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Factors Associated with Condom Use in Anal Intercourse Among Spanish Men Who Have Sex with Men: Proposal for an Explanatory Model

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Abstract

Men who have sex with men (MSM) account for more than half of the new HIV diagnoses in Spain. This study aims to carry out a descriptive analysis of the sexual practices and frequency of condom use of MSM and identify the variables that explain inconsistent condom use during anal intercourse. The sample consists of 405 men between 18 and 60 years of age (M = 28.94; SD = 9.35). The results indicate that the percentage of consistent condom use is 72.9% for anal intercourse. Lack of risk perception, high self-esteem, and greater sensation-seeking are risk factors for risky sexual behavior. In contrast, high levels of sexual assertiveness and self-efficacy are protective factors. The proposed model explains between 33.8 and 49.2% of the variance. These findings highlight the importance of designing and implementing condom promotion programs for MSM who engage in anal intercourse with specific sections that consider the acquisition of assertive skills and reduce the risks associated with a perceived invulnerability to HIV.

Keywords: HIV, Men who have sex with men, condom use, Anal sex

Resumen

Los hombres que tienen sexo con hombres (HSH) constituyen más de la mitad de los nuevos diagnósticos por VIH en España. El objetivo de este estudio es realizar un análisis descriptivo de las prácticas sexuales y la frecuencia de uso del preservativo en HSH e identificar las variables explicativas del uso inconsistente del preservativo en el coito anal. La muestra está formada por 405 hombres con edades comprendidas entre 18 y 60 años (M = 28.94; DT = 9.35). Los resultados indican que el porcentaje de uso sistemático del preservativo es del 72.9% en el coito anal. La ausencia de percepción de riesgo, un elevado nivel de autoestima y una mayor búsqueda de sensaciones sexuales constituyen factores de riesgo para la conducta sexual de riesgo. Por el

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contrario, altos niveles de asertividad sexual y de autoeficacia son factores de protección. El modelo propuesto explica entre el 33.8% y el 49.2% de la varianza. Estos hallazgos determinan la importancia de diseñar e implementar programas de promoción del uso del preservativo para HSH que practican coito anal con secciones específicas que consideren la adquisición de habilidades asertivas y reduzcan los riesgos asociados a la sensación de invulnerabilidad frente al VIH.

Palabras clave: VIH, hombres que tienen sexo con hombres, preservativo, sexo anal

INTRODUCTION

Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS) represent a public health problem, especially through the sexual route, the main via of transmission in new diagnoses. In Spain, the incidence rates are above the mean for European Union countries and Western Europe. Men who have sex with men (MSM) are the group most affected by HIV, whose prevalence in MSM is estimated at 13.3%, compared to 0.4% in the general population [1, 2]. According to the latest report on epidemiological surveillance (monitoring), transmission in MSM represents 56.4% of all new diagnoses and 66.1% of new diagnoses in men [3].

In general, anal penetration is the most sexual risky practice for HIV infection. The probability of transmission during anal penetration is eighteen times that of vaginal penetration [4]. The biological characteristics of the rectum and anal mucosa provide a physiological explanation for this increased probability of HIV transmission [5]. Although condoms are one of the most effective HIV prevention methods, along with Pre-exposure prophylaxis (PrEP), several studies still indicate low rates of condom use. The European EMIS survey by the European Center for Disease Prevention and Control, conducted in a sample of 10,652 Spanish MSM, indicates that in the past 12 months, 27.9% of men who had anal sex with casual partners did not systematically use a condom [1]. Moreover, another recent study with a large sample of Spanish MSM concludes that 56% have had unprotected anal sex at least once in the past year [6].

In the field of health psychology, several explanatory theories of behavior have been applied to high-risk sexual behavior, such as the Health Belief Model (HBM) [7] or the Information, Motivation, and Behavioral Skills Model (IMB) [8], among others. By analyzing the variables that make up the different models, the aim is to explain the inconsistent use of condoms and design effective prevention strategies adapted to the psychosocial reality of MSM [9, 10].

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The HBM indicates that the intention to adopt HIV prevention behavior involves a decision-making process that estimates the perceived probability of infection, assesses the HIV severity, and performs a cost-benefit analysis of the effectiveness of condom use as a prevention method [7]. Numerous studies have confirmed the usefulness of these variables for explaining consistent or inconsistent condom use in MSM [11]. In general, having a low perception of HIV infection risk or believing that living with HIV is not very important decreases the likelihood of systematic condom use and/or HIV diagnostic testing [12, 13].

The IMB model states that information, motivation, and behavioral skills are key determinants of the adoption and maintenance of various risk reduction behaviors to avoid HIV infection [8]. Several studies have also corroborated the effectiveness of the components of this model for designing prevention strategies related to condom use or HIV testing [14, 15]. The level of knowledge is a protective factor against sexual risk behavior [16]. Knowledge is related not only to consistent condom use, but also to the ability to use condoms correctly and propose and negotiate their use [17, 18]. With regard to behavioral skills, some studies have established the direct influence, or the indirect influence through other variables, of assertive communication skills and self-efficacy on the adoption of sexual risk behaviors, especially anal intercourse without using condoms [19,20,21].

In addition to the aspects included in the classic models described above, the specialized scientific literature concludes that other behavioral, affective, and emotional variables influence sexual risk behavior. In the case of the behavioral variables, sexual compulsion and sensation-seeking are two of the most powerful predictors of sexual risk behavior in MSM [22]. These variables are associated with the presence of negative attitudes toward condom use, reduced use of condoms during anal intercourse, a larger number of casual partners, and a greater likelihood of engaging in group sex [23,24,25,26]. In addition, a recent study by the European Center for Disease Prevention and Control confirms that the use of some drugs is part of the sexual dynamic of many men [1]. Despite inconsistent results in the scientific literature, several studies find a significant negative association between drug use and condom use [27, 28].

The relationship between some affective-emotional variables and risky sexual behavior shows conflicting results. Whereas some studies find a positive correlation between the level of self-esteem and the frequency of condom use [29], other studies indicate that sexual risk behavior is not mediated by this variable [30]. In the case of depressive symptoms, some studies indicate that this variable would be associated with inconsistent condom use in both receptive and insertive anal intercourse [31]. In contrast, other studies find that this relationship would be

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indirectly mediated by other constructs, such as beliefs about the effectiveness of condoms as a prevention method or methamphetamine use [32, 33]. Finally, internalized homophobia also has strong implications for sexual health [34, 35]. MSM with high levels of internalized homophobia report lower condom use for anal sex and oral sex, less frequency of antibody testing, and worse skills in negotiating condom use [34].

The empirical literature does not present a clear consensus about which variables explain condom use behavior in MSM who engage in anal sex with casual partners. Enhancing the effectiveness of preventive interventions and reducing the incidence of new HIV cases require a thorough understanding of the social, cognitive, behavioral, and affective-emotional determinants [3, 9, 10]. Therefore, the objectives of this study are: to conduct a descriptive analysis of the frequency of condom use; to examine the influence of the sociocognitive variables and other behavioral, affective, and emotional variables on condom use by MSM who engage in anal intercourse with casual partners; and to identify a risk profile in psychological terms. The following main hypotheses have been established:

(1) More than 25% of MSM do not use condoms consistently in anal sex.

(2) Men with inconsistent condom use will have higher scores in sexual compulsivity; depressive symptomatology; internalized homophobia; drug use; and sexual sensation seeking. In contrast, they will have lower scores in knowledge; perceived vulnerability, fear and severity to HIV; self-efficacy; self-esteem; and sexual assertiveness.

(3) The combination of the variables described above will correctly predict a high percentage of men with inconsistent condom use.

METHODS

Participants

The sample is composed of 349 men who only have sex with men and 56 men who have sex with men and woman, living in different parts of Spain: 38.8% in the central-Eastern area, 17.3% in the East, 13.6% on the East coast, 13.1% in the South, 11.1% in the North, and 5.9% in the central-Western area. Ages range between 18 and 60 years, with an average age of 29 (M = 28.94; SD = 9.35), and the most frequent ages are from 20 to 29 years (53.8%) and 30 to 39 years (21.2%). With regard to the partner situation, 41.9% refer to being single, and 50.9% had a stable relationship with a partner at the time of the assessment. Regarding the educational level, 60%

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have university studies (56.8% have a bachelor's or postgraduate degree and 3.2% have a doctorate), 39% have secondary studies, and 1% have primary studies (see Table 1).

Table 1. Sample Characteristics.

	Total (n = 405)	MSM (n = 349)	MSMW (n = 56)
Age			
Younger than 20 years old	10.1%	9.2%	16.1%
Between 20 and 39 years old	53.8%	51%	71.4%
Between 30 and 39 years old	21.2%	23.2%	8.9%
Between 40 and 49 years old	11.1%	12.3%	3.6%
Between 50 and 60 years old	3.7%	4.3%	--
Residence area			
North of the country	11.1%	11.%	8.9%
Zona sur	13.1%	13.8%	8.9%
zona este	13.6%	13.8%	12.5%
Central-western	5.9%	4.9%	12.5%
Central-Eastern	38.8%	39.8%	32.1%
Levante	17.3%	16%	25%
Educational level			
Primary schooling	1%	1.1%	--
Secondary schooling	39%	36.7%	53.6%
Bachelor or Master Degree	56.8%	59.3%	41.1%
PhD	3.2%	2.9%	5.4%
Steady partner			
Yes	41.9%	48.1%	55.4%
No	50.9%	51.9%	44.6%

Note: MSM: Men who only have sex with men; MSMW: Men who have sex with men and woman

Instruments

Cognitive Variables

- CPS. AIDS Prevention Questionnaire [24]: This instrument contains 44 items designed to gather the various components considered relevant in various HIV prevention models: knowledge about HIV, perceived susceptibility, fear of HIV infection, attitudes toward condoms, intentions about condom use, safe sexual behavior, and stigma and discrimination toward people living with HIV. The internal consistency for the different components ranged from .67 to .74.

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- EBAP. Brief Condom Use Self-Efficacy Scale [36]: This scale is a 7-item measure that assesses different skills related to the use of condoms, such as perceived ability to endure the fear of being rejected for suggesting the use of condoms in a sexual relationship (MR), perceived ability to control impulses in arousal situations such as following the consumption of alcohol or drugs, or high levels of sexual excitement (CI), and perceived ability to acquire and negotiate the use of condoms before initiating a sexual relationship (AN). Responses are given on a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree), and so possible scores range from 2 to 10 on the AN and CI scales, and from 3 to 15 on the MR scale. The original version used in this study has an internal consistency of .71.

Affective-Emotional Variables

- RSES. Rosenberg Self-Esteem Scale [37, 38]: This scale is a 10-item, Likert-type measure that assesses global self-esteem. The RSES has a Likert scale where responses are given on a four-point scale ranging from 1 (strongly agree) to 4 (strongly disagree). Half of the items are worded negatively and reverse-scored, such that higher scores indicate high self-esteem. The total score ranges from 10 to 40 points. The internal consistency of the validated Spanish version is .85.
- CES-D. Center for Epidemiological Studies of Depression Scale [39, 40]: It is a 7-item brief self-report instrument designed to identify various aspects related to depressive symptomatology (difficulty sleeping, sadness, or difficulty concentrating, etc.) in the general population. Responses are given on a four-point Likert scale ranging from 0 (rarely or none of the time) to 3 (most or all of the time), adding up the scores on the seven items to provide a global score. The total score ranges from 0 to 21 points. The Spanish brief version used in this study has an internal consistency of .85.
- SIHS. Short Internalized Homonegativity Scale [41, 42]: This is a 13-item questionnaire that assesses three dimensions related to internalized homophobia, namely, public identification as a homosexual (PIH), sexual comfort with homosexual people (SEXC), and social comfort with homosexual people (SOCC). All items were responded to on a five-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). The score ranges from 5 to 25 on the PIH scale and from 4 to 20 on the SEXC and SOCC scales. Internal consistency of the Spanish version, tested with Cronbach's alpha, showed good reliability for each scale, ranging from .70 to .78.

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Behavioral Variables

- SAS. Pregnancy and STD prevention assertiveness subscale [43, 44]: This subscale of the Sexual Assertiveness Scale specifically targets communication and negotiation skills related to condom use before engaging in a real sexual interaction with other person. It includes six items answered on a five-point scale ranging from 0 (never) to 4 (always). Scores are added together to obtain a total score for the subscale ranging from 0 to 24. The version used in this study is the Spanish adaptation, which has an internal consistency of .85.
- SCS. Sexual Compulsivity Scale [45, 46]: This instrument contains 10 statements designed to evaluate compulsive sexual behavior, sexual awareness, and intrusive sexual thoughts using a Likert-type scale ranging from 1 «not at all like me» to 4 «very much like me». The total score ranges from 10 to 44. The Spanish adaptation used in this study shows rigorous internal consistency ($\alpha = 0.84$).
- SSSS. Sexual Sensation Seeking Scale [45, 47]: This self-report measure provides a global score for sexual sensation seeking through 11 items rated on a four-point Likert-type scale, ranging from 1 (Not at all like me) to 4 (Very much like me). The score ranges from 4 to 16 on the New Experiences Seeking scale and from 7 to 28 on the Physical Sensations Attraction scale. The Spanish adaption has an internal consistency of .84 and .71 for the two subscales, respectively.
- Alcohol and drug use: Three self-rating items are used to assess the use of alcohol or drugs during sex in the past 6 months: Do you have sex after drinking alcohol?; Do you have sex after smoking cannabis?; and Do you have sex after using other drugs? Responses are recorded using a dichotomous format: yes, or no.

Procedure

Participants were recruited online. For this purpose, e-mail contact was established with various associations and NGOs (e.g., Instituto de la Juventud, Federación Española de Lesbianas, Gays, Transexuales y Bisexuales, student associations, etc.), providing them with information about the study and requesting their collaboration in distributing the questionnaires. Through their social networks (mainly Facebook and Twitter) or their web pages, the associations interested in collaborating published a message with information about the study and a link to

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the battery of questionnaires. From the beginning, they were informed that their participation would be voluntary, and the anonymity and confidentiality of the data were guaranteed. The guidelines for the Spanish data protection law, the Declaration of Helsinki, were applied. Participation was voluntary, and no remuneration was given.

Analysis of Data

First, descriptive analyses were conducted to characterize participants in terms of their sexual behavior and condom use with casual partners. Student t-tests (continuous variables) and Chi square tests (categorical variables) were used to compare participants' characteristics according to frequency of condom use. The effect size of these comparisons was calculated using the Cohen's d coefficient and Cramer's V. For Cohen's d, effect sizes of about .20 were considered small, close to .50 were moderate, and greater than .80 were large [48]; for Cramer's V, these sizes corresponded to values of .10, .30, and .50, respectively [49]. The selection of the variable to form the groups was made taking into account the biological risk involved in each sexual practice (oral sex, anilingus, anal intercourse, and tactile anal penetration or using sex toys) and the frequency of its performance with sporadic partners. The variable selected was the frequency of condom use during anal intercourse because this behavior is performed by 95% of MSM and has the highest risk of infection for both the receptive and insertive partner. Item 35 on the AIDS Prevention Questionnaire [24]: "How often have you used a condom during anal sex with casual partners" assessed the frequency of condom use. Given that the response options were: 'do not have this practice', 'never', 'sometimes', 'quite often' or 'always', the decision was made to form two groups, one limited to systematic use ('always') and the other to non-systematic use ('sometimes', 'quite often', or 'never'). Thus, the group with consistent condom use (CCU) is composed of those who report consistent condom use (72.9%), and the group with inconsistent condom use (ICU) is composed of those who never use condoms or use them inconsistently (27.1%). Finally, the results obtained from the previous analyses are integrated into a single model through a binary logistic regression. To do this, a dichotomous variable is generated as the dependent variable (DV), based on item 35 of the AIDS Prevention Questionnaire [24]. The value of 0 is assigned to preventive behavior, that is, systematic condom use (always). In contrast, a value of 1 is assigned to risk behavior, in this case, not using a condom consistently (never, sometimes, and quite often).

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RESULTS

Sexual Behavior and Condom Use

The most frequently performed sexual practice is oral sex, referred to by 97.5% of the men, followed by anal intercourse with a percentage of 95.2%. Tactile anal penetration and/or penetration through sex toys and annilingus occupy the third and fourth positions, with percentages of 85.4% and 78.3%, respectively. It should be highlighted that 66.2% refer to other types of sexual practices different from those described above of a paraphilic nature, like fisting, golden shower or BDSM, among others. With regard to the frequency of condom use, the data reveal that a high percentage of men still do not systematically use this prevention method. The practice with the least condom use is oral sex (16.7%), followed by anal penetration (57.2%) and anal intercourse (72.9%).

Differential Analysis of Men with Consistent or Inconsistent Condom Use

In the case of the cognitive variables (see Table 2), men who use condoms inconsistently (ICU) perceive greater vulnerability to possible HIV infection than men who use condoms consistently (CCU), and these differences are statistically significant ($t_{341} = 4.812$; $p = .001$). In contrast, men with CCU have higher levels of self-efficacy for condom use in all three components assessed: fear of rejection ($t_{341} = -5.846$; $p = .001$), impulse control ($t_{341} = -6.939$; $p = .001$), and acquisition and negotiation ($t_{341} = -5.142$; $p = .001$). Finally, there were no significant differences based on the frequency of condom use in the level of knowledge ($t_{341} = 0.063$; $p = .905$), fear of possible HIV infection ($t_{341} = .126$; $p = .901$), or seriousness attributed to HIV ($t_{341} = -1.484$; $p = .140$).

Focusing on the affective-emotional variables (see Table 2), men with ICU have higher levels of internalized homophobia than men with CCU. However, these differences are only significant in the social comfort factor ($t_{341} = 2.232$; $p = .026$), but not in the factors of public identification as a homosexual ($t_{341} = 0.970$; $p = .333$) or sexual comfort ($t_{341} = 0.996$; $p = .320$). Likewise, the group with ICU also scores slightly higher on depressive symptoms, although these differences are not significant either ($t_{341} = 0.495$; $p = .621$).

With regard to the behavioral variables (see Table 2), men with CCU have a higher level of sexual assertiveness in condom use ($t_{341} = -8.718$; $p = .001$). In contrast, men who report ICU score significantly higher on sexual compulsivity ($t_{341} = 4.489$; $p = .001$) and seeking new experiences, a specific feature of sexual sensation seeking ($t_{341} = 6.326$; $p = .001$). Finally, in

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terms of sexual behavior under the influence of drugs, men with ICU reveal a greater use of drugs other than alcohol and cannabis (X2 = 4.860; p = .027).

Table 2. Scores in the different variables according to condom use frequency

	ICU		CCD		t or X^2	d or V
	M or %	SD	M or %	SD		
HIV knowledge (CPS)	11.08	1.44	11.06	1.48	t = .063	d = .01
Perceived vulnerability to HIV (CPS)	37.86	26.77	23.89	22.62	t = 4.812***	d =.56
Perceived fear to HIV (CPS)	68.96	34.24	68.44	33.10	t = .126	d =.02
Perceived severity HIV (CPS)	2.74	.79	2.88	.59	t = -1.484	d =.20
Incommodity (EBAP)	11.43	3.13	13.48	2.06	t = -5.846***	d =.77
Perceived barriers (EBAP)	5.94	2.15	7.61	1.91	t = -6.939***	d =.82
Acquisition (EBAP)	7.80	2.14	8.90	1.60	t = -5.142***	d =.58
Self-esteem (RSES)	31.85	5.88	31.80	6.47	t = .070	d =.01
Depressive symptomatology (CES-D)	6.38	4.60	6.09	4.78	t = .495	d =.02
Public identification as homosexual (SIHE)	12.04	4.58	11.53	2.29	t = .970	d =.14
Social comfort with homosexual people (SIHE)	9.70	3.94	8.67	3.73	t = 2.232*	d =.27
Sexual comfort with homosexual people (SIHE)	8.08	3.44	7.68	3.20	t = .996	d =.12
Sexual assertiveness (SAS)	12.67	5.57	18.61	5.71	t = -8.718***	d = 1.05
Sexual Compulsivity (SCS)	18.15	6.16	15.01	4.93	t = 4.489***	d =.56
New Experiences Seeking (SSSS)	20.26	4.81	16.78	3.64	t = 6.326***	d = .82
Physical Sensations Attraction (SSSS)	9.04	2.55	8.66	2.65	t = 1.190	d = .15
Alcohol during sex (yes)	48.4%	--	46.4%	--	X^2 = .107	V = .02
Cannabis during sex (yes)	15.1%	--	11.2%	--	X^2 =.937	V = .05
Other drugs during sex (yes)	17.2%	--	8.8%	--	X^2 = 4.860*	V = .12

Note: *p<.05; ***p<.001; ICU; inconsistent condom use; CCU: consistent condom use

Explanatory Variables for Sexual Risk Behavior

To find out which variables influence inconsistent condom use, a logistic regression analysis is carried out with the previously analyzed variables using the forward method (Wald). The omnibus test of model coefficients is statistically significant (χ2 = 141.313; p = .001), indicating that the independent variables explain the dependent variable. The Cox and Senell (.338) and Naglekerke (.492) R-squared values determine that the model explains between 33.8% and 49.2% of the variance in the dependent variable. As Table 3 shows, an excessive risk perception

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of HIV infection, a high level of self-esteem, and a higher level of attraction to physical sensations (a sensation-seeking factor) are risk factors. In contrast, sexual assertiveness, acquisition and negotiation (self-efficacy factor), impulse control (self-efficacy factor), and fear of rejection (self-efficacy factor) are protective factors. It should be noted that, although in the previous differential analysis, sexual compulsivity, internalized homophobia and other drug use were significant variables, they did not reach statistical significance in the regression analysis.

Of all the variables analyzed, perceiving oneself as able to obtain condoms and not perceiving barriers associated with their use increase the probability of using condoms during anal intercourse by 27.7% and 24.3%, respectively. In general, a good classification result is obtained, with an average of 85.1% of the classifications performed correctly. The results are better for specificity because it correctly classifies 93.6% of MSM who consistently use condoms, and they are slightly worse for sensitivity because it correctly classifies 62% of MSM who use condoms inconsistently.

Table 3. Multiple regression logistic analysis

	β	ET	Wald	gl	Sig	Exp (β)	IC 95 % for (β)	
							Lower	Higer
Perceived vulnerability to HIV (CPS)	.019	.006	8.293	1	.004	1.019	1.006	1.032
Sexual assertiveness (SAS)	-.116	.029	16.253	1	.001	.890	.842	.942
Self-esteem (RSES)	.066	.028	5.491	1	.019	1.068	1.011	1.129
Physical Sensations Attraction (SSSS)	.154	.039	15.479	1	.001	1.167	1.081	1.260
Acquisition (EBAP)	-.324	.091	12.729	1	.001	.723	.605	.864
Perceived barriers (EBAP)	-.278	.083	11.316	1	.001	.757	.644	.890
Incommodity (EBAP)	-.198	.068	8.580	1	.003	.820	.718	.937

DISCUSSION

Current prevention models defend the importance of designing and implementing preventive actions adapted to the psychosocial reality of men who have sex with men, in order to reduce the very high incidence of new HIV cases in this group. Therefore, our study identified the need to know what percentage of Spanish MSM presented inconsistent condom use and what variables could explain this behavior.

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The frequency of condom use during anal intercourse obtained in our study is equivalent to the figures reported by similar studies [1]. However, this percentage is insufficient because this group accounts for more than half of the new HIV diagnoses [3]. This high prevalence is explained by the fact that anal intercourse is the most commonly reported sexual practice and an inherent part of the sexuality of MSM [1, 50]. When this practice is performed without a condom, the probability of HIV infection is eight times that of vaginal penetration [4, 5].

Men who report consistent condom use have higher scores on self-efficacy and sexual assertiveness. These results coincide with findings from other similar studies [51, 52], given that self-efficacy is a key aspect of condom negotiation and the ability to engage in protective behaviors against HIV infection [53]. In general, these men have a strong belief in the need for condom use, despite partner pressure [54]. Negotiation skills and assertive sexual behavior are necessary skills to initiate sexual activity, refuse unwanted sexual activity, and negotiate desired sexual practices [41, 42].

In contrast, the findings of this study show that men who routinely avoid using condoms have strong sexual disinhibition and poor impulse control, aspects that are also found in other research [20]. People with a high sexual compulsion are characterized by feeling that their sexual impulses are strong and uncontrollable, and by thinking about sex more than usual. Although these men report a high perceived probability of becoming infected with HIV, they do not use condoms consistently. One of the multiple reasons that can explain this situation is their inability to control these urges [55]. Consequently, the results obtained show that these men are also characterized by seeking high levels of sexual arousal through physical sensations. They are interested in activities that provoke intense experiences, such as not using a condom or giving more importance to physical attraction than to knowing the partner [43, 56]. The heightened sensation-seeking is also expressed through greater drug use, although this relationship does not always directly influence on risky sexual behavior [25, 57]. High rates of drug use can be attributed to considering some drugs as a normative part of certain sexual dynamics [58]. For example, poppers are not only consumed for their recreational effects, but also for their sphincter-dilating and analgesic properties [59].

In general, our results indicate that men who inconsistently use condoms also have higher levels of internalized homophobia related to perceived social comfort in settings frequented by openly gay men, which is consistent with data from other similar studies [60]. People with high levels of internalized homophobia are unlikely to be integrated into the LGBT community and,

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therefore, do not frequent traditional venues for preventive programs for men who have sex with men [58]. Therefore, these men may have biased sexual information from the heteronormative perspective.

The logistic regression analysis performed shows that the variables that predict condom use are cognitive and behavioral. Among the protective factors, self-efficacy plays a predictive role in both the intention to use a condom and the ability to negotiate condom use [53]. In general, men who perceive themselves as able to adopt the necessary prevention strategies when facing extrinsic and intrinsic obstacles ultimately use condoms to a greater extent than those who do not have this ability [18]. In addition, men with higher levels of self-efficacy also have the necessary assertive sexual communication skills to successfully and safely negotiate condom use. This skill is necessary for initiating sexual interaction and taking control of the situation in a way that unfolds in the desired manner [51, 61]. However, self-efficacy and assertive communication skills are independent variables. It is not useful for people to know what to do and have the necessary skills if they do not believe in their ability to implement these skills in a real situation. Moreover, it is not helpful to believe in one's ability to negotiate condoms without having previously learned and practiced a series of skills to successfully resolve possible impediments or pressures from one's partner. Acquiring and using these skills is especially important because MSM sexual interactions sometimes occur in anonymous sex settings where a code of silence prevails and opportunities to negotiate condom use are limited [62].

In terms of the variables that constitute risk factors, our results show that greater attraction to sexual sensations predicts not using condoms, as indicated in other studies [63]. For these men, the physical sensations stemming from having sex without a condom are a source of positive reinforcement that far exceeds the consequences of possible HIV infection. Some MSM choose to freely and consciously practice sex without a condom, or bareback, fully accepting the consequences. This conscious and voluntary search for sexual risk may be explained, in part, by a high risk perception [64]. Men with a greater feeling of perceived vulnerability exhibit inconsistent condom use. This finding contradicts the assumptions of the Health Belief Model for this group, which highlights the positive role of high perceived vulnerability as a key element in adopting prevention behaviors [5]. Some men may believe that HIV infection produces a normalized disease that is merely one of the health problems faced by men who have sex with men and does not lead to major life changes [58]. Therefore, if they attribute the risk of infection to belonging to a certain group, regardless of their behavior, they are more likely to engage in unprotected sex in the search for the most pleasure.

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Finally, our model also places self-esteem as a predictor of sexual risk behavior, unlike studies that do not establish a relationship between the two variables [28] or that consider it a protective factor [27]. MSM with high self-esteem may overestimate their assertive communication skills and underestimate their risk of HIV infection [65]. In contrast, the presence of good, not excessively high and unrealistic, self-esteem not only positively influences condom use [66], but it is also associated with fewer casual sex partners, greater self-efficacy in condom use, and less drug use [67].

This study also has some limitations. Collecting the sample in an online format may limit the generalization of the results. The online context might have some characteristics that positively or negatively influence preventive behavior and, particularly, condom use. However, it is worth noting that, according to the latest survey on Equipment and Use of Information and Communication Technologies in Households conducted by the National Institute of Statistics [68], 91.4% of Spanish households have access to the Internet, and 90.7% of the population from 16 to 74 years of age have browsed in the past 3 months. In this study, the groups were established according to the systematic use of condoms, prioritizing the biological risk of sexual behavior with regard to the number of partners with whom they had sexual relations in a given period of time. Future studies should consider both the frequency of condom use and the number of partners with whom they have sex, given that we can find two people who refer to the same inconsistent condom use but vary in the number of sexual partners.

IMPLICATIONS AND CONTRIBUTION

Proposing an explanation for the sexual behavior of the general population is a fruitless task, not only because it is unreachable, but also because the results do not consider some specific variables and aspects associated with each sub-population, and the results are often watered down. If effective prevention strategies are to be designed and implemented, the target population must be segmented according to behavioral variables that increase the degree of risk, such as sporadic relationships and the practice of anal sex. The main contribution of this study is that it proposes a specific explanatory model that attempts to explain condom use by men who have anal sex with other men in the context of a casual relationship. Thus, the model obtained shows that high levels of self-efficacy and sexual assertiveness are protective variables that increase condom use. Conversely, an excessive perception of risk of HIV infection, a high level of self-esteem, and a high level of sexual sensation-seeking are risk variables that decrease condom use. Future prevention actions aimed at this group should consider individuals'

perceptions of their own capacities, based on which they will use or not use condoms, and training in assertive communication skills, as the main protective elements. In contrast, a range of self-control strategies should be provided to reduce sexual disinhibition and poor control of sexual urges, as well as the need to seek novel sexual experiences and achieve optimal levels of sexual arousal by adopting risky behaviors. Finally, realistic information must be provided to reduce the belief that HIV infection is inherent to MSM, or that living with HIV has no health impact due to the existence of antiretroviral medication.

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