

Risk Factors Influencing Non-Use of Condoms at Sexual Relations in Populations under Heightened Risk

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ABSTRACT

To determine risk factors for non-use of condoms when engaging in sexual intercourse among high-risk population groups for acquiring HIV/STIs. We collected the data obtained by interviews in the period from 2005 to 2011 in the Voluntary Counseling and Testing Center for HIV/AIDS at the Institute of Public Health of Zadar County. Four hundred ninety four respondents were divided into risk and control groups. The majority of the respondents in our population does not consistently use condoms, in the risk group as much as 89.9%, and in the control group 65.7% of them ($p < 0.001$). Persons consuming alcohol when having sexual relations use condoms about 5× less often compared to those not consuming alcohol at all ($OR=5.00$; $CI=1.69-14.29$). There are significant differences among women and men in the risk group regarding reasons for non-use of condoms. The main reason with women is »I trust my partners« 33.7% while men »do not like having sex with condoms« 53.6% of them ($p < 0.001$). The main risk factors for non-use of condoms are alcohol consumption at sexual relations, non-use of condoms in a casual relationship. Having in mind the non-use of condoms among populations of high-risk groups of acquiring HIV there are significant differences among genders.

Key words: condom, sexually transmitted infections, risk behavior

Introduction

Sexually transmitted infections (STIs) are a serious public health problem on the treatment of which about 13 billion dollars are spent each year¹. The World Health Organization estimates that each year in the world there are around 300 million cases of syphilis, gonorrhoea, chlamydia infections and trichomoniasis². Since the start of the HIV/AIDS epidemic around 25 million people have died and according to the estimates of the UNAIDS World AIDS Day Report 2011, in 2010 34 million people (31.6–35.2) have lived with HIV/AIDS from which 2.7 million (2.4–2.9) are newly infected and 1.8 million (1.6–1.9) have died only during 2010³.

All successful international HIV preventive interventions for decreasing risky sexual behavior (RSB) have shows their success in increase of condom use during sex-

ual intercourse among high-risk populations for acquiring HIV⁴.

Out of the total number of HIV infected in Croatia, 84.4% have acquired the infection by sexual route, regardless whether this was homosexual or heterosexual mode of transmission⁵.

Safer sex presupposes correct and consistent condom use as a significant factor which will decrease the transmission of sexually transmitted infections (genital herpes, HPV, HIV, chlamydia, gonorrhoea, syphilis, hepatitis B and C etc)^{6–8}. Sexual route of transmission of HIV can be decreased by about 80% by consistent and correct use of condoms and less with respect to HPV and HSV-2^{9–11}.

This research has indicated on some risk factors due to which persons in highly risky sexual relations inconsistently use condoms or do not use them at all.

Methods and Respondents

Data for this research was collected in the period from March 2005 until March 2011 in the Center for voluntary testing and counseling (VCT) for HIV/AIDS in the Zadar County Public Health Institute^{12,13}. A total of 494 respondents were divided into two groups (risk group and control group). The risk group comprising of 269 persons of risky behavior for acquiring HIV and STIs: men who had sex with men, heterosexual persons who change partners often, that is, those who had more than two sexual partners in one year, intravenous drug users, sexual workers. The control group consisted of 225 respondents all of whom had no RSB for acquiring HIV and other STI.

Non-use of condoms is considered occasional (inconsistent) use or non-use of condoms at sexual intercourse¹⁴. Casual partners are described as persons not knowing each other well, with such relations monogamous behavior of the partner; affection or obligation it is not expected, and it is very likely that such a relation will not develop into a serious lasting relationship. A regular

partner is described as a person with whom the respondent feels comfortable and open for free communication. A regular relationship has a tendency for partners to get to know each other’s habits, respecting moral values and often planning a future together, and such relationships presuppose monogamous relations¹⁵.

Numeric variables were not normally distributed, thus in order to compare the two groups, we used nonparametric tests (Mann-Whitney U and/or Kruskal Wallis). For nominal categorical variables we used the χ^2 or Fisher’s exact test. The hypothesis was tested by using logistic regression to calculate standardized odds ratio for each potential risk factor.

Results

Within the framework of this research a total of 269 respondents in the risk group were analyzed, with age median of 30 years; ranging 18–65 years of age and 225 respondents in the control group with age median of 32 years; ranging 23–63 years. The risk group is somewhat younger than the control group of respondents ($p=0.007$). Related to gender, risk and control groups do not differ ($p=0.17$). The majority of respondents live in a city ($p=1$) (Table 1).

TABLE 1
FEATURES OF GROUPS BY PLACE OF RESIDENCE, USE OF CONDOMS AND ALCOHOL CONSUMPTION AT SEXUAL INTERCOURSE

Variable	Risk N (%)	Control N (%)	Fisher exact (p)
Place of residence:			
Village	31 (11.5)	26 (11.5)	1
City	238 (88.4)	199 (88.4)	
Sex with condoms in the last 12 months:			
Consistent	27 (10.0)	77 (34.2)	<0.001
Inconsistent	242 (90.0)	148 (35.8)	
Condom use in a regular relationship:			
Consistent	23 (9.5)	21 (10.9)	0.749
Inconsistent	217 (90.5)	171 (89.1)	
Condom use outside a regular relationship:			
Consistent	29 (12.5)	27 (21.9)	0.031
Inconsistent	202 (87.5)	96 (78.1)	
Alcohol consumption at sexual intercourse:			
Always	19 (7.1)	21 (9.4)	0.134
Sometimes	180 (67.8)	132 (58.9)	
Never	67 (25.1)	71 (31.7)	
Reasons for not using condoms:			
Too expensive	14 (5.7)	9 (4.5)	0.134
Feel uneasy when buying them	11 (4.4)	9 (4.5)	
Condoms are difficult to use	10 (4.0)	5 (2.5)	
Not easily available	30 (12.2)	14 (7.0)	
I do not like sex with condoms	112 (45.6)	85 (42.0)	
I feel embarrassed to ask a partner to use them	16 (6.5)	14 (7.0)	
I trust my partners	53 (21.6)	66 (32.6)	

TABLE 2
DIVISION OF RESPONDENTS OF THE RISK GROUP BY CONDOM USE IN RELATIONSHIPS AND REASONS FOR NOT USING CONDOMS

Variable	Women N (%)	Men N (%)	Fisher exact (p)
Condom use in a regular relationship:			
Consistent	6 (6.1%)	17 (12.0%)	0.13
Inconsistent	92 (93.9%)	125 (88.0%)	
Condom use outside a regular relationship:			
Consistent	12 (14.3%)	17 (11.6%)	0.548
Inconsistent	72 (85.7%)	130 (88.4%)	
Non-use of condoms in a regular relationship:			
Too expensive	5 (5.3%)	9 (6.0%)	<0.001
Feel uneasy when buying them	1 (1.1%)	10 (6.6%)	
Condoms are difficult to use	4 (4.2%)	6 (4.0%)	
Not easily available	9 (9.5%)	21 (13.9%)	
I do not like sex with condoms	31 (32.6%)	81 (53.6%)	
I feel embarrassed to ask a partner to use them	13 (13.7%)	3 (2.0%)	
I trust my partners	32 (33.7%)	21 (13.9%)	

Condom use

Risk group has used condom statistically less compared to control group ($p < 0.001$) (Table 1). In both groups, the majority of respondents was not consistent in condom use, in the risk group the number of such respondents amounted to 242 (90.0%) and in the control group to 148 (65.7%).

There is no statistically significant difference among the two groups in relation to condom use in a regular relationship ($p = 0.749$) (Table 1). In the risk group consistent use of condoms in a regular relationship was found with 23 (9.5%) respondents and within the control group with 21 (10.9%) respondents.

The groups differ relating to condom use outside a regular relationship ($p = 0.031$) (Table 1). Risk group uses condoms more rarely in casual relationships, 29 of them (12.95%), 27 (21.9%) consecutively.

In relation to alcohol use at sexual relations, there is no statistically significant difference among the two groups ($p = 0.134$) (Table 1). The largest number of respondents in both groups occasionally uses alcohol during sexual intercourse, risk group 180 (67.8%), control group 132 (59.9%). The smallest number of respondents states always using alcohol at sexual intercourse, risk group 19 (7.1%); 21 (9.4%) consecutively (Table 1).

There are no statistically significant differences relating to the reasons of non-use of condoms ($p = 0.134$) (Ta-

TABLE 3
DIVISION OF RESPONDENTS OF THE CONTROL GROUP BY CONDOM USE IN RELATIONSHIPS AND REASONS FOR NOT USING CONDOMS

Variable	Women N (%)	Men N (%)	Fisher exact (p)
Condom use in a regular relationship:			
Consistent	11 (12.5%)	10 (9.6%)	0.523
Inconsistent	77 (87.5%)	94 (90.4%)	
Condom use outside a regular relationship:			
Consistent	6 (14.0%)	21 (26.3%)	0.116
Inconsistent	37 (86.0%)	59 (73.8%)	
Non-use of condoms in a regular relationship:			
Too expensive	7 (7.5%)	2 (1.8%)	0.220
Feel uneasy when buying them	4 (4.3%)	5 (4.6%)	
Condoms are difficult to use	1 (4.3%)	4 (3.7%)	
Not easily available	6 (6.5%)	8 (7.3%)	
I do not like sex with condoms	33 (35.5%)	52 (47.7%)	
I feel embarrassed to ask a partner to use them	7 (7.5%)	7 (6.4%)	
I trust my partners	35 (37.6%)	31 (28.4%)	

TABLE 4
RISK FACTORS INFLUENCING CONDOM USE IN THE LAST 12 MONTHS, STANDARDIZED FOR AGE, GENDER WITHIN RISK GROUP

	AOR*	p	95% CI	
Non-use of condoms in a regular relationship	1.27	0.718	0.34	4.74
Non-use of condoms outside a regular relationship	5.13	0.003	1.76	14.94
Reasons for non-use of condoms				
– Too expensive	–	–	–	–
– Not easily available	2.65	0.279	0.45	15.56
– I do not like sex with condoms	3.40	0.102	0.78	14.74
– I feel embarrassed to ask a partner to use them	2.81	0.409	0.24	32.69
– I trust my partners	1.46	0.631	0.31	6.78
Alcohol use at sexual intercourse (yes)	5.00	0.003	1.69	14.29

* Adjusted odds ratio, AOR

ble 1). As the main reason for non-use of condoms in the risk group 112 respondents (45.6%) give »I do not like sex with condoms«, this reason is followed by »I trust my partners«, stated by 53 (21.6%) respondents. In the control group as the most common reason for not using condoms 85 (42.0%) give »I do not like sex with condoms«, also followed by »I trust my partners«, stated by 66 (32.6%) respondents.

Gender and condom use

Male and female members of the risk group do not statistically differ regarding the use of condoms in a regular relationship and outside it ($p=0.13$; $p=0.548$, consecutively) (Table 2).

There is a statistically significant difference among men and women regarding the reasons for not using condoms in the risk group ($p<0.001$) (Table 2). As the main reason for non-use of condoms female 32 (33.7%) respondents of the risk group give »I trust my partner«, followed by 31 (32.6%) respondents who state »I do not like sex with condoms«, and 13 (13.7%) state »I feel embarrassed to ask my partner to use a condom«. Male respondents of the risk group give »I do not like sex with condoms« as the most common reason for not using condoms, 81 (53.6%) of them, this is followed in the second place by »I trust my partners« and »condoms are not readily available« is stated by 21 (13.9%) respondents.

Men and women of the control group do not statistically differ regarding the reasons for non-use of condoms in a regular relationship and outside it, and also do not differ related to the reasons for non-use of condoms ($p=0.523$; $p=0.016$, $p=0.22$ consecutively) (Table 3).

Logistic regression

The non-use of condoms outside a regular relationship significantly influences the use of condoms in the last 12 months (OR=5.13; CI 1.76–14.94), that is, non-use of condoms outside a regular relationship increases the chances for non-use of condoms generally (Table 4). The use of alcohol at sexual intercourse has a statistically significant influence on non-use of condoms in the last 12 months (OR=5.00; CI 1.69–14.29) (Table 4).

Discussion

It is a paradox that in spite of the decrease of mortality from AIDS in the last 10 years, owing to effective therapy, the number of infected with HIV is still growing, probably due to risky sexual practices and relations¹⁶. Our research has shown a very low frequency of condom use in both the risk and control group. Compared to the neighboring Slovenia, our respondents use condoms more rarely, and it is obvious that the use of condoms in our population is not really acceptable, not as a method of contraception and even less as a method of preventing STIs¹⁷.

Condom use in regular relationships is less represented than in casual relationships because there is probably a belief that those types of relationships are safer for sexual that is, physical health. Such an opinion was confirmed by a large prospective study conducted in Italy, which has shown that condoms are used in casual relationships at about 74%, while in regular relationships they are used only in about 18%¹⁸. Condom use in a regular relationship is also problematic for reasons such as trust, intimacy etc.^{19–21}. It is important to divide emotional and physical safety in regular relationships, that is, physical safety exists only if both partners have tested, that is, are healthy and if they are faithful. This is of particular importance when we know that there are 921 persons infected with HIV in Croatia, of them 11.1% have been infected from a regular partner⁵. The WHO data also show that the rate of HIV infections is significantly growing among women infected from their regular male partners, in America and in other parts of the world^{22–24}.

Casual partners are considered as higher risk of acquiring HIV and other STIs, and it requires caution when entering such sexual relations¹⁵. There are many doubts and questions as to why condom use is so low outside regular relationships, which was also shown by this research. The proportion of condom use is somewhat higher outside regular relationships when compared to regular relationships, but not as significantly as we would expect.

Attitude towards condom use is equally non/valued with both genders, even though women, due to the nature of sexual intercourse are more prone to acquiring some STIs. Men have in some studies shown more prone to RSB^{25,26}, while some other studies showed results similar to ours, but have analyzed those differences with respect to the type of relationship^{27,28}.

There are no differences among the respondent groups regarding alcohol consumption at sexual intercourse in our research. Alcohol has still shown as a very important risk factor for non-use of condoms in the last 12 months. Alcohol consumption and its abuse have been identified as a potential risk factor for HIV/AIDS transmission. Alcohol consumption or frequent drunkenness before the sexual act is related to HIV incidence. Alcohol also weakens the immune system which also increases the possibility of acquiring HIV infection²⁹. Alcohol can thus be an influence on more levels, as on risky sexual behavior, also on the biological that is, the immune system. The results of individual studies on the relation of alcohol and RSB differ^{30–32}. One meta-analytical study has found no relation between alcohol consumption and unprotected sexual intercourse on the level of the event, where both behaviors relate to the same viewpoint in time³³. From what has been stated, it can be concluded that alcohol is an important risk factor that can lead to RSB in both population under heightened risk and in general population. In the sense of interventions, it is important to underline the possible influence of alcohol on RSB, something in the sense in which its harmful influence is noted when operating vehicles.

Our respondents »do not like to use condoms« mostly due to their beliefs that they lessen sexual pleasure. There are significant differences among men and women in the risk group related to reasons for not using condoms. The main reason for not using condoms among the women of the risk group is »I trust my partners«, with 33.7% of them, while men mostly state: »I do not like sex with condoms«, 53.6% of them. This result is in line with studies which showed that there is a tendency of thinking that use of condoms disrupts the »naturalness« of the sexual act. The belief that condoms are unnatural and that they reduce sexual pleasure such as the belief that their use is a disturbance of intimacy, limits their use^{34–36}.

Research among heterosexuals, particularly young women has shown that trust and love have a key role for engaging into sexual relations. Our research has shown that women mostly »trust their partners« which brings

them into an unequal position, when making a decision on condom use. Something similar was shown in a research in which young women, sometimes also men, often »believe in love« and in that sense do not regard condoms as necessary to use in a relationship with a regular partner or within such a relationship^{37–39}.

Safe sex in the era of HIV/AIDS presupposes that use of condoms is being discussed and also the possibility of acquiring various STIs. Such a discussion is certainly not fitting for romantic, spontaneous dates filled with passion which could lead to love and a long-lasting regular relationship. Contrary to this, one research has shown that some people can use casual or/and unprotected sex to »catch love«⁴⁰.

One of the limitations of our research is that we could not cover the population under the age of 18, which cannot use VCT services, unless accompanied by a parent or a legal guardian. Recently conducted cross-sectional studies in 59 countries around the world have shown that young people engage in sexual relations earlier and earlier⁴¹. Also, it is difficult to generalize these results due to the fact that a convenience sample is less representative than a random sample (which is a common problem with hard to reach or hidden populations). However, results obtained in our region, are important to design interventions in our »microenvironment« and their effectiveness should be larger and more cost-efficient.

The primary goal in public health research is how to translate empirical findings into practice^{42,43}. The implications of this research and its results should be translated into practice through media, through future counseling practice, through family medicine practice and through education of high school students in sexual education. Responsible sexual behavior involves both partners, and this requires open and honest communication, and through this a more intimate relationship is formed to the health benefit and pleasure of both.

In the language of the present creators of public health policies and practitioners, sex is conceptualized and verbalized more as a risk from disease or unwanted pregnancy than as a display of love, intimacy and trust⁴⁴. Despite the warnings that are being sent from public health workers, it seems that human personality, aspiration to intimacy and trust significantly contributes that a part of the population behaves in a sexually risky way while not being aware that it is doing so.

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ČIMBENICI RIZIKA KOJI UTJEČU NA NEKORIŠTENJE PREZERVATIVA PRILIKOM SPOLNIH ODNOSA KOD RIZIČNE POPULACIJE

SAŽETAK

Utvrđiti učestalost korištenja prezervativa, te čimbenike rizika za nekorištenje prezervativa prilikom spolnih odnosa u visokorizične populacije. Podaci za ovo istraživanje su se prikupljali u razdoblju od ožujka 2005. do ožujka 2011. godine u Centru za anonimno i besplatno savjetovanje i testiranje (CST) HIV/AIDS u Zavodu za javno zdravstvo Zadar. 494 ispitanika podijeljeni su u rizičnu i kontrolnu skupinu. Većina ispitanika u našoj populaciji konzistentno ne koriste prezervative, u rizičnoj skupini čak 89,9%, u kontroli njih 65,7% ($p < 0,001$). Osobe koje konzumiraju alkohol prilikom spolnih odnosa 5× rjeđe upotrebljavaju prezervative u odnosu na one koji ga uopće ne konzumiraju ($OR = 5,00$; $CI = 1,69-14,29$). Značajne razlike između žena i muškaraca postoje u rizičnoj skupini s obzirom na razloge nekorištenja prezervativa. Glavni razlog kod žena navodi se: »vjerujem svojim partnerima« 33,7%, dok je kod muškaraca: »ne volim seks s prezervativima«, njih 53,6% ($p < 0,001$). Glavni čimbenici rizika za nekorištenje prezervativa su konzumiranje alkohola prilikom spolnog odnosa, te nekorištenje prezervativa u izvan trajnoj vezi. S obzirom na razloge nekorištenja prezervativa u rizičnoj skupini postoje značajne razlike među spolovima.