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SEXUAL BEHAVIOR WITH CASUAL PARTNERS AMONG UNIVERSITY WOMEN

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Abstract

Sexual debut at early ages has been demonstrated facilitate different risky sexual behaviors across the active sexual life in both men and women. On the basis of this assumption a cross-sectional study was carried out to assess sexual behavior with casual partners among two hundred and sixty-four university women from Hermosillo, Mexico. Results shows that biological age, age of sexual debut, two types of motives ("Because the opportunity was there" and "Because I was physically attracted to them"), two types of biological states ("I was sexually aroused" and "I was under the influence of alcohol"), and one social circumstance ("I was in a party") were predictors of that behavior. The results of this study show that university women are still practicing risky sexual behaviors, and educational efforts must be considered to training women in behavioral competencies to promote the practice of preventive behaviors.

Keywords: Sexual debut, Casual partners, Women, Motivation, HIV infection.

Resumen

El inicio de la vida sexual a temprana edad se ha demostrado que facilita la práctica de diferentes conductas sexuales de riesgo a lo largo de la vida sexual activa tanto en hombres como en mujeres. Sobre la base de este planteamiento se condujo un estudio transversal que tuvo como su objetivo evaluar predictores de la conducta relaciones sexuales con parejas casuales en 264 mujeres universitarias en Hermosillo, México. Los resultados mostraron que la edad biológica, la edad de inicio de relaciones, dos tipos de motivos ("Porque se presentó la oportunidad" y "Porque me sentí atraída por la otra persona"), dos tipos de estados biológicos ("Me encontraba excitada" y "Había consumido alcohol") y una circunstancia social ("Me encontraba en una fiesta o reunión") emergieron como predictores de la mencionada conducta. Los resultados del presente estudio evidencian que las mujeres universitarias de esta muestra siguen practicando conductas sexuales de riesgo para la infección por VIH, razón por la cual se deben impulsar programas tendientes a promover las competencias conductuales para la práctica de conductas de prevención.

Palabras clave: Debut sexual, Parejas casuales, Mujeres, Motivación, Infección por VIH.

Introduction

Although homosexual transmission of HIV is an important public health concern in Mexico, in the last few years women have been seriously affected by the HIV epidemic (Valdespino-Gómez, García-García, Conde-González, Olaiz-Fernández, Palma, & Sepúlveda, 2007). Thus, from December 1983 to June 2010 a total of 25,129 women have been diagnosed as HIV-positive, of which less than one third correspond to women aged 15- 29 years (Centro Nacional del SIDA, 2010). Despite awareness of the risks, adolescent or youngest women are still practicing risky sexual behaviors, such as initiating their sexual active life at early ages (≤ 16 years), having unprotected sex, and having sex with multiple and/or casual partners, mainly.

For some authors (Kalina, Geckova, Jarcuska, Orosova, van Dijk, & Reijneveld, 2009; Ryan et al., 2009), the key to preventing the spread of HIV is through changing sexual behaviors, reducing the number of sexual partners and avoiding sexual encounters with casual partners as well. However, changing sexual behaviors is not easy, because prevention programs require prior intensified efforts to systematically identify determinants of risky sexual behaviors and to better understand and explicate why and under which circumstances women are still practicing those behaviors.

In traditional models (e.g., health beliefs, reasoned action, planned behavior and self-efficacy) the study of the determinants of those behaviors have focused on the identification of variables of cognitive and/or social nature, including beliefs, attitudes, intentions, self-efficacy, perceived control, social norms, etc. Although this conceptual diversity seems inclusive, it fails to integrate explanations for preventive or risky sexual behaviors under a more comprehensive theoretical umbrella. In this sense, those models face logical and conceptual problems, summarized in three points:

First, biological and social dimensions are not openly considered, apparently assuming that psychological variables have nothing to do with either of them. This is understandable since those models fit in one of the seven paradigms identified by Ribes (2000): about mind and behavior, where behavior is the last component of the

mind operations. In this paradigm, behavior becomes the basic data or indicator reflecting those operations.

Second, in those models the definition of psychological variables is in strictly cognitive terms and, as a logical consequence, they automatically invoke the existence of two worlds, one private and one public; it is precisely in the private world where presumably the psychological variables take place as supposed processes (as those previously mentioned, such as beliefs, attitude, etc.), as causes determining the occurrence of public events, that is, of preventive or risky behaviors. Therefore, private events are conceived as efficient causes, and they complement explanations of why people behave as they do.

Third, they lack of analytical categories with the main purpose to identify and to evaluate as well psychological phenomenon such as personality and motives; here, personality relates to the singular, unique, and idiosyncratic ways of behaving, as a product of the psychological biography (Ribes, 2009). Because in those models the psychological history simply lacks representation, emphasis is placed in the here and now: how is it that, for example, a certain belief or attitude determines whether or not a condom is used. By other side, motives refers to inclinations or propensities to behave in situations that are socially valued, in which it may be identified some stimulus consequences with reinforcing properties that would affect the instrumental exercise of preventive or risky behaviors (Piña, 2009).

To overcome those limitations, one of the authors of this article recently proposed a psychological model for disease prevention, which describes the interaction between sets of variables along three phases (Piña, 2008). The first involves psychological variables: stress-related situations, past behavioral competencies and motives; the second comprises dispositional variables (biological and social as well), current behavioral competencies, and preventive or risky behaviors; and the third contains health outcomes (Figure 1).

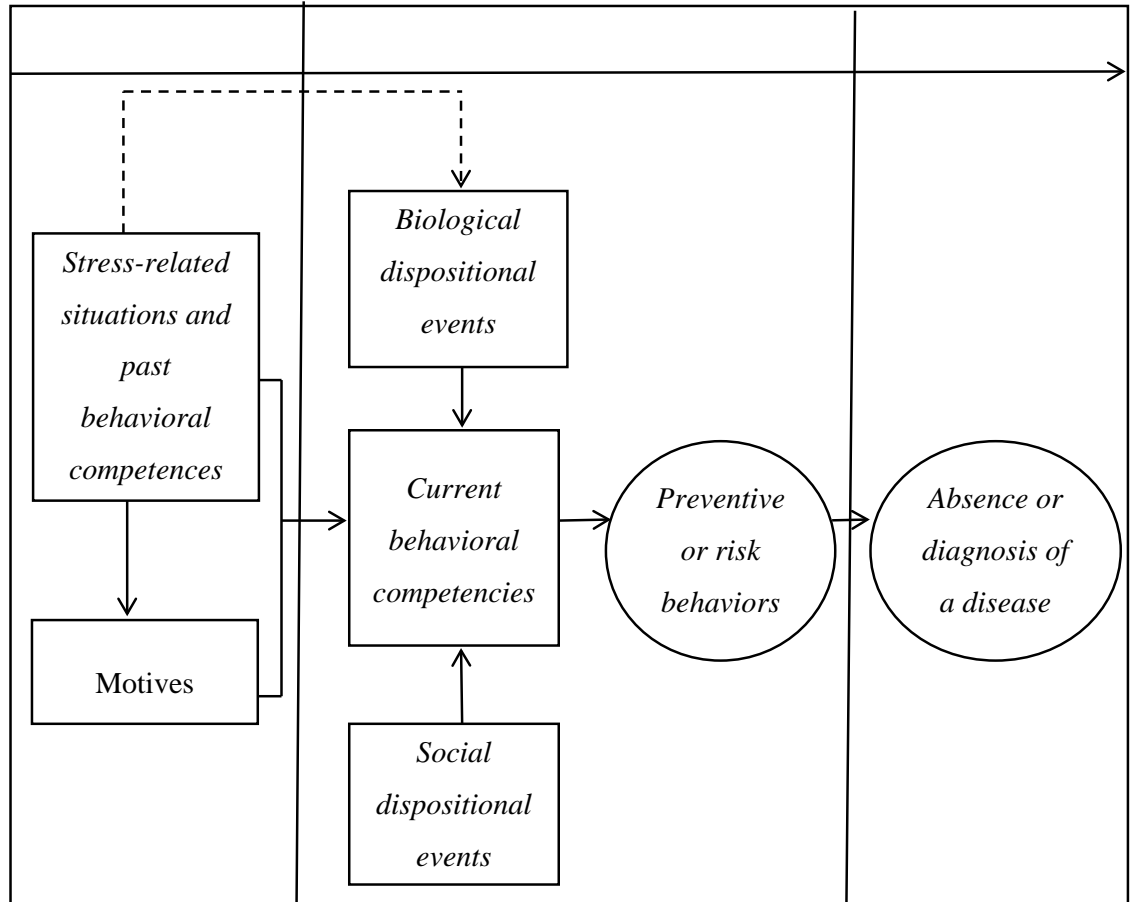


Figure 1. Psychological model for disease prevention (Piña, 2008).

This model contrasts with traditional models, not only in the sense of proposing an inter-behavioral approach, including articulated behavioral and personality theories, but it also proposes an interactive and functional emphasis on analyzing those variables assumed to determine preventive or risky sexual behaviors. In phase one, stress-related situations are defined as consistent ways in which persons interact with situations which contain unpredictable, ambiguous or uncertain stimulus signals, as well as behavioral consequences. That is, it encompasses the unique, idiosyncratic and singular way in which a person faces situations, related not to what a person does, but to how they do it (Ribes, 2005). An example is the situation known as risk-taking tendency, in which a person faces conditions that he/she knows are stable in terms of the probability and quantity of stimulus consequences, or conditions that he/she knows that are variable and unpredictable but that entail bigger consequences, choosing the latter one when

those consequences seem to be advantageous in terms of their likelihood, quantity, or both (Ribes & Sánchez, 1990).

Motives are defined as inclinations or propensities to behave in a certain way in specific socially-valued situations (Ribes, 2005). It is say that a person is motivated to practice preventive behaviors when he/she is willing to behave accordingly, after having understood the relation between such behaviors and some specific stimulus consequences. Such consequences may vary widely, ranging from interpersonal in nature (e.g., verbal praise or support from others), or intrinsic, such as perception of physical or psychological well-being (Piña, 2009).

In phase two, the behavioral competence category summarizes what a person knows about HIV and AIDS, as well as the practice of preventive behaviors that need to occur. For instance, knowing what HIV is, what AIDS is, and which are the stimulus signal and situations affecting the probability to practice preventive or risk sexual behaviors. It may be say that a person is behaviorally competent if he/she knows that HIV infection can be prevented, but he/she also behaves congruently, for example, by avoiding a sexual relation or using a condom consistently and efficiently (that is, in each one of the sexual encounters). Additionally, social and biological dispositional events are defined as a collection of stimulus events that makes more probable the occurrence of different preventive or risky sexual behaviors. When a person's behavior is analyzed in a social situation, it must take into account the social circumstance (e.g., friendship, romantic involvement, recreation, work, school and business) in which the person is interacting, the settings in which the interaction takes place, and the people with whom the person comes in contact, whether they are close to him/her or not. Dispositional biological states are defined as conditions that are present prior to an interaction (sleep, fatigue, sexual deprivation, and those produced by the use of substances such as alcohol or drugs); those are conditions that may also facilitate the practice of risky sexual behaviors.

Finally, the third phase, the future, has to do with health outcomes. That is, if as a result of the psychological variables of the phase of the past and present, a person avoids (e.g., sex with people they know their sexual history or use condoms during each sexual encounter) or failing practice one or more sexual risk behaviors (e.g., having sex with multiple partners or not using condoms consistently and

efficiently), the probability of being diagnosed with a sexually transmitted infection or HIV, will be lower and higher, respectively.

Based on the above-mentioned psychological model of disease prevention, the current study was carried out in order to identify socio-demographic and psychological predictors of having sex with casual partners in a sample of university women from Hermosillo city, in the northwest of Mexico.

Method

Participants

The data come from a larger study of preventive and risky sexual behaviors conducted between June 2008 and December 2009 in university students from the northwest of Mexico (including the Chihuahua and Sonora states). For this study, the target sample was made of university students from a public institution located in Hermosillo city, capital of the state of Sonora. Stratified sampling was carried out by sex and career, with a total sample size of 842 individuals (confidence level 95%, confidence interval ± 5), 419 men and 423 women. From our initial sample, those without sexual experience, and those who were homosexuals (given that we had few lesbian participants to analyze separately) were excluded. Inclusion criteria were: a) to be officially enrolled in one of the careers offered by the institution; b) to be between 17 and 30 years old, and c) to be single and sexually active. The final sample consisting of 264 university women, with a mean age of 21.4 years ($SD = 2.3$); the rest of participants socio-demographic and behavioral characteristics are summarized in Table 1.

Table 1. Socio-demographic and behavioral characteristics of the sample ($n = 264$).

Variables	M	SD	Range	F	%
Age	21.4	2.3	18-30		
Income					
No				119	45.1
Less than \$1,500.00				23	8.6
\$1,500.00-\$3,000.00				49	18.6
\$3,000.00-\$5,000.00				44	16.7
More than \$5,000.00				29	11.0
Carrer					
Tourism				87	33.0
International Business				90	34.0
Sports Training				87	33.0
Year of study					
First				80	30.3
Second				50	18.0
Third				70	26.5
Fourth				64	24.2
Age of sexual debut	17.5	1.7	12-22		
Number of partners					
Only 1				13	4.9
2-4				192	72.8
5-7				36	13.6
8 or more				23	8.7
Casual partners					
No				136	51.5
Yes				128	48.5
Independent variables of the model					
Motives	7.08	2.4	3-12		
Biological states	8.64	2.0	3-12		
Social situations	11.58	2.5	4-16		

Note: M (Means), SD (Standard deviations), F (Frequencies), % (Percentages).

Variables and measures

Socio-demographic variables (age, gender, marital status, school and years of study) were drawn from an *ad hoc* survey, which has been administered to a regional representative student's sample of public universities from the northwest of Mexico. Psychological variables and risky sexual behaviors were assessed with a self-administered questionnaire designed and validated in Mexico (Piña, Robles, & Rivera, 2007), which include 44 questions regarding dispositional variables underlying different risky sexual behaviors (e.g., age of sexual debut, condom use in

the first sexual relation, condom use across an active sexual life, number of sexual partners and sexual encounter with casual partners). For the purposes of the present study we assessed only the motives (3), biological states (3) and social circumstances (4) underlying having sexual relations with casual partners, as well as the motives (4) underlying condom use with casual partners.

In first place, we questioned participants whether they have had multiple partner sexual intercourse. The response options were: only one partner, between two and four partners, between five and seven partners, as well as more than eight partners. Then, we questioned participants whether they have had sexual intercourse with casual partners; response options were “yes” or “no”. For instance, one of the questions measuring motives was ($\alpha = .83$ for this subscale): “Of the following motives listed below, could you tell us how important each of them was in determining whether you engaged in a sexual relation with casual partners?”, with answer options that included “Because the opportunity was there”, “Because I wanted to experiment”, and “Because I was physically attracted to them”, each of which was assessed with a Likert-type scale ranging from one (it was not a determining motive) to four (it was a determining motive).

One example of a question measuring biological states was ($\alpha = .91$ for this subscale): “Of the biological states listed below, could you tell us how much each of them influenced your decision to engage in sexual relations with casual partners?”, with answer options that included “I was sexually aroused”, “I was under the influence of alcohol”, and “I was under the influence of a drug”, each assessed with a Likert-type scale ranging from one (it did not influenced me at all) to four (it influenced me too much). Finally, an example of a question measuring social situations was ($\alpha = .85$ for this subscale): “Of the social situations listed below, could you tell as how much each one facilitated your decision to engage in sexual relations with casual partners?”, with answer options that included “I was in a private room”, “I was in a party”, “I was in an adult-only location”, and “I was hanging out with them”, each of which was assessed with a Likert-type scale ranging from one (it did not facilitate it at all) to four (it facilitated it a lot).

Procedure

The Preventive and Risky Sexual Behaviors Research Project was approved by the Research and Ethics Committee of the Mexican Institute of Social Security in the state of Sonora, in northwest of Mexico. Following approval, the principal researchers and their previously trained collaborators went to the public university and requested the voluntary participation of the students, making sure that they knew their answers would be anonymous and confidential. Later, women were asked for voluntary completion of a questionnaire assessing the constructs of the psychological model for disease prevention. Then, the questionnaires were administered so that the researchers could probe for details and clarify the participant's answers to questions. Researchers monitored participants (from a distance) while they completed the questionnaire without discussing their answers with them. When the participants completed the study, they put their questionnaire in a plain, unmarked envelope and sealed it, as part of the requirement of anonymity and confidentiality.

Data analysis

First, descriptive statistics (means, standard deviations, range, frequencies and percentages) were used to summarize scores of dependent as well as independent variables. Also, two-way chi-square analyses were used to examine women differences among those having one or more sexual partners in course life, as well as those having sexual encounters with casual partners. Finally, a regression analysis was performed in order to explore individual predictors of the dependent variable; to evaluate the goodness of fit of the data to the model the coefficient of determination (adjusted R^2) was used, which is an estimate of how well a model fits data from the studied population (see Gardner, 2001).

Results

Descriptive and behavioral characteristics of the participants are summarized in Table 1. Mean biological age was 21.4 years ($SD = 2.3$; ranging from 18 to 30 years), and mean age of sexual debut was 17.5 years ($SD = 1.7$; ranging from 12 to

22 years). Compared with the number of women who reported having only one sexual partner ($n = 13$; 4.9%), mostly of the participants have had two or more sexual partners ($n = 251$; 95.1%) across their active sexual life, a difference that was highly significant, $\chi^2(1) = 324.758$; $p < .001$). Considering only women who have had sexual relations with multiple partners, 136 (51.1%) mentioned sexual encounters with regular partners, while 128 (48.5%) reported having sexual encounters with casual partners, a difference that was not significant, $\chi^2(1) = 0.242$; ns ; that is, half of the population has casual sexual encounters.

With regard to motives, biological states and social situations (Table 1), the participants who have had sexual relations with casual partners were strongly influenced by the three variables of the model, especially if we take into account the mean values for each one: the motives had a mean of 7.0 (with a range of possible scores between 3 and 12), biological states had a mean of 8.6 (with a range of possible scores between 3 and 12), and social situations had a mean of 11.5 (with a range of possible scores between 4 and 16). In other words, women in this sample were particularly influenced by certain motives to practice risky sexual behavior, under certain conditions in a particular biological and social situation.

As can be seen in Table 2, seven variables individually predicted the risky sexual behavior of having casual partners, with all F values being statistically significant: *biological age*, $F(1, 124) = 8.458$, *age of sexual debut*, $F(1, 124) = 15.742$, two types of *motives* "Because the opportunity was there" and "Because I was physically attracted to them", $F(3, 121) = 6.964$, two *biological states* "I was physically aroused" and "I was under the influence of alcohol", $F(3, 119) = 12.701$, and one *social situation* "I was in a party", $F(4, 115) = 3.299$, with those grouped variables accounting for variance as follows: biological age (2.8%), age of sexual debut (5.3%), social situation (7.2%), motives (12.6%) and biological states (22.3%).

Table 2. Individuals predictors of having sexual behavior with casual partners.

Variables	B	t	p
Biological age	.139	1.521	< .005
Social situation: "I was in a party"	.168	1.812	< .01
Age of sexual debut	.246	2.589	< .001
Biological state: "I was sexually aroused"	.260	2.754	< .001
Motive: "Because the opportunity was there"	.284	3.122	< .001
Biological state: "I was under the influence of alcohol"	.298	3.302	< .001
Motive: "I was physically attracted to them"	.305	3.441	< .001

Discussion

In the state of Sonora, in the northwest of Mexico, between 1985 and March 2010 a mean of 118.5 annual new cases of HIV infection were registered, whereas in the present decade those numbers showed a substantial increase, reaching 193.2 cases. Additionally, by 2000 the men/women ratio of HIV infection was 15:1, decreasing to 5:1 by 2010 (Secretaría de Salud Pública de Sonora, 2010). This rising trend of HIV infection in women is of great concern for the local health authorities since these changes are occurring despite campaigns aimed at HIV prevention. In this context, since women's rate of HIV infection is increasing faster than men's, identifying what conditions are favoring this gender difference is becoming especially important.

In this study it was found that of a total of 264 female college students, 128 (48.5%) had become sexually involved with casual partners, who are at great risk for a wide range of sexually transmitted infections, including HIV. Additionally, we found that biological age, age of sexual debut, as well as three combined variables of the psychological model used here were determinants of the risky sexual behavior of having casual partners. Thus, our results indicate that women who were young, who began their sexual activity at a younger age, who were motivated to engage in sexual relations with attractive persons of the opposite sex, who were under certain biological conditions, and interacting in different social situations were more likely to engage in sexual relations with casual partners.

As is the case in other places around the world, this behavior has been demonstrated to be related to an increase in HIV infection and other STDs, in particular because the probability to adopt preventive measures (e.g., condom use) becomes low (Kiene, Barta, Tennen, & Armeli, 2009; Klavs, Rodrigues, Wellings, Weiss, & Hayes, 2009; Ma et al., 2009; Teva, Bermúdez, & Buela-Casal, 2009, 2011).

In regard to the results of our study, there are four main points of interest to be discussed. First, it is possible that the likelihood of women engaging in risky sexual behaviors at earlier ages is facilitated by personal events involving the lack of behavioral competencies (abilities to talk about and/or to refuse a sexual relationship with casual partners, as well as to negotiate condom use when they are in social circumstances of friendship, romantic involvement and recreation) (Barrientos, 2010; Castro, Bermúdez, Madrid, & Buela-Casal, in press; Dalton & Galambos, 2009; Mattson et al., 2010; Owen, Rhoades, Stanley, & Finchman, 2010).

Second, there is a specific motivational determinant underlying that sexual behavior. This finding is interesting because women from this sample reported feeling motivated to engage in sexual relations with casual partners due to the eventual obtainment of positive stimulus consequences, including being caught by or catching an attractive person from the opposite sex, as well as the sexual gratification or pleasure inherent in the sexual relation as such. Various studies have called attention to how feeling attracted either physically or emotionally to a person of the opposite sex decisively affects the likelihood that women become engaged in sexual relations with penetration, independently of the negative consequences that may obtain in the long run, as would be the case, for instance, with being diagnosed with HIV (Patrick & Lee, 2010; Owen, Rhoades, Stanley, & Fincham, 2010; Weeden & Sabini, 2007).

Third, biological states turned out to be of critical importance in our study. If a person is sexually deprived and he/she comes into contact with other attractive people of the opposite sex, the likelihood that he/she becomes engaged in a sexual relation with penetration will be higher, in particular if women add alcohol consumption previously to the sexual encounter (Kiene et al., 2009; Murphy, Bretch, Herbeck, & Huang, 2009). This is especially concerning because everything seems

to indicate that women from this sample showed a manifested sexual uninhibition, caused by both physical arousal and alcohol consumption.

Fourth, along with the importance of those variables is the role that social situations play. As it is well known, sexual behavior should be analyzed based on both historical and current variables, such as the ones previously mentioned, but also others related to the social context that frames the interaction between two or more persons. Identifying the specific social circumstance in which people behave is crucial, to the extent that it would allow us to determine the stimulus signals that eventually facilitate the practice of risky sexual behaviors. In the specific case of our sample, the social circumstance that decisively had an effect was a social interaction of “being at a party”, which we can assure indicates the proximity of a high-risk situation and, therefore, can functionally interfere with the practice of preventive behaviors (Bailey et al., 2010; Teva et al., 2009).

In this sense, our findings are pointing out a complex problem in which women initiating their sexual activity at early ages are at a disadvantage due to their lack of experience in deciding with whom, when, how, and under what social circumstances they have sex. This has been evidenced in other studies conducted in the states of Chihuahua and Sonora (northwest of Mexico) with samples of both female university students and women who voluntarily go to get tested for HIV infection (Piña, Dávila, Lozano, Carrillo, & Vázquez, 2009; Piña, Lozano, Vázquez, & Carrillo, 2010; Rivera, Mungaray, Valencia, & Vázquez, 2008). However, this explanation is hardly adequate, and a theoretical framework also needs to be addressed.

According to the psychological model used here, motives constitute a variable that is historically configured and that is defined in terms of whether a person wants to do something due to the obtained stimulus consequences when engaging in a given behavior (in this case, engaging in sexual relations with casual partners); such consequences can include the satisfaction inherent in the conquest of an attractive partner of the opposite sex, as well as the physical and emotional gratification of the sexual relation itself. However, the person motivated in this fashion has to want to do something in specific social situations, as would be the case when he/she finds her/himself in a circumstance of social interaction (social

dispositional events) and eventually under stimulus conditions of a biological nature (biological dispositional events), that interact in such way that they only interfere with competential performance and with the subsequent practice of preventive behaviors (House, Bates, Markham, & Lesesne, 2010; Ortiz, Quintana, & Torres, 2009).

This means nothing but an explicit issue that sexual behavior cannot be analyzed, psychologically speaking, if it's not as a function of how different historical variables interact with variables in the present context, facilitating the practice of a risky sexual behavior in terms of HIV infection. In this sense, we must understand that what one person behave, he/she does it in circumstances that can be analyzed as a set of contingencies, of which the behaving person is a part. This gives particular relevance to the results from the regression analyses, that showed that a psychological model for disease prevention provided a good theoretical framework to understand what and how, together with biological age and age of sexual debut, a group of psychological variables explain an important degree of the variance in the analyzed behavior, ranging from 2.8 (biological age) to 22.3% (biological states).

In short, just around 50% of women participants in this study reported having had sexual intercourse with casual partners. As they did so under motivational and biological states that eventually could have been facilitated by certain social circumstances than those they were interacting, what we have is a large number of female college students all of which would ensure they behaved risky. According to that was said before, we then have a particularly complex problem that demands all our attention and effort, in order to design, implement and evaluate intervention programs aimed at providing women the resources to help them identify competence under what state (motivational and biological) and social circumstances in which it is more likely to practice risky sexual behaviors, and indeed to promote consistent and efficient practice of various prevention behaviors.

Nonetheless, there were two limitations in the present study. The first has to do with the size of the sample, which consisted of a group of women from a higher learning institution. It will be of primary importance in future studies that there is a larger sample of women officially registered in other public institutions from the same city. The second limitation has to do with the variables that were included in

the analyses. On this occasion we did not analyze stress-related situations, especially in terms of risk-taking, decision-making, and “tolerance to frustration”, given the characteristics of the self-administered questionnaire used in the current study. To overcome these limitations, we are preparing an instrument specifically designed to measure such a variable in all its modalities, because this would allow to identify consistent behavioral patterns shown by people on a daily basis in those situations in which there are no established criteria in terms of how one should behave.

It will be based on the results of future studies that we will be in a better position to design, apply, and evaluate intervention programs aimed at providing university women with the necessary behavioral competencies to allow them to respond consistently and efficiently to social situations in which the stimulus signals indicate the presence of a potential risk, as well as to avoid engaging in sexual relations with people whose sexual history is unknown, particularly when they are under the influence of biological states associated with the consumption of substances such as alcohol, mainly.

Because the HIV infection is a public health problem that demands intensified efforts to modify risky sexual behaviors for preventive ones, it is necessary to understand that those intervention programs constitute only one of several steps that we need to complete. At a broader level we also need to make contributions together with biomedical and social scientists to find the most creative, parsimonious, as well as efficient strategies to incorporate them into interdisciplinary HIV preventive efforts.

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