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Adaptation, feasibility and performance of a brief clinic-based intervention to improve prevention practices among sexual minority men

Nathan J. Lachowsky, Karyn Fulcher, Allan Lal, and Rick Crosby

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Abstract

Gay, bisexual, and other men who have sex with men (GBM) are disproportionately affected by sexually transmitted and blood-borne infections (STBBIs). Originally efficacious with young Black GBM in the United States, *Focus on the Future* (FoF) is a clinic-based, single session intervention aimed at improving prevention practices. We examined the applicability and acceptability of the program for ethnoracially diverse GBM. Participants were recruited from a GBM sexual health clinic in Vancouver. A pre-test, post-test repeated measures design was used with a single intervention arm. Twenty-five HIV-negative participants received the intervention and retention at 90-day follow-up was 92%. Mean age was 27.8 years (SD=3.53), 54.2% were non-white. The intervention was highly acceptable: 86.9% liked it and 91.3% would recommend it to others. A number of positive outcomes were observed post-intervention such as higher scores on the correct condom-use self-efficacy scales (p=0.03) and increased condom-use frequency with primary partners (p=0.03). The main outcome was number of condom-protected anal intercourse events for both insertive and receptive sexual positions; there was no significant difference for either the insertive (p=0.62) or receptive (p=0.36) partner. However, when restricted to participants who were not using PrEP, there was a significant increase in the number of condom-protected receptive anal sex events (p=0.02). Although not an intended effect of the intervention program, 30% (n=6/20) of PrEP-naïve participants initiated PrEP during the 90-day follow-up. This adapted low-cost intervention was rated highly acceptable by participants and demonstrates promise for increasing STBBI prevention practices. Expanded intervention testing and implementation research is warranted.

Adaptation, Feasibility and Performance of a Brief Clinic-Based Intervention to Improve Prevention Practices Among Sexual Minority Men

Introduction

The most recent HIV/AIDS surveillance report for Canada clearly illuminates the point that gay, bisexual, and other men who have sex with men (GBM) represent the largest exposure category for all new cases of HIV: 44.1% of cases in 2016 (Bourgeois et al., 2017). Among newly diagnosed cases for GBM, the majority occurred among those who self-identified as White (56.9%), followed by those identified as “other” (18.7%), Black (9.7%), Latino (9.7%), and Indigenous (5.0%) (Bourgeois et al., 2017). Beyond HIV, a resurgence of sexually transmitted infections (STIs) is also occurring among Canadian MSM. According to the British Columbia Centre for Disease Control (BCCDC), syphilis is a sentinel example, with 86.3% of all infectious syphilis cases reported in 2016 having occurred among MSM (BCCDC, 2018). Other STIs (e.g., gonorrhea, chlamydia) are also on the rise (BCCDC, 2018; Choudhri et al., 2018a; Choudhri et al., 2018b).

Compounded by an overall increase in HIV incidence among Canadians (Bourgeois et al. 2017), an urgent need exists to develop and test highly scalable intervention programs specifically designed for Canadian GBM. Highly scalable interventions are those that can effectively and rapidly be translated from research to widespread implementation (Higa et al., 2013; Milat, King, Bauman, & Redman, 2012). Numerous interventions have been developed and evaluated over the past three decades, based on a range of health-related behavioural theory. Several tested interventions have been developed using the health belief model, social cognitive theory, and the information-motivation-behaviour skills model (Rietmeijer 2007; Lyles

et al. 2007; Mustanski et al. 2013; Rhodes et al. 2017; Koblin, Chesney, & Coates, 2004), others incorporate social learning theory, the theories of reasoned action and planned behaviour, the diffusion of innovation, or draw on approaches used in sex therapy (Emetu et al 2014; Jones et al 2008; Lyles et al 2007). With regards to format and the time required of the participants, approaches vary: some interventions consist of a short discussion with an educator or clinician, many others involve several sessions and programs may be delivered in person or online (Adams et al. 2013; Mustanski et al. 2013). The goal is generally to help participants increase their use of condoms, often in conjunction with a reduction in the number of sexual partners and an increased awareness of STIs and HIV (Lyles et al., 2007).

Regardless of the theoretical framework and intervention format, risk reduction efforts are ideally tailored to individual needs and the norms of the particular group in question (Jones et al. 2008; Koblin, Chesney, & Coates, 2004; Rietmeijer 2007; Rhodes et al. 2017). Frequently, peers are trained to deliver the intervention and the content and format are tailored to the target group (e.g. Hispanic/Latino GBM) (Rhodes et al. 2017). Many programs additionally incorporate material to address perceived barriers to condom use – a determinant of consistent condom use among many populations (St. Lawrence et al., 1999; Crosby et al., 2013; Crosby et al., 2016) – with the goal of improving condom self-efficacy and attitudes towards condoms (Emetu et al., 2014; Rhodes et al., 2017; Crosby et al., 2018).

Despite the great appeal of clinic-based programs for STD/HIV prevention, many are limited in scope. In one review, Lyles and colleagues (2007) identified 18 programs with acceptable evidence of effectiveness. Four were designed for people living with HIV/AIDS while the remaining 14 were designed specifically for people who had not yet become infected by the

virus. None of these 18 programs had been designed to serve the needs of both HIV-positive and HIV-negative people. A recent review found only five efficacious interventions for Black MSM (Maulsby, Millet, Lindsey, et al., 2013). Of these, two were pilot studies and two others were multi-session interventions for HIV-uninfected Black MSM, with one finding a reduction in condomless anal sex and the other finding only a reduction in condomless anal insertive sex with casual partners. The fifth program was delivered at the community-level using a Popular Opinion Leader approach and found evidence of intervention effects relative to condomless anal sex. Also noteworthy is that a recent randomized trial of a three-session, counseling-based, intervention for Black MSM found non-significant effects, with the exception of reduced frequency of anal receptive sex (Jemmot, Jemmott, O'Leary, et al., 2015). One of the largest trials of an intervention, the EXPLORE study tested a ten-session program in a randomized controlled trial and found few effects, with the notable exception that compared to controls, intervention men were 15.7% less likely to acquire HIV. However, differences between groups in consistent condom use were not found (Koblin, Chesney, & Coates, 2004).

In addition to the mixed results concerning effectiveness (Emetu et al., 2014; EXPLORE Study Team, 2004; Jones et al., 2008; McKirnan et al., 2010; Nostlinger et al., 2016), these programs are frequently resource-intensive and require significant time commitments from participants (Koblin, Chesney, & Coates, 2004; Lyles et al. 2007; Mustanski et al. 2013), potentially hindering the adaptability of interventions to a range of settings (Green et al., 2009; Power et al., 2019). Brief, single-session interventions help to minimize the burden on both participant and provider, making them potentially more practical for scale-up than multi-session designs (Eaton et al., 2012; Long et al., 2016; De Vasconcelo et al 2018).

Focus on the Future (FoF) is a good example of a highly scalable, brief intervention designed and tested specifically for GBM. Originally developed for GBM attending STI clinics in the United States, FoF is theoretically sound (Fisher, Fisher, & Shuper, 2009; Fortier, Williams, Sweet, & Patrick, 2009), with a strong track record (Centers for Disease Control and Prevention (CDC), n.d.; Crosby et al. 2014; Crosby et al. 2018) and an empirically documented sex-positive focus (Crosby et al., 2016; Crosby & Mena, 2017; Crosby, Mena, & Smith, 2018). Given its potential to have an impact on the incidence of HIV and STIs among GBM, we conducted a pilot study to test FoF in a small sample of Canadian GBM to assess its potential applicability and acceptability for widespread use in cities such as Vancouver, British Columbia.

Methods

The intervention. Focus on the Future is a brief, single-session intervention designed to address incorrect condom use and common issues experienced with condom use, with the goal of increasing condom use among participants post-intervention (CDC, n.d.). It is predicated on three behavioral theories: the information-motivation-behavioral (IMB) skills model (Fisher, Fisher, & Shuper, 2009), self-determination theory (SDT) (Fortier et al., 2009) and the self-efficacy component of social cognitive theory. The 45-50 minute session with a lay health adviser includes a risk assessment/awareness segment that helps men understand their prevention options and helps them to identify and resolve any barriers they experience relative to initiating and using condoms with sex partners. Self-efficacy for the correct use, and pleasurable use, of condoms is enhanced throughout the single, highly interactive and tailored, session. This occurs through mastery learning, using a stationary penile-model. More importantly, this series of application exercises serves as a focal point for addressing past

negative experience with condoms and teaching new methods that magnify pleasure when using condoms (e.g., using ample amounts of long-lasting lubricants during sex, learning to apply condoms quickly, finding condoms that provide optimal “fit and feel” for both partners). Each participant is provided with lubricant samples and condoms in a variety of sizes and brands at the end of the session. An explicit goal of the session is to instill an ethic that condom use is a “normal and healthy part of a great sex life” and to cast condom use as way for young GBM to protect their community from expanding the disparities in HIV/AIDS. **Table 1** provides a more detailed description of its theory-based nature.

Table 1. Objectives and theoretical constructs of the Focus on the Future intervention

Primary Objective	Targeted Theory-Based Construct
Create awareness of disparities in STIs and HIV for YMSM	Motivation construct of the IMB
Enhance self-efficacy for the correct use of condoms	Behavioural Skills construct of the IMB
Enhance self-efficacy for discussing condoms with fellatio partners	Behavioural Skills construct of the IMB
Describe and demonstrate new types of condoms/lubricants	Information construct of the IMB
Help men in finding the right “fit and feel” to enhance oral pleasure	Intrinsic motivation construct of SDT
Provide men with extended practice in condom application	Competence construct of the SDT
Instill an ethic of protecting sexual minorities through safer sex	Relatedness construct of the SDT

IMB = Information-Motivation-Behavioral Skills model, SDT = Self-Determination Theory

Study design. A pre-test, post-test repeated measures design was used with a single intervention arm. Participants were recruited from a single community-based sexual health clinic in Vancouver, Canada that is designed for and targeted to sexual minority men and gender minority people. This partnership with a community-based organization was a strength

of the study, and provided important access to and established trust with potential participants. The recruitment period spanned three months from September to November 2018. During this time, a study staff member approached people in the sexual health clinic waiting room to provide information about the study, ask if they were interested, and to screen potential participants for eligibility. Eligible participants had to be a self-identified man; self-identify as gay, bisexual, queer, same-gender-loving, or a man who have sex with men; report having engaged in condomless anal sex with another man in the past 3 months; report being HIV-negative; and be able to speak, read and aurally comprehend English. If participants were interested and eligible they were then informed about and provided written informed consent to complete the study protocol. A study staff member administered the single session intervention within the clinic and participants were provided with $30 CAD in compensation. Participants self-completed an online questionnaire when enrolled (at baseline, using a 90-day recall period), and then again at 30-day follow-up (30-day recall), and 90-day follow-up (60-day recall). All follow-up data collection was completed in February 2019. Participants received $30 CAD for each questionnaire they completed. All study procedures were reviewed and approved by the Human Research Ethics Board of the University of Victoria (17-466).

Explanatory factor. The main explanatory factor was timing of study visit. The behavioural recall period at baseline (pre-intervention) was 90 days. Where feasible, we combined data from the 30-day and 90-day visits to provide an equal time period for comparisons with baseline. Otherwise, we compared measures from baseline with our latest follow-up visit (i.e. 90-days post-intervention).

Outcome measures. The primary behavioral outcome was the number of condom-protected anal intercourse events during receptive and insertive sexual positions over a 90-day period prior to baseline and again for the 90-day period post-intervention. Participants were asked two question sets for each sexual position, “In the past 90 days, how many times have you had anal sex with any male when you were the top (insertive partner) / bottom (receptive partner)?,” and then, “Of the number you just entered, in the past 90 days, how many times were condoms used?”

A secondary behavioral outcome was the frequency of condom use with a primary sexual relationship partner, which was defined as “the one you have the most sex with.” Participants were asked to indicate on a five-items scale how frequently they used condoms with their primary sexual relationship partners. The scale included Always, Usually, Sometimes, Rarely, and Never.

Another secondary outcome was condom use self-efficacy, which was measured using the Correct Condom Use Self-Efficacy Scale (CCUSS) (Crosby, Graham, Milhausen, Sanders, & Yarber, 2010). This seven-item scale measures an person’s perception of the ease or difficulty with which they can apply and use external (male) condoms correctly. Participants completed this scale at each visit and scores were summed for each visit producing a Cronbach alpha of 0.73 at baseline, 0.74 at 30-day follow-up, and 0.78 at 90-day follow-up.

Five questions were asked regarding participants’ experiences discussing condoms with sexual partners. Participants indicated whether they had experienced any of the following: “felt odd asking to use a condom,” “did a partner pressure you not to use condoms,” specifically “did a partner on PrEP pressure you not to use condoms,” “rejected by a partner for asking to use

condoms," and specifically "rejected by a partner on PrEP for asking to use condoms." Responses were compared between baseline and 90-day follow-up.

Self-reported incident STI diagnoses were captured at baseline (90-day recall), 30-day follow-up (30-day recall), and 90-day follow-up (60-day recall). We calculated cumulative prevalence for the baseline and 90-day follow-up periods. STI diagnosis recall for the 30-day follow-up may have been associated with the STI testing that co-occurred with their recruitment from the STI clinic and was not included for analysis.

To evaluate the FoF intervention, a series of questions were asked at 90-day follow-up. Participants indicated on a 5-point Likert scale, ranging from strongly disagree (1) to strongly agree (5), their evaluation of the intervention for 10 different items (e.g., "This program helped me find the condoms I like to use," "I have become more skillful in using condoms," "I am now more likely to use condoms with sex partners," "I would recommend this program to others"). Higher scores indicated more positive ratings of the intervention. Combining these items produced a Cronbach alpha of 0.92. In addition to these quantitative measures, participants were asked to respond qualitatively to two open-ended prompts: "Please tell us what you liked about this program" and "Please tell us what we can do to improve the program."

Covariates. A series of demographic, sexual health, and behavioural questions were asked of the participants to help describe the sample. Demographic questions included age, ethnoracial identity, current housing, income, education, student status, employment, financial strain (e.g. need to borrow money, missed meals), and relationship status. In terms of sexual health, participants reported on specimens/test conducted at their last STI test, STI diagnosis history (any, syphilis, and rectal), as well as nPEP and PrEP use. Sexual behaviours measured

included recent sexual positions (any insertive, any receptive) and any recent transactional sex (e.g. for money, drugs, goods).

Analysis. All analyses were conducted in Stata/SE v13.1. Descriptive statistics were prepared for demographics, sexual health and sexual behaviours at baseline. Mean and standard deviation (SD) values were calculated for continuous variables. Count and percentages were calculated for categorical data. Wilcoxon signed rank tests were used to evaluate differences in continuous variables between baseline and follow-up given violations of the assumption of normality. McNemar chi-square tests were used to evaluate differences in categorical variables between baseline and follow-up. Given the nature of this pilot study, a p-value of less than 0.10 was considered statistically significant.

Results

Screening and sample. A total of 95 potential participants were approached in the sexual health clinic. Of those, 58.9% were interested and screened. Of the 56 screened, 50.0% were eligible. The main reasons for ineligibility was not reporting sex with other men. Of the 28 eligible, three indicated they did not have time available to participate. Therefore, a total of 25 participants were enrolled and completed the intervention. The intervention lasted an average of 52 minutes (range = 35-80). Following the intervention, one participant did not complete any surveys, and was not part of the analysis. One participant only completed surveys at baseline and 30-days, and then was lost to follow-up; this participant was not included in the analysis. Therefore, participant retention to the final 90-day follow-up was 92% (n=23/25). Descriptive statistics of the participants at baseline are provided in Table 2.

Demographics. Participants mean age was 28.1 years old (SD=3.29). The sample was ethnoracially diverse with a minority (47.8%) of the participants identifying as Caucasian/White. All participants were currently housed, with two thirds (65.2%) of them having lived in the same place for over a year and over a third (34.8%) of them living alone. The majority (56.5%) of the participants earned over $3,000 CAD/month in income. Three-quarters (73.9%) of the participants were current students and 92.3% had some experience with postsecondary education. The vast majority were currently employed (87.0%), but over a quarter (30.4%) had to borrow money in the past year to get by and 13.0% had to miss meals due to not having enough money to eat in the past year.

In terms of relationships, three quarters (73.9%) of the participants were single, with 13.0% married/common-law and another 13.0% in a long-term relationship. A third (39.1%) of the participants reported a regular and ongoing sexual relationship that was important to them. On average, they had been in this relationship for 27.2 months (SD=25.1). In terms of relationship status, only one of nine relationships were described as monogamous; the majority (55.6%) of these were open, with a third (33.3%) described as "monogamish." All partners were reported to be HIV-negative.

Sexual health. All participants self-reported as HIV-negative at baseline and during all follow-up visits (no HIV seroconversions). All but one participant had been previously tested for STIs. At their last STI test, most had received urine tests (91.3%) and blood tests (91.3%) with fewer men receiving oral swabs (82.6%) and anal swabs (73.9%). Only one third (30.4%) reported a point-of-care HIV test at their last STI test. One quarter (26.1%) had never had a diagnosed STI, 47.8% reported an STI in the past 90 days, and 26.1% were diagnosed more than

90 days prior to completing the baseline study visit. A quarter (26.1%) reported having a rectal STI in the past 90 days.

Four participants reported using PrEP at baseline (all daily regimen), and continued use throughout all follow-up visits. During follow-up, 31.6% of the PrEP-naïve participants initiated use (n=6/19); all indicated using PrEP daily. Thus, at the end of follow-up nearly half of the participants reported using PrEP daily (43.5%, n=10/23). Two thirds (65.2%) of the participants reported insertive anal sex and over three quarters (82.6%) reported engaging in receptive anal sex.

Table 2. Participant demographics and sexual health at baseline

	n	%
Race/ethnicity		
Asian	8	34.8
Caucasian/White	11	47.8
Other	4	14.4
Duration of Current Housing		
<3 months	4	17.4
3-5 months	3	14.0
6-12 months	1	4.4
More than a year	15	65.2
Lives Alone		
No	15	65.2
Yes	8	34.8
Monthly income (CAD)		
<$1500	4	17.4
$1500-$2,999	6	26.1
>$3,000	13	56.5
Formal education completed		
Secondary school	2	8.7
Some postsecondary school	10	43.5
Postsecondary degree	6	26.1
Graduate school	5	21.7
Current student		
No	6	26.1
Yes	17	73.9
Currently employed		

No	3	13.0
Yes	20	87.0
Borrowed money, P12M		
No	16	69.6
Yes	7	30.4
Missed meals, P12M		
No	20	87.0
Yes	3	13.0
Current relationship status		
Married/common law	3	13.0
Single/separated	17	73.9
Long-term partner	3	13.0
Current sexual relationship, any		
No	14	60.9
Yes	9	39.1

SEXUAL HEALTH		
Last STI test (individual variables)		
Urine test	21	91.3
Blood test	21	91.3
Oral swab	19	82.6
Anal swab	17	73.9
Point-of-care HIV test	7	30.4
Any STI diagnosis		
No, never	6	26.1
Yes, in past 90 days	11	47.8
Yes, only more than 90 days ago	6	26.1
Any Syphilis diagnosis		
No, never	21	91.3
Yes, in past 90 days	1	4.4
Yes, only more than 90 days ago	1	4.4
Any Rectal STI diagnosis		
No, never	13	56.5
Yes, in past 90 days	6	26.1
Yes, only more than 90 days ago	4	17.4
PEP use, ever		
No	20	87.0
Yes	3	13.0
PrEP use, current		
No	19	82.6
Yes, daily	4	17.4
Any insertive anal sex, P90D		
No	8	34.8
Yes	15	65.2

Any receptive anal sex, P90D		
No	4	17.4
Yes	19	82.6

Intervention outcomes. For context, the number of insertive anal sex acts did not vary between baseline and post-intervention (p=0.77), nor did the number of receptive anal sex acts (p=0.70). Comparisons of behavioural outcomes from baseline to post-intervention are shown in Table 3. The main outcome of interest was the number of condom-protected anal intercourse events for both insertive and receptive sexual positions. There was no significant difference in the number of condom-protected anal sex events when the participant was either the insertive partner (p=0.62) or the receptive partner (p=0.36). However, when restricted to participants who were not using PrEP, there was a significant increase in the number of condom-protected sex events when the participant was the receptive partner (p=0.02). One participant commented in the qualitative feedback on the program: “out in the wild I can report PrEP has led to a big upswing in barebacking, so it is a bit of an uphill battle to be a stalwart condom user these days.”

Table 3. Comparison of condom-protected anal sex events from baseline to post-intervention

	Baseline		**Post-Intervention**		**p-value**
	mean	**SD**	**mean**	**SD**	
Number of condom-protected insertive anal sex events (n=14)	1.21	1.25	2.00	2.29	0.6214
Number of condom-protected receptive anal sex events (n=17)	4.24	9.02	3.00	2.52	0.3631
Number of condom-protected insertive anal sex events, non-PrEP users (n=8)	1.13	1.36	2.63	2.62	0.3834
Number of condom-protected receptive anal sex events, non-PrEP users (n=10)	1.80	1.40	3.70	2.45	**0.0205**

Scores on the correct condom-use self-efficacy scales improved from baseline to 90-day follow-up (p=0.03). The mean score at baseline was 26.7 (SD=5.06), at 30-day follow-up the mean was 27.9 (SD=4.46), and at 90-day follow-up the mean was 28.8 (SD=4.69). There was no statistical difference between baseline and one-month follow-up (p=0.29). However, there was a significant improvement in scores between baseline and three-month follow-up (p=0.03).

Comparisons of other intervention outcomes from baseline to 90-day post-intervention are shown in Table 4. At baseline, 72.7% of the participants reported never using condoms with their primary sexual partner compared with 36.4% post-intervention. There was a statistically significant increase in condom-use frequency with primary partners post-intervention (p=0.0300). Post-intervention, there were significantly fewer participants who reported that a partner (in general or specifically on PrEP) pressured them not to use condoms and fewer participants who reported being rejected by a partner (in general or specifically on PrEP) for asking to use condoms.

Table 4. Comparison of condom-related outcomes from baseline to post-intervention

	Baseline		**90-Day Follow-Up**		***P*-value**
	n	**%**	**n**	**%**	
Condom Use Frequency with Primary Sexual Partner (n=11)					**0.04**
Always	0	0	3	27.3	
Usually	1	9.1	1	9.1	
Sometimes	1	9.1	2	18.2	
Rarely	1	9.1	1	9.1	
Never	8	72.7	4	36.4	
Felt odd asking to use a condom (n=20)					0.41
No	14	70.0	16	80.0	
Yes	6	30.0	4	20.0	
A partner pressured you not to use condoms (n=20)					**0.01**
No	9	45.0	15	75.0	

Yes	11	55.0	5	25.0	
A partner on PrEP pressured you not to use condoms (n=20)					**0.01**
No	9	45.0	16	80.0	
Yes	11	55.0	4	20.0	
Rejected by a partner for asking to use condoms (n=20)					**0.08**
No	15	75.0	18	90.0	
Yes	5	25.0	2	10.0	
Rejected by a partner on PrEP for asking to use condoms (n=20)					**0.08**
No	15	75.0	18	90.0	
Yes	5	25.0	2	10.0	

Bolded p-values were considered statistically significant (p<0.10).

The incidence rate pre-intervention was 1.91 STIs per person year (11 cases during 69 person-months). Four STIs (17.5%) were reported at 90-day follow-up, which resulted in a calculated STI incidence rate of 1.04 STIs per person-year (4 cases during 46 person-months). Note these are self-reported STI diagnoses and that STI testing was not a required study element.

Intervention evaluation. Participants' mean level of agreement with various evaluation statements regarding the intervention are shown in Table 4. Generally, the intervention was well received. Overall, 86.9% were glad they participated in the program and liked the program. With respect to recommending the program to others, 91.3% of the participants agreed. In terms of the intervention components, 82.6% agreed the directions on how to use condoms currently were helpful and 69.5% agreed that trying out different condoms helped them find the condoms they liked best. Participants agreed with several self-rated outcomes from the intervention: 81.6% knew more about using lubricants with condoms, 78.2% were more skillful at using condoms, 69.6% were more confident using condoms, 65.2% were more accepting of using condoms, and 56.5% said it helped them find condoms they liked to use.

Table 4. Participants' ratings of the program 90-day post-intervention

Items	mean	SD
This program helped me find the condoms I like to use	3.87	1.14
I now feel more confident using condoms	4.04	1.02
I am now more accepting of using condoms for sex	3.87	0.98
I have become more skillful in using condoms	4.17	0.98
I am now more likely to use condoms with sex partners	3.61	0.94
I now know more about using lubricants with condoms	4.39	0.78
The directions on how to use condoms correctly were helpful	4.30	0.76
Trying out different condoms helped me decide with condoms I like the best	4.17	0.89
I am glad I participated in this program	4.57	0.73
I would recommend this program to others	4.61	0.67
Overall, I liked this program	4.61	0.72

Feedback on open-ended questions fell into four broad themes: 1) the comfortable environment, 2) the benefit of practicing with condoms, 3) the improved knowledge of how to use condoms and the various kinds available, and 4) the increased confidence participants felt after the session with regards to condom use. First, the “comfortable and non-judgemental” setting and interaction was noted by a number of the participants. The opportunity to have “an open conversation with someone about gay men’s health” in a “candid interview environment” was valued. Second, the chance to practice with condoms and lube was another highlight for many, and one person remarked it was “fun and informative. I don’t think many gay guys get that opportunity so I can see it being a help.” Third, participants appreciated that a variety of condoms were available to try, and that the session included discussion on finding the best one(s) for a given person. As one pointed out, “most people would not want to stand in a drugstore reading/comparing condom boxes,” so having advance knowledge of what to look for was helpful. Another explained that the education session gave him the chance to find “condoms and lube that felt like they suited me way better.” Removing the financial barrier to trying different types of condoms by providing free samples was an additional benefit. Fourth,

and related to the three previous points, some participants commented that they felt more confident in their ability to use condoms as a result of taking part in the education session. One wrote that, “I like the increased amount of confidence that comes with knowing I am using a condom to its best.” Others felt that the session confirmed that they knew how to use condoms, and some remarked that it was “a good nudge to remember to use condoms…made the idea of condom use at least a bit sexy” and that it was a reminder that it was possible to “use condoms and have fun.”

There was little qualitative feedback on how to improve the program. Several participants articulated an interest in receiving more lube and more condoms, and even a refresher on the skills demo. Physical access to more supplies was important (e.g. hours, location).

Discussion

The results of this pilot study indicate the applicability and acceptability of FoF when adapted for use with ethnoracially diverse GBM in Vancouver, BC. While overall rates of condom use did not significantly differ between baseline and 90 day follow up, increased rates of condom use during receptive anal sex among participants who did not use PrEP were reported. This finding suggests that FoF may be a valuable program for GBM not using PrEP. The finding is especially encouraging given the substantially greater risk of HIV acquisition for receptive anal sex partners (Baggaley, White, & Boily, 2010). Given that a randomized control trial of FoF, among 600 GBM in the United States of America, found a program effect on condomless anal receptive sex (Crosby, et al., 2018), this feasibility study for Canadian GBM suggests that the adaptation of the program to this context was successful, and highlights its

utility in a range of contexts. Of note, an intervention such as FoF that could maintain condom use among PrEP users would also be quite valuable within the context of combination prevention and dispel concerns of risk compensation whereby GBM who initiate PrEP may decrease condom use given the new HIV prevention strategy (Alaei, Paynter, Juan, & Alaei, 2016).

Supporting changes were also observed. The significant increase in condom use self-efficacy, for instance, suggests the utility of FoF to enhance condom use skills that may be enacted in the future. The impact of the program on condom use self-efficacy is a particularly notable finding. Considered together with the responses to questions about the value of the program, this finding points to the importance of incorporating the topic of pleasure into sexual health interventions, particularly for GBM (Fulcher, Shumka, Roth, & Lachowsky, 2019; Scott-Sheldon, Marsh, Johnson, & Glasford, 2006) . Having the skills to use condoms correctly and consistently is a key part of prevention, but previous research has found that a positive view of condoms plays a role (Crosby et al. 2018; Crosby, Mena, & Smith, 2018), as does the ability to communicate with partners about condom use (Crosby et al. 2016). Studies examining the association between condom use, attitudes towards condoms and communication about condoms found that people who communicate with a partner about condom use report fewer instances of condomless anal intercourse, both receptive and insertive, and that those who rate sexual pleasure as lower when using condoms are less likely to use them during insertive anal sex (Crosby & Mena, 2017; Crosby et al. 2018). The FoF intervention includes not only information regarding correct condom use, but provides participants the opportunity to discuss past condom experiences (both positive and negative), emphasizes the role that condoms can

play in sexual pleasure, and helps participants develop communication skills related to negotiating condom use with partners. The quantitative and qualitative feedback from participants on these aspects of the program suggest that they may play a key role in the program's effect on condom use.

Also, the significant increase in the percentage indicating that they used condoms with primary partners is an important supporting finding; one that points to the applicability of the intervention to people in a range of relationship configurations. This is especially important given evidence that the majority of HIV transmission among GBM occurs in the context of primary partnerships (Sullivan, Salazar, Buchbinder, & Sanchez, 2009).

Although it was not measured directly, and FoF is not intended to influence participants' decision-making around PrEP, the increase in participants using PrEP from baseline to the 90-day assessment suggests that participation may have had some impact, although the mechanism of this is not clear. One possible explanation is that the opportunity to discuss condom use specifically, and sexual health generally, in a comfortable environment prompted participants to consider prevention strategies broadly and factored into their decision to commence PrEP. By destigmatizing sex and building intrinsic motivation for prevention practices, participants may have experienced more empowerment to initiate PrEP (Calabrese & Underhill, 2015). Examining the relationship between participation in the program and decisions about PrEP would be a valuable part of future studies of this program.

There are several strengths and limitations of the current research that should be highlighted. This was a small feasibility study, which may not have had sufficient statistical power to examine different or more modest behaviour change. This study also used a single

intervention arm, and future studies should employ randomization and a control arm to ensure behavioural changes can be attributed to FoF. However, even with such a small sample a number of significant differences were identified from baseline to 90-day follow-up. Future studies should be guided by a priori power or sample size analyses, which was not done for this preliminary feasibility study. A longer follow-up period in future studies would allow for an examination of sustained duration of impact. Future research with more GBM living with HIV and people of diverse gender experience (e.g. transgender, genderqueer, gender non-binary) would help ascertain whether an intervention like FoF is efficacious with these communities that are often excluded from research and rendered invisible in sexual health service delivery (Bauer et al. 2009). We recommend the involvement and leadership of community members in future intervention research; this acknowledges and values their unique lived experiences, which can contribute key cultural understandings and knowledge to help better address the health needs and concerns of these communities. This community-based and 'patient engagement' approach is aligned the recent national Strategy for Patient Oriented Research (SPOR) by the Canadian Institutes for Health Research (2015) and ultimately leads to better health outcomes. Importantly, this study begins to address the dearth of evidence-based interventions regarding sexual health for GBM in Canada. Repositories of such interventions are maintained in other countries, for example by the United States Centre for Disease Control and Prevention (n.d.), but to our knowledge there is no equivalent within the Canadian context.

The federal government recently released a pan-Canadian sexually transmitted and blood borne infection (STBBI) framework for action (2018), aiming to reduce the health impact of STBBIs in Canada by 2030. In order to reduce the incidence of STBBIs, one guiding principle of

the framework is evidence-based policies and programs that are consistently developed with, and guided by, the most recent surveillance data, research, and other evidence. In order for these ambitious targets to be reached, additional research efforts to develop, test, and implement sexual health intervention are needed. FoF is one example of a promising intervention that could improve condom use and uptake of other prevention practices among Canadian GBM. These kinds of sex-positive, pleasure-focused individual-based interventions must be done in combination with interventions at the socio-structural and relationship levels to ensure optimal healthy sexualities for all people in Canada.

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