six months. Eligible men were then read a short script that described the study process. This method was first used to recruit men for focus group discussions.

In total, 7 focus group discussions (FGDs) were held: 3 with Caucasian respondents, and 4 with Black/African-American respondents. FGDs were stratified by race to examine if there were racial differences in the perceptions and definitions of IPV. Each FGD lasted approximately 1 hour, and discussion centered on understanding definitions of IPV. The question guide was based on the short-form CTS questions.[28] Respondents were asked if they would consider each item to be IPV if it were to occur in a male-male relationship. Further questions examined participant's definitions of sexual, physical, and psychological IPV and controlling/stalking behaviors. Discussions were recorded and transcribed, with analysis conducted in MAXQDA. The focus of the analysis was on identifying definitions of IPV, and on examining racial variations in definitions of IPV. As a result, 30 different forms of IPV were identified, which were then used to create the survey questions in order to examine the perceptions of and experience of IPV among the sample of 1000 gay and bisexual men in Atlanta.

Of 4,309 men approached, 2,936 (59.9%) agreed to

be screened for the survey. Of these, 2,093 (71.3%) were eligible for study participation. Men were eligible for study participation if they reported being 18 years of age or older, being male, identifying as gay/homosexual or bisexual, living in the Atlanta Metro Area, and having had sex with a man in the previous six months. Of eligible participants, 1,965 (93.9%) were interested in study participation. A total of 1,074 men completed the survey; thus 21.9% of men approached and 51.4% of eligible men completed the survey. Approximately one-third (33.7%) completed the survey at a venue, while the remaining two-thirds (66.3%) of respondents completed the survey at home. A total of 912 men had complete data for all the IPV questions in the survey and were included in the final analysis. There were no differences in age, race, HIV status or sexual orientation between participants who took the survey and participants with complete information on IPV who comprise the final analysis sample. Additionally, there were no differences in age, race or sexual orientation between men who were eligible for the study and men who chose to participate in the survey.

The self-administered, iPad-based survey contained several domains of questions regarding demographics (e.g., age, education, and race) and recent sexual behavior with male partners. To measure IPV, the survey included 30 items taken from the FGDs: participants were asked if they considered each one of the items to be IPV (yes/no), and if they had experienced it from or perpetrated it against a male partner in the past 12 months. The survey also included the short-form CTS and the binary questions based on the Center for Disease Control and Prevention (CDC) definitions measuring the experience and perpetration of physical and sexual IPV. VBS resulted in a diverse sample: 48% white non-Hispanic, 40% Black/African-American non-Hispanic, and 12% Latino/ Hispanic or other. The mean age was 34.5 (+/- 10.6) years, with the majority reporting at least some college education (51.1%), current employment (78.9%), negative HIV status (69.3%) and homosexual sexual orientation (90%).

Results

While more than 90% of respondents agreed that hitting, punching, kicking, rape, slapping and intentional damage to property were forms of IPV, fewer than 40% of participants reported that preventing the victim from seeing his friends or family, putting the perpetrator's sexual needs before the victim's, asking/telling the victim to act straight around others, criticizing the victim's clothes, or calling the victim fat were considered IPV. Definitions of IPV tended to focus more on physical and extreme forms of sexual IPV, whereas controlling behaviors were less likely to be viewed as IPV. Tests for statistical differences in the proportion reporting of each item as IPV by race were performed. Latino/Other men reported an average of 20 of 30 items as IPV and Black/African-American men on average of 19 of 30, both significantly higher than the mean 17 reported by white men (Latino/Other versus White $p<0.012$, Black/ African American versus White $p<0.003$). There were clear racial variations in the definitions of IPV: Black/African-American participants were significantly less likely than White respondents to report that hitting ($p<0.023$), punching ($p<0.012$), kicking ($p<0.004$), rape (0.045), slapping ($p<0.005$), intentionally transmitting HIV ($p<0.002$) and intentional damage to property ($p<0.001$) were forms of IPV. Conversely, Black/African-American and Latino/ Other men were more likely to report than White men that doing something sexual for which you hadn't given consent (Black/ African American $p<0.023$, Latino/ Other $p<0.019$), preventing someone from seeing their family or friends (Black/ African American $p<0.017$, Latino/ Other $p<0.007$) , refusing to wear a condom during sex (Black/ African American $p<0.005$, Latino/ Other $p<0.034$) , name-calling (Black/ African American $p<0.046$, Latino/ Other $p<0.027$) , and cheating (Black/ African American $p<0.016$, Latino/ Other $p<0.039$) were forms of IPV. Black/African American and Latino/Other men were also more likely to report than White men that controlling behaviors, such as demanding access to a cell phone or email (Black/ African American $p<0.017$, Latino/ Other $p<0.019$), reading text messages or email (Black/ African American $p<0.035$, Latino/ Other $p<0.042$) , and preventing someone from seeing his friends were forms of IPV (Black/ African American $p<0.018$, Latino/ Other $p<0.035$).

STAGE 2: UNDERSTANDING THE DOMAINS OF IPV AMONG GAY AND BISEXUAL MEN

Methods

Rotational factor analysis was conducted with the survey data to identify which of the 30 items were to be included in the *IPV-GBM* scale (Table 1). The factor structure of the *IPV-GBM* scale was determined using principal components analysis with oblique rotation using a promax solution. The factor analysis was conducted for the total sample, and then separately for White and Black/African-American respondents to assess racial variations in scale content. There were insufficient numbers of Latino/Other respondents to allow factor analysis to be performed for this group. Reliability of the scales was assessed by calculating Cronbach's alpha to assess the internal consistency of the items. Adequate reliability was indicated if Cronbach's alpha was >0.70.

Results

The factor analysis yielded 5 unique factors with eigenvalues >1.0: physical and sexual IPV, monitoring behaviors, controlling behaviors, HIV-related IPV, and emotional IPV. The same five factors were identified for each racial group, although the content of the factor varied by race. Five items did not load into any factor: name-calling, refusing to wear a condom during sex, revealing the victim's sexual

Table 1: Factor analysis of definitions of intimate partner violence among gay and bisexual men. Data are from a venue-based self-completed survey with gay and bisexual men, 2011 (N=912).

Items	Factor Loading		
	All men	White men	Black men
Domain 1: Physical & Sexual			
Eigenvalue (Proportion of Variance Explained)	9.6985 (0.3233)	9.21088 (0.3070)	10.20997 (0.3403)
Combined Cronbach Alpha	0.8458	0.8167	0.8987
Slap you	0.8312	0.8044	0.8836
Punch you	0.8272	0.7655	0.8756
Hit you	0.8289	0.7715	0.8769
Kick you	0.8272	0.7655	0.8775
Push you	0.8567	--	0.9021
Force you to do something sexually that you didn't want to do	0.8717	--	0.9035
Rape you	0.8322	0.7883	0.8793
Damage your property (for example, break a TV or cell phone)	0.8458	0.8368	0.8894
Domain 2: Monitoring			
Eigenvalue (Proportion of Variance Explained)	4.16566 (0.1389)	3.80936 (0.1270)	4.04978 (0.1350)
Combined Cronbach Alpha	0.9226	0.9279	0.9148
Demand access to your cell phone	0.9022	0.9031	0.8997
Demand access to your email	0.8983	0.9015	0.8918
Read your text messages without your knowledge	0.8944	0.9013	0.8837
Read your email without your knowledge	0.8928	0.9002	0.8829
Repeatedly post on your social networking pages	0.9345	0.946	0.9186
Domain 3: Controlling			
Eigenvalue (Proportion of Variance Explained)	1.76858 (0.0509)	1.73009 (0.0577)	1.95378 (0.0651)
Combined Cronbach Alpha	0.8860	0.8864	0.8869
Prevent you from seeing your family	0.8531	0.8522	0.8573
Prevent you from seeing his family	0.8606	0.8683	0.8541
Prevent you from seeing your friends	0.8435	0.8384	0.8452
Prevent you from seeing his friends	0.8569	0.8559	0.8618
Domain 4: HIV-related			
Eigenvalue (Proportion of Variance Explained)	1.47115 (0.0490)	1.56658 (0.0522)	1.44745 (0.0482)
Combined Cronbach Alpha	0.8512	0.8476	0.8326
Lie to you about his HIV status	0.716	0.6995	0.7931
Not tell you he had HIV before you had sex	0.7156	0.683	0.7886
Intentionally transmit HIV to you	0.8999	0.9122	0.8000
Cheat on you	--	--	0.8031
Put his sexual needs before yours	--	--	0.8349
Domain 5: Emotional			
Eigenvalue (Proportion of Variance Explained)	1.25644 (0.0419)	1.138720 (0.0462)	1.25642 (0.0419)
Combined Cronbach Alpha	0.7152	0.7607	0.6994
Call you fat	0.6707	0.7207	0.6422
Ask or tell you to "act straight" around certain people	0.5996	0.699	0.5844
Criticize your clothes	0.6031	0.6898	0.5924
Put his sexual needs before yours	--	0.7092	--
Total Chronbach Alpha for All Domains Combined	0.9060	0.8960	0.9147

orientation to others ("outing" him), doing something sexually for which the victim had not given his prior consent, and unintentionally transmitting HIV to the victim. The following five domains of IPV among gay and bisexual men were identified.

Physical and Sexual IPV. This factor was comprised of slapping, punching, hitting, kicking, pushing, coerced sex, rape, and damage to property. However, for Black/African-American respondents, pushing and coerced sex did not load into this factor. The factor explained 32% of total variance for the total sample: 31% for white men and 34% for Black/African-American men.

Monitoring Behaviors: The same items loaded for all groups: demanding access to a cell phone, demanding access to email, reading text messages or email(s) without knowledge, and repeatedly posting on victim's social networking pages (e.g., Facebook, Twitter), explaining approximately 14% of total variance.

Controlling Behaviors: Again, the same items loaded for all groups: preventing a victim from seeing his family or friends, and preventing victim from seeing his partner's family or friends, explaining approximately 5% of the variance.

HIV-related IPV: For the total sample the items loading in this factor were lying about HIV status to a partner, not revealing positive HIV status to a partner before sex, and intentionally transmitting HIV, which collectively explained 5% of the total variance.

Emotional IPV: For the total sample the following items loaded: calling the victim fat, asking/telling the victim to "act straight," and criticizing the victim's clothes, explaining approximately 4% of the variation.

Among the total sample, the most commonly experienced forms of IPV in the past 12 months were criticizing of clothes (emotional IPV), reading text messages without permission (monitoring behavior), and pushing/shoving (physical and sexual IPV). The least commonly experienced forms of IPV were rape (sexual IPV), preventing victim from seeing his family (monitoring behaviors), and intentionally transmitting HIV (HIV-related IPV).

STAGE 3: INITIAL DEVELOPMENT OF THE IPV SCREENING TOOL

Methods

The 5 domains of IPV were then used as the basis for the development of the short IPV screening tool. The first stage involved a comparison with existing IPV screening tools. The comparison focused on content and format (e.g., number of questions/length) of existing tools. Only 2 existing short-form screening tools (HITS model and short-form CTS) are validated for use with men. The HITS model contains 4 questions and the short-form CTS contains 20 questions. Rabin et al,[29] found that of 21 screening tools for IPV, the mean number of items was 4.2. Our aim was to include each of the 5 domains of IPV identified by men in the survey as a separate construct on the screening tool to ensure that the tool was comprehensive in its definition of IPV for gay and bisexual men.

Results

The first draft of the short-form tool consisted of 5 questions addressing the behaviors associated with the 5 unique factors of violence yielded through the factor analysis. The short-form tool questions were based on the 5 domains of IPV, although the short-form tool slightly modified the grouping of IPV factors. Although the factor analysis yielded physical and sexual IPV as one factor, we created separate questions for sexual and physical IPV. To maintain the brevity of the tool as a whole, we combined monitoring and controlling behaviors into one question. We also considered whether to phrase the questions in yes/no or frequency forms. While both the HITS model and short-form CTS use frequency forms, we determined that the detection of any violent experience within a relationship was a more important measurement than the frequency at which it occurred and therefore decided to phrase each question in a yes/no format. For each domain we created a screening construct that comprised multiple questions. For example, for physical IPV the screening construct was: *In the past year, have arguments in your relationship escalated into any of the following: destruction of property, grabbing, restraining, pushing, kicking, slapping, punching, threats of violence or other acts of physical intimidation?*

STAGE 4: EXPERT REVIVEW OF SCREENING-TOOL

Methods

The first draft of our tool was revised through an expert review process.[30-32] We contacted 13 individuals from 8 organizations that work on issues of IPV among gay and bisexual men. Six of the eight organizations are based in the Atlanta area. Experts were asked whether each of the constructs in the tool constituted violence, and were asked to suggest changes to the content and wording of each question.

Results

The main changes suggested by the experts included: the inclusion of physical intimidation as well as actual acts of physical IPV, and the expansion of controlling and monitoring to include financial control and workplace monitoring. The major change was the addition of a sixth question that examined threats of IPV within relationships, and included items measuring whether the respondent felt threatened or isolated within their relationship, or whether others had raised questions about his safety in the relationship.

Table 2: Results of cognitive interviewing of human immunodeficiency virus (HIV) screening tool. Data are from individual interviews conducted with gay and bisexual men at Gay Pride venues, October 2012 (N=48).

HIV screening tool questions	Do you find this question to be understandable? Yes % (N)	Do you consider the examples listed in this question to be violent behaviors? Yes % (N)	Do you find this question insulting or offensive? Yes % (N)	Would you be comfortable answering this question during a medical visit? Yes % (N)
In the past year, has your partner pressured or forced you to do something sexual that you didn't want to do? Examples may include any of the following: oral or anal sex, having sex others, having sexual partners outside the relationship, or any other sexual activity that made you feel uncomfortable.	93.7 (45)	77.1 (37)	2.1 (1)	97.9 (47)
In the past year, has your partner refused to wear a condom even after condom-use was requested? Have you suspected or confirmed that your partner lied to you about their HIV status, or intentionally tried to transmit HIV to you?	91.7 (44)	87.5 (43)	2.1 (1)	95.8 (46)
In the past year, have arguments in your relationship escalated into any of the following: destruction of property, grabbing, restraining, pushing, kicking, slapping, punching, threats of violence or other acts of physical intimidation?	95.8 (46)	100 (48)	2.1 (1)	95.8 (46)
In the past year, has your partner insulted, criticized, threatened or yelled at you in any way? Examples may include the following: using slurs, calling you names, calling you fat, criticizing your sexual performance, criticizing your clothing, asking you to act more masculine or threatening to out you.	97.9 (47)	87.5 (43)	2.1 (1)	95.8 (46)
In the last year, has your partner prevented you from communicating with or seeing your friends/family/coworkers? Monitored or demanded access to your cell phone, email, social networking sites, finances or spending?	97.9 (47)	72.9 (35)	0.0 (0)	93.8 (45)
In the last year, have you ever felt afraid, threatened, isolated, trapped or like you are walking on eggshells as a result of your relationship? Have your friends or family raised concerns about your safety within your relationship?	95.8 (46)	81.3 (39)	2.1 (1)	93.8 (45)

STAGE 5: COGNITIVE INTERVIEWING WITH GAY AND BISEXUAL MEN

Methods

We aimed to conduct cognitive interviews with 45 local gay and bisexual men recruited at an Atlanta Pride event, with the aim of examining understanding of the 6 questions used in the tool among the target population. A VBS sampling approach was used: men were asked about their gender identity, sexual orientation, age, and race. Men were asked to read the screening tool and provide feedback on the questionnaire's clarity and ease of administration. In total, 48 cognitive interviews were conducted. Although larger sample sizes would clearly be desirable for this process, we argue that given that our screening tool items were generated from focus group data, were then derived from a large random sample of 912 gay and bisexual men, and the product was then subjected to expert review, that a sample of 48 for cognitive interviewing is sufficient to allow us to test the cognition of the tool constructs among our target audience.

Results

Over 90% of participants reported that each item on the screener was easy to understand; although participants reported that the questions around HIV-related IPV were the

Table 3. Intimate partner violence (IPV) screening tool for gay and bisexual men.

Constructs of IPV for gay and bisexual men	Responses	
Q1: Have arguments in your relationship escalated into any of the following: destruction of property, grabbing, restraining, pushing, kicking, slapping, punching, threats of violence or other acts of physical intimidation?	YES	NO
Q2: Has your partner pressured or forced you to do something sexual that you didn't want to do? Examples may include any of the following: oral or anal sex, having sex with others, having sexual partners outside the relationship, or any other sexual activity that made you feel uncomfortable.	YES	NO
Q3: Has your partner pressured you to have sex without a condom after you asked to use a condom? Or do you suspect that your partner has lied to you about their HIV status, or intentionally tried to transmit HIV to you?	YES	NO
Q4: Has your partner insulted, criticized, threatened or yelled at you in any way? Examples may include the following: using slurs, calling you names, calling you fat, criticizing your sexual performance, criticizing your clothing, asking you to act more masculine or threatening to out you	YES	NO
Q5: Has your partner prevented you from communicating with or seeing your friends/family/coworkers? Or monitored or demanded access to your cell phone, email, social networking sites, finances or spending?	YES	NO
Q6: Have you ever felt afraid, threatened, isolated, trapped or like you were walking on eggshells within your relationship? Or have your friends or family raised concerns about your safety within your relationship?	YES	NO

most difficult to understand (92% found it understandable). Common concerns were that the question was too long and complex, and participants offered alternative wording to ease comprehension. While 100% found the question relating to physical aggression to represent violence, only 72.9% found the question relating to monitoring and controlling behaviors to represent violence. Many participants has stated that violence is defined by the use of physical force and the use of pressuring, verbally aggressive, monitoring or controlling behaviors did not constitute violence, but rather constituted abusive behaviors. More than 93% of participants reported that they would be willing and comfortable in answering each of the questions during a medical visit, and 98% reported that they would not be offended by being asked these questions during a medical visit.

Based on feedback from the cognitive interviewing, we revised the question related to HIV-related IPV and the question related to the threat of IPV in the relationship. For the final screening tool, we also reordered the questions so that the question related to physical aggression went first, followed by the question related to sexual violence. The resultant screening tool is shown in Table 3.

STAGE 6: NATIONAL SURVEY OF IPV AMONG GAY AND BISEXUAL MEN

Methods:

In order to examine whether the screening tool would identify the same prevalence of IPV as commonly used measures of IPV, we conducted a survey with an online-recruited sample of gay and bisexual men. Banner ads were placed on Facebook for 12 consecutive days in November 2012. In that time, the ads were shown to 432,632 men and received 6,687 clicks: 1,739 (26%) consented to take the survey and 1436 (83%) began the survey. Of those consenting, 37 (2%) were under 18 years old, 15 (0.08%) reported a gender other than male, 335 (19%) had not had sex with a man in the past 6 months, and 15 (0.08%) lived outside the US. In total, only 1146 (80%) men completed the survey. Given the aim of comparing prevalence of IPV across the 2 measures of IPV, the analysis was restricted to participants who had completed both IPV sections. This produced a sample of 822 (72% of those who completed the survey). There were no differences in age, race, education or sexual orientation between men who completed all sections of the survey and men with missing data for either of the sets of IPV questions.

Ethical approval for the survey was provided by Emory University institution review board. Respondents were shown an electronic consent form, and had to click 'consent to take survey' to proceed to the survey. The survey was hosted by Survey Gizmo, and responses to the survey were restricted to 1 per IP address to prevent multiple submissions from the same computer. Respondents were asked to report both experiencing and perpetrating physical and/or sexual intimate partner violence in the previous 12 months. Standard CDC definitions of IPV were used.[42] For physical violence, respondents were asked if any of their partners attempted to hurt them, including "*pushing, holding you down, hitting you with a fist, kicking, attempting to strangle [you], [and/or] attacking you with a knife, gun, or other weapon.*" Experiences of sexual violence included instances in which

Table 4. Comparison of intimate partner violence (IPV) rates (%) identified using the Center for Disease Control and Prevention (CDC) definition of IPV and the novel, short-form IPV screening tool, including results of significance testing.

	Responses to MSM IPV Screening Tool							Responses to CDC IPV questions		
N= 822	Physical	Sexual	HIV	Emotional	Monitoring & Control	Threat	Answered yes to at least one screening question (Q1-6)	Physical	Sexual	Answered yes to at least one CDC question (Q1-2)
Total (%)	12.4	6.3	3.2	18.4	9.37	14.3	30.7	6.5	2.3	7.5
Age (%)										
18-24	11.6	*9.5**	4.2	18.1	*12.8**	15.0	35.6	6.4	2.4	7.9
25-34	15.3	*4.8**	2.1	21.4	*7.89**	15.3	31.1	6.5	1.7	6.5
35+	10.8	*3.7**	2.9	16.4	*6.34**	12.6	25.7	6.7	2.6	7.8
Ethnicity (%)										
Hispanic/Latino	*22.5**	7.5	*8.7**	23.7	12.5	21.2	38.7	*13.5**	6.2	*16.2**
Non-Hispanic/Latino	*11.2**	6.2	*2.7**	17.9	9.04	13.6	29.8	*5.8**	1.8	*6.6**
Race (%)										
White/Caucasian	*11.4**	6.2	2.9	17.8	9.6	13.9	29.9	6.5	2.2	7.3
Black	*18.4**	7.0	5.2	22.8	7.89	16.6	35.9	7.0	2.6	8.7
Education (%)										
Less than 12 years	15.6	7.8	3.9	19.6	*15.3**	14.3	35.9	*11.1**	1.3	*11.7**
More than 12 years	11.6	5.9	3.1	18.2	*8.07**	14.3	29.6	*5.5**	2.5	*6.5**
Relationship Status (%)										
Partnered	13.9	6.1	*2.0**	18.3	10.7	14.0	31.6	7	2.0	7.6
Single	10.1	6.5	*5.0**	18.8	7.46	14.6	29.5	5.9	2.6	7.4

MSM, men who have sex with men; *HIV,* human immunodeficiency virus

* Figures are significant at the 5% level.

Q1: Have arguments in your relationship escalated into any of the following: destruction of property, grabbing, restraining, pushing, kicking, slapping, punching, threats of violence or other acts of physical intimidation?

Q2: Has your partner pressured or forced you to do something sexual that you didn't want to do? Examples may include any of the following: oral or anal sex, having sex with others, having sexual partners outside the relationship, or any other sexual activity that made you feel uncomfortable

Q3: Has your partner pressured you to have sex without a condom after you asked to use a condom? Or do you suspect that your partner has lied to you about their HIV status, or intentionally tried to transmit HIV to you?

Q4: Has your partner insulted, criticized, threatened or yelled at you in any way? Examples may include the following: using slurs, calling you names, calling you fat, criticizing your sexual performance, criticizing your clothing, asking you to act more masculine or threatening to out you

Q5: Has your partner prevented you from communicating with or seeing your friends/family/coworkers? Or monitored or demanded access to your cell phone, email, social networking sites, finances or spending?

Q6: Have you ever felt afraid, threatened, isolated, trapped or like you were walking on eggshells within your relationship? Or have your friends or family raised concerns about your safety within your relationship?

Q7:In the last 12 months, have any of your partners ever tried to hurt you? This includes pushing, holding you down, hitting you with his fist, kicking, attempting to strangle, attacking with a knife, gun or other weapon.

Q8: Have any of your partners ever used physical force or verbal threats to force you to have sex when you did not want to?

a partner "*used physical force or verbal threats to force you to have sex when you did not want to*." The same criteria were used to measure reporting of perpetration of physical and sexual violence. Participants were also asked to answer all 6 questions on the short-form tool. Statistical tests for the proportion reporting each form of IPV by race/ethnicity, age and education were conducted.

Results

The prevalence of IPV among all respondents using the new IPV screening tool was 30.78%, compared to only 7.5% captured by the standard CDC IPV questions (Table 4). Using the new IPV screening tool, the most common forms of IPV experienced were emotional and physical IPV (18.5% and 12.4%), while the least common were HIV related IPV (3.3%), sexual IPV (6.3%), and monitoring and controlling behaviors (9.4%). In contrast, using the standard CDC IPV questions, 6.6% reported experiencing physical violence while 2.3% reported experiencing sexual violence from a partner.

Using the new IPV screening tool questions, we found statistically significant differences in the experience of physical IPV ($p<0.013$) and HIV-related IPV ($p<0.023$) by race/ethnicity, and a statistically significant difference in the prevalence of sexual IPV by age ($p<0.309$). There was a statistically significant difference in the reporting of monitoring or controlling behaviors by age ($p<0.026$) and education level ($p<0.019$). The reporting of emotional IPV did not vary by any of the demographic characteristics.

DISCUSSION

Integration of IPV screening into routine health services has been recommended and operationalized for many years;[21-22] however, little research has examined the integration of IPV screening into routine health care for gay and bisexual men. Routine screening increases identification of victims of IPV.[33] Training health care providers on the experience of IPV among gay and bisexual men and encouraging routine screening of male clients for IPV may provide an opportunity to reach men who are experiencing IPV, and to provide counseling, referrals and linkage to prevention services.

In this current study, we outlined the initial development of a short-form screening tool to screen for IPV among gay and bisexual men. The screening tool was based on definitions of IPV drawn from a sample of gay and bisexual men, and refined through expert view and cognitive interviewing. Participants largely conceptualized IPV as including physical violence and extreme sexual coercion, items that are included in screening tools used for heterosexual populations. However, the new tool captures areas of IPV not included in other measures that gay and bisexual men reported as constituting IPV. These included HIV-related IPV, monitoring behaviors (such as observing emails/texts) and controlling behaviors (including limiting access to friends or family), suggesting that IPV is conceptualized differently among gay and bisexual men than it is among heterosexual populations.

A significant difference between our new scale and those previously used for heterosexual populations is the addition of more items measuring IPV. Obviously, the addition of more items to a scale it likely to yield a higher prevalence of the overall construct. This was seen when the new screening tool identified a significantly higher prevalence of IPV in a national sample of gay and bisexual men than traditionally used measures of IPV. This may suggest that the inclusion of items in an IPV screening tool that more closely reflects the lived experiences of gay and bisexual men – many of the new items were suggested by participants in FGD in response to the items commonly included on screening tools— may lead to a more accurate, although higher, estimation of the prevalence of IPV. Of course, it is also possible that these additional forms of IPV are also prevalent in heterosexual populations, and the higher prevalence is merely the product of the addition of more items to a scale. However, without a comparable sample from a heterosexual population we are unable to confirm this at this point. The next stage in this line of research is to apply the scale a heterosexual population in a similar environment and compare the overall prevalence of IPV and the prevalence of each domain of IPV between gay and bisexual men versus heterosexuals.

There are a number of limitations to the current study. For the FGDs, the survey sample of 912 gay and bisexual men, and the cognitive interviewing relied on venue-based sampling rather than random sampling. However, there is increasing evidence that this form of sampling produces a sample of similar diversity as is found with random sampling methods[35]. For stage 5, the survey was recruited through banner advertisements on Facebook. This online recruited sample is unlikely to be representative of the general gay and bisexual population of the U.S. For stages 1, 2 and 4 the data are specific to the metro-Atlanta area, and there may be regional differences in how gay and bisexual men experience and conceptualize IPV. For stages 1, 2 and 4 the samples include small numbers of racial/ethnic groups other than White or African American/Black: this limited the ability to draw useful conclusions about IPV in other racial/ ethnic groups.

The current work sets the foundation for several pieces of further research. First, comparable data from a heterosexual sample is needed to assess the extent to which these new IPV scale items are gay and bisexual specific. The results presented here should be viewed as the first stages in the creation of an IPV screening tool for gay and bisexual men. The results have highlighted how gay and bisexual men conceptualize IPV, have illustrated several racial variations in the definition of IPV, and have condensed the definition of IPV into 6 scale items that gay and bisexual men largely agreed constituted IPV and would appropriate in a clinical/medical setting. However, further sensitivity and specificity analysis are needed utilizing a larger sample of gay and bisexual men

to examine the extent to which the new scale captures the experience of IPV.

CONCLUSION

The results presented here provide encouraging evidence for a new, more accurate, tool for screening for IPV among gay and bisexual men in the U.S. The tool is intended for use by health care providers, as is standard practice with the tools currently used to screen heterosexual women for IPV. The tool consists of 6 short questions which, during our cognitive interviewing process, men reported willingness to answer during a medical visit. The screening tool requires a 6th grade reading level and takes less than 10 minutes to administer; similar characteristics to many existing IPV screening tools. Given the increased attention to IPV among gay and bisexual men, a screening tool based on more accurate measures of IPV that are grounded in the lived realities of gay and bisexual men is vital. Further work is now required to test this screening tool on larger samples of gay and bisexual men, and to explore the extent to which the screening tool is applicable to other racial/ethnic groups and is acceptable to both health care providers and clients.

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