

Use of the “NYC Condom” among People Who Use Drugs

Don C. Des Jarlais, Courtney McKnight, Kamyar Arasteh, Jonathan Feelemyer, David Perlman, Holly Hagan, and Hannah L. F. Cooper

ABSTRACT *We assessed awareness and use of the “NYC Condom” among persons who use heroin and cocaine in New York City. The NYC Condom distribution program is the largest free condom distribution program in the USA, with over 30 million condoms distributed per year. It includes a condom social marketing program for a specific brand, the NYC Condom with its own packaging and advertising. People who use heroin and cocaine are at relatively high risk for HIV infection and are an important target population for the program. In order to assess awareness of the NYC Condom, structured interviews and blood testing for HIV, HSV-2, and sexually transmitted infections (STI) were conducted among entrants to the Beth Israel Medical Center drug detoxification and methadone treatment programs. Participants were asked about drug use, sexual risk behaviors, and awareness and use of the NYC Condom. Univariate and multivariable regression analyses were conducted to examine the associations between use of NYC Condoms and consistent condom use with primary and casual sexual partners. A total of 970 subjects were recruited between February 2011 and December 2012. Subjects were primarily African-American and Hispanic, with a mean age of 43. Fifty-five percent of subjects reported being sexually active with primary sexual partners, and 25 % reported being sexually active with a casual partner for the 6 months prior to the interview. Sixty-five percent of subjects had heard of the NYC Condom, 48 % of those who had heard of the condom had used it, and 58 % of those who had ever used it were currently using it (in the previous 6 months). In multivariable regression analyses, current use of NYC Condoms was strongly associated with consistent condom use with primary sexual partners (adjusted odds ratio (AOR)=3.99, 95 % confidence interval (CI) 1.85–8.58) and consistent condom use with casual sexual partners (AOR=4.48, 95 % CI 1.49–13.42). In terms of market share, 38 % of subjects consistently using condoms with primary partners were using the NYC Condom, and 47 % of those consistently using condoms with casual partners were using the NYC Condom. The NYC Condom is an important tool for reducing sexual transmission of HIV and STI among persons who use drugs in the city. Given the strong relationship between using the NYC Condom and consistent condom use, further efforts to promote the NYC Condom brand would be easily justified.*

KEYWORDS *New York City, NYC Condom, Drug use, HIV, Sexually transmitted infections*

INTRODUCTION

New York City has its own brand of condoms, the “NYC Condom.” The City Department of Health and Mental Hygiene (DOHMH) launched the NYC Condom

Des Jarlais, McKnight, Arasteh, Feelemyer, and Perlman are with the Beth Israel Medical Center, New York, NY, USA; Hagan is with the College of Nursing, New York University, New York, NY, USA; Cooper is with the Rollins School of Public Health, Emory University, Atlanta, GA, USA.

Correspondence: Don C. Des Jarlais, Beth Israel Medical Center, New York, NY, USA. (E-mail: ddesjarlais@chpnet.org)

program on Valentine's Day in 2007. The program involves a new brand of condoms, with distinctive packaging (initially based on the logo for the subway lines, which was changed in 2008 to feature a computer power button). The NYC Condoms have been advertised on city bus and subway systems and are provided free of charge to all organizations wishing to distribute condoms to their clients. Ordering is done through the New York City Health Department website.¹ Currently, over 30 million free condoms are distributed per year. While there is clearly a fun element to the NYC Condom program, the underlying purpose—to reduce transmission of human immunodeficiency virus (HIV) and other sexually transmitted infections (STI)—is quite serious. Despite some impressive reductions in HIV transmission over the last 30 years, there are still approximately 3,000 new HIV infections diagnosed in New York City each year, almost all of which occur through sexual transmission.²

The initial evaluations of the NYC Condom program were conducted at “public events” for persons believed to be at high risk for HIV and STI infection, such as Gay Pride and African–American Day parades³ and at New York City health department sexually transmitted disease (STD) clinics.⁴ The evaluations were generally positive. In the “public events” study, 76 % of respondents were aware of the NYC Condoms, and of those who had obtained them, 69 % had used them. In the STD clinic study, over 87 % of respondents were aware of the NYC Condoms, and of those who had obtained them, 81 % reported having used them. The evaluators concluded that “study results document the condom social marketing program's success.”⁴

Injecting and non-injecting drug users of heroin, cocaine, and amphetamines are among the target populations for the NYC Condom distribution program. The condoms are distributed at almost all of the syringe exchange and substance use treatment programs in New York City (D. Klotz, personal communication). As HIV prevalence among both injecting and non-injecting drug users is approximately 10 %² in New York City, these drug users have a high potential for transmitting HIV to others. The prevalence of herpes simplex virus 2 (HSV-2) is high among such drug users (approximately 60 %),⁵ and HSV-2 infection increases susceptibility to and infectiousness of HIV,^{6,7} further adding to the need for drug users to practice safer sex. We report here on awareness and use of the NYC Condoms among heroin and cocaine users in the city. Our results indicate both “success” and potential for improvement.

METHODS

The data reported here were collected (as a part of our NIH-funded study “Risk Factors for HIV/AIDS in Drug Users,”) from subjects entering the Beth Israel Medical Center (BIMC) drug detoxification and Methadone Maintenance Program. Details of the research methods have been presented elsewhere,^{8,9} so that only a brief overview will be presented here. Subjects are recruited in an unbiased manner from persons entering the detoxification and methadone programs at BIMC. Informed consent is obtained, and a structured questionnaire covering demographic characteristics, drug use, HIV risk behavior, and use of various health services is administered by a trained interviewer. The behavior questions cover the 6-month period prior to the interview, reflecting behavior prior to entering the treatment programs. HIV counseling is then conducted, and a blood sample collected for HIV, hepatitis C, and HSV-2 testing. Specific questions on the NYC Condom were added in 2011. The condom-related questions included skip patterns; for example, the question of having ever used NYC Condoms was asked only of subjects

who reported that they were aware of the NYC Condoms, and the question of currently using NYC Condoms (in the previous 6 months) was asked only of subjects who reported ever having used NYC Condoms. Similarly, questions on condom use with primary and casual partners were asked only of subjects who reported being sexually active with primary and secondary partners in the previous 6 months. These skip patterns produce considerable variation numbers of subjects who were asked different condom-related questions and the denominators for the percentages of subjects responding “yes” to the different condom-related questions. Small amounts of missing data—subjects who did not answer a follow-up question—also contribute to variation in the denominators.

Subjects who reported engaging in transactional sex (exchange of sex for money or for drugs) were included in analyses if they also reported sexual activity with primary or casual sexual partners. We will prepare a separate report on the use of condoms in transactional sex. The analyses reported here are for sexual activity with partners of the opposite sex; a separate report will be prepared of condom use with same sex partners. Subjects who reported same sex activity were included in the analyses presented here if they also reported activity with partners of the opposite sex.

Descriptive statistics (percentages, means, standard deviations) were utilized, and chi-square tests and univariate and multivariable logistic regression were used to test associations. The STATA data analysis package was used for analysis.¹⁰

RESULTS

There were a total of 970 subjects recruited between February 2011 and December 2012. The subjects were primarily African-American (44 %) and Hispanic (35 %), male (81 %), and had a mean age of 43. Heroin (72 %) and crack (53 %) were the primary drugs used in the previous 6 months. Approximately 43 % of the subjects had injected drugs in the 6 months prior to the interview. Approximately 55 % reported being sexually active with primary partners of the opposite sex and 25 % with casual partners. Among those who were sexually active, consistent condom use (defined as reporting use of condoms “all of the time”) was 21 % for primary partners and 38 % for casual partners. The HIV seroprevalence among the subjects was 9 %.

Table 1 shows responses to the specific questions about the NYC Condoms among all subjects and by HIV status. Among all subjects, 65 % reported having heard of NYC Condoms. Among those who had heard of the NYC Condoms, 48 % had ever used them. Among those who had ever used NYC Condoms, 58 % were currently using them (used within the previous 6 months), and 80 % of those who had ever used them liked the design of the condom/condom package. There were no statistically significant differences in responses to these questions by HIV status, though the small numbers of HIV-seropositive subjects provide little power for detecting differences.

Table 2 shows univariate relationships between responses to the questions about NYC Condoms and whether the subjects reported consistent condom use (100 % of the time) with primary and casual sexual partners for current injecting drug users and non-injecting drug users. Ever having used NYC Condoms and currently using (during the previous 6 months) NYC Condoms were both associated with consistent condom use. The relationships between responses to the NYC Condom questions and consistent condom use were similar for both the current injecting drug users and the non-injecting drug users.

TABLE 1 Association of NYC Condom variables and HIV serostatus among current injection drug users and non-injection drug users

		Overall	HIV serostatus	
			HIV– n/N (%)	HIV+ n/N (%)
Ever heard of NYC Condoms	No	344/970 (35)	311/880 (35)	33/90 (37)
	Yes	626/970 (65)	569/880 (65)	57/90 (63)
Ever used NYC Condoms	No	326/623 (52)	301/566 (53)	25/57 (44)
	Yes	297/623 (48)	265/566 (47)	32/57 (56)
Used NYC Condoms in the previous 6 months	No	123/293 (42)	107/262 (41)	16/31 (52)
	Yes	170/293 (58)	155/262 (59)	15/31 (48)
Likes NYC Condom design	No	51/249 (21)	44/224 (20)	7/25 (28)
	Yes	198/249 (80)	180/224 (80)	18/25 (72)

Table 3 (including ever use of NYC Condoms) and Table 4 (including current use of NYC Condoms) show the results of univariate and multivariable regression models for relationships between demographic characteristics, HIV status, use of NYC Condoms, and “consistent condom use” (reported as always, 100 % of the time) with primary and casual sexual partners. As the univariate relationships were similar for injecting and non-injecting users, they were combined for the multivariable regression analyses. In general, females were less likely to report consistent condom use with primary partners, and African–American subjects were less likely to report consistent condom use with

TABLE 2 Association of NYC Condom variables and consistent condom use with each partner type among current injection drug users and non-injection drug users who report sexual activity by the specific partner type

		Injection drug use status			
		Current IDU		Non-IDU	
		Always using condoms w/ primary partner n/N (%)	Always using condoms w/ casual partner n/N (%)	Always using condoms w/ primary partner n/N (%)	Always using condoms w/ casual partner n/N (%)
Ever heard of NYC Condoms	No	9/64 (14)	10/21 (48)	22/92 (24)	17/42 (41)
	Yes	31/161 (19)	34/81 (42)	50/215 (23)	30/93 (32)
Ever used NYC Condoms	No	11/86 (13)	9/32 (28)	16/109(15)	6/29 (21)
	Yes	20/74 (27)*	25/48 (52)*	34/105 (32)*	24/63 (38)
Used NYC Condoms in the previous 6 months	No	4/33 (12)	4/15 (27)	7/40(18)	1/10 (10)
	Yes	16/42 (38)*	20/33 (61)*	27/63 (43)*	23/53 (43)*
Likes NYC Condom design	No	2/11 (18)	3/7 (43)	3/20 (15)	3/11 (27)
	Yes	15/55 (27)	16/32 (50)	26/68 (38)	19/38 (50)

IDU injection drug use

* $p < 0.05$, significant difference (across “yes” and “no” rows of each factor) by chi-square test

TABLE 3 Univariate factors associated with consistent condom use

	Consistent condom use with primary partner OR (95 % CI)	Consistent condom use with casual partner AOR (95 % CI)
Sex		
Female vs. male	0.23 (0.10–0.57)	0.61 (0.19–2.0)
Race/ethnicity		
African–Americans vs. Whites	0.77 (0.37–1.60)	0.38 (0.17–0.86)
Latino/a vs. Whites	0.75 (0.36–1.57)	0.81 (0.34–1.91)
Age	0.99 (0.96–1.02)	0.98 (0.94–1.02)
Injection status		
IDU vs. NIDU	0.78 (0.42–1.44)	0.85 (0.14–5.31)
HIV serostatus		
Positive vs. negative	3.40 (1.28–9.03)	1.82 (0.19–16.99)
Ever using NYC Condoms		
Users vs. nonusers	2.49 (1.46–4.24)	2.52 (1.21–5.21)

AOR adjusted odds ratio, OR odds ratio, CI confidence interval, IDU injection drug use, NIDU non-injection drug use

casual partners compared to White subjects. There were significant associations between ever having used NYC Condoms and consistent condom use, and currently using NYC Condoms and consistent condom use for both types of partners. The relationships between currently using NYC Condoms and consistent condom use with both types of partners were particularly strong. In terms of market share, 38 % of subjects consistently using condoms with primary partners were using the NYC Condom, and 47 % of those consistently using condoms with casual partners were using the NYC Condom.

TABLE 4 Multivariable models of factors associated with consistent condom use

	Consistent condom use with primary partner OR (95 % CI)	Consistent condom use with casual partner AOR (95 % CI)
Sex		
Female vs. male	0.16 (0.05–0.58)	0.31 (0.07–1.41)
Race/ethnicity		
African–Americans vs. Whites	0.92 (0.28–3.08)	0.27 (0.10–0.76)
Latino/a vs. Whites	0.93 (0.32–2.71)	0.73 (0.24–2.2)
Age	0.99 (0.95–1.03)	0.97 (0.92–1.02)
Injection status		
IDU vs. NIDU	0.86 (0.41–1.79)	1.12 (0.35–3.56)
HIV serostatus		
Positives vs. negatives	3.02 (0.94–9.68)	1.64 (0.19–14.00)
Current NYC Condom use		
Users vs. nonusers	3.99 (1.85–8.58)	4.48 (1.49–13.42)

AOR adjusted odds ratio, OR odds ratio, CI confidence interval, IDU injection drug use, NIDU non-injection drug use

DISCUSSION

Evaluations of condom social marketing programs in Louisiana,¹¹ Denver,¹² and in sub-Saharan Africa¹³ have generally shown positive results for increasing awareness and increasing use of condoms. As noted above, the two previous evaluations of the NYC Condom social marketing program^{3,4} concluded that it was successful for respondents recruited at “public events” and at STD clinics. This study of awareness and use of NYC Condoms among injecting and non-injecting heroin and cocaine users also indicates positive aspects of the NYC Condom social marketing program, particularly in the relationships between ever and current use of the NYC Condoms and consistent condom use with primary and secondary sexual partners.

Our data also suggest ways in which the NYC Condom program might be improved. Only 65 % of our subjects reported that they had ever heard of the NYC Condom. This is less than the reporting awareness of the NYC Condom in the “public events” and STD clinic studies.^{3,4} We would note, however, that only about 50 % of our subjects reported being sexually active in the previous 6 months, so that they presumably would be paying less attention to condom promotion messages than respondents in the previous two studies. Still, given the HIV prevalence among our subjects (9 % seropositive), it would be worthwhile to increase awareness of the NYC Condoms among drug users in New York City.

Another gap in the NYC Condom program among our subjects was the fall off between ever having tried NYC Condoms and currently using NYC Condoms. Among subjects currently active with primary partners, only 59 % (105/179) of subjects who had ever used NYC Condoms were currently using them. Among subjects currently active with casual partners, 77 % (86/111) of those who had ever used NYC Condoms were currently using them. These differences between ever use and current use suggest that many of our subjects were dissatisfied with some aspect of the NYC Condoms. The previous evaluation reports did ask questions about preferences for other condom types.³ Among respondents in the previous evaluations,³ 80 % wanted other types of condoms distributed, and many noted that they would prefer “extra thin/sensitive” (22 %), “extra strength” (18 %), or “larger size” (14 %) condoms. The New York City Department of Health and Mental Hygiene began distributing alternative brands in 2008, which would address the variety of condom preferences. However, having specific subtypes of NYC Condoms for different preferences may improve the overall brand strength of the NYC Condoms. While there are many different brands of condoms on the market with millions distributed worldwide,¹⁴ the NYC Condom has the potential to be an important brand in the city. More subtypes and varieties of condoms within an overall NYC Condom brand should increase acceptability and use.

The most important limitations of this study include the necessary reliance on self-report and the cross-sectional study design. We would note that the questions on the NYC Condoms were asked after the questions on sexual behavior, so that there would not have been a demand characteristic of NYC Condom questions to inflate reporting of condom use. The cross-sectional design does not permit us to draw causal inferences, in particular the extent to which using NYC Condoms leads to consistent condom use versus persons who want to consistently use condoms seek out NYC Condoms (which are distributed free of charge). Given the very strong relationship between current use of the NYC Condoms and consistent use of condoms with both primary and casual sexual partners, we believe that bidirectional causal processes are probably involved. We would note that when the prices of condoms were raised in the Louisiana study, condom

use did decline,¹¹ so that the price of the NYC Condom (free) is likely to be a causal factor in consistent condom use.

CONCLUSIONS

The NYC Condom distribution program is the largest in the USA and involves a distinctive NYC Condom distributed free of charge. Injecting and non-injecting users of heroin and cocaine have high HIV and high HSV-2 prevalence and are an important target population for the program. Awareness of NYC Condoms is only moderate among these drug users, and the brand might be strengthened by offering a greater variety of condoms within the overall NYC brand. There were particularly strong associations between currently using NYC Condoms and consistent use of condoms with both primary and casual sexual partners, indicating that the NYC Condoms are probably meeting an important need among drug users who are at high risk for sexual acquisition and transmission of HIV and STI infection.

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