



DOCENCIA- INVESTIGACIÓN

Internet and sexual risk behavior for HIV/AIDS in young people

Internet y conducta sexual de riesgo para VIH/SIDA en jóvenes

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Palabras Clave: conducta sexual; riesgo; Internet; VIH; SIDA (Fuente: DeCs, Bireme).

ABSTRACT

Objective: To determine whether the use of online sexual material influences sexual risk behavior for HIV / AIDS in young university students. Concepts of Social Cognitive Theory were used.

Methods: A descriptive correlational design, involving 200 university students selected by systematic random sampling ($k = 11$).

Results: Young people who used sexual material online rich media to masturbation ($r_s = .34$), arousal ($r_s = .29$), stimulation ($r_s = .29$), adventure ($r_s = .30$), meeting people ($r_s = .27$), images ($r_s = .17$) and cybersex ($r_s = .25$) showed greater sexual risk behavior for HIV / AIDS ($p < .01$). The use of sexual material online for masturbation ($R^2 = 6.4\%$, $F_{[1,189]} = 12.80$, $p < .001$), seeking adventures ($R^2 = 4.8\%$, $F_{[1,189]} = 9.56$, $p < .01$), meeting people ($R^2 = 5.9\%$, $F_{[1,189]} = 11.88$, $p < .01$) and have cybersex ($R^2 = 4.1\%$, $F_{[1,189]} = 8.07$, $p < .01$) had a significant positive effect on behavior sexual risk for HIV/AIDS.

Conclusions: The use of online sexual material influences sexual risk behavior for HIV/AIDS.

RESUMEN

Objetivo: Determinar si el uso de material sexual en línea influye en la conducta sexual de riesgo para VIH/SIDA en los jóvenes universitarios. Se utilizaron conceptos de la Teoría Cognitiva Social.

Método: Diseño descriptivo correlacional, participaron 200 jóvenes universitarios, seleccionados por muestreo aleatorio sistemático ($k = 11$).

Resultados: Los jóvenes que usaron material sexual en línea en medios ricos para masturbarse ($r_s = .34$), excitarse ($r_s = .29$), estimularse ($r_s = .29$), buscar una aventura ($r_s = .30$), conocer gente ($r_s = .27$), imágenes ($r_s = .14$) y cibersexo ($r_s = .25$) mostraron mayor conducta sexual de riesgo para VIH/SIDA ($p < .01$). El uso de material sexual en línea para masturbarse ($R^2 = 6.4\%$, $F_{[1,189]} = 12.80$, $p < .001$), buscar una aventura ($R^2 = 4.8\%$, $F_{[1,189]} = 9.56$, $p < .01$), conocer gente ($R^2 = 5.9\%$, $F_{[1,189]} = 11.88$, $p < .01$) y tener cibersexo ($R^2 = 4.1\%$, $F_{[1,189]} = 8.07$, $p < .01$) presentó un efecto positivo y significativo en la conducta sexual de riesgo para VIH/SIDA.

Conclusiones: El uso de material sexual en línea influye en la conducta sexual de riesgo para VIH/SIDA.

INTRODUCTION

The Acquired Immunodeficiency Syndrome (AIDS) is a public health problem of contagious type that primarily affects vulnerable population, among them young people, who are considered vulnerable because they begin to make decisions and to recognize their identity. This stage of changes could become a vulnerable period for young people to adopt a sexual risk behavior for acquiring sexually transmitted infections (STIs) or even more severe, the Human Immunodeficiency Virus (HIV).

It is estimated that every day, in the world 2,500 young people get AIDS and that more than 5.7 million are infected with HIV¹. In Latin America and the Caribbean more than 740,000 young people between 15 and 24 years of age are living with HIV². In Mexico, specifically, 98.9% of diagnosed cases of AIDS among young people were through sexual transmission³.

There are several risk factors for youth to adopt sexual risky behaviors, one of which is the exposure to sexual content through the media⁴. The Internet is the most used media these days and it aims to communicate, socialize, and entertain users. There are over 45.1 million Internet users in Mexico, from which 43% are young people⁵. Also, it is estimated that seven out of ten young people, ages 12 to 19, are connected to the Internet for communication and interaction; of these cases 90% sends or receives e-mails, 75% sends or receives instant messages, 61% accesses, creates and/or maintains social networks, and 14% uses it to search for a partner⁶.

Cooper, Scherer, Boies, and Gordon⁷ report that the Internet has become a powerful connection between young people and the erotic and sexual material, which may encourage early onset of sexual intercourse and therefore, higher risk behaviors for STI-HIV/AIDS. Studies have shown that young people who spend more time online are more likely to watch sexual content such as pornography, have sexual conversations, masturbate, and/or practice cybersex^{8,9,10,11,12}.

Some researchers^{4,13,14,15} have used the Social Cognitive Theory (SCT) as the basis for related Internet use and sexual behavior studies. The authors argue that risky behaviors are acquired and reinforced through social interactions and learned through observation and imitation of others' actions. Also, if it is perceived that the result of the conduct that is learned through observation is satisfactory, then it is very likely that the person will repeat this behavior. On this regard, to watch or interact with sexual material online, such as pornography, nudity, having sexual conversations, and/or practicing cybersex can cause arousal in young people, which could trigger sexual risk behaviors for HIV/AIDS transmission, such as anal, oral and/or vaginal unprotected sex and sex with multiple partners.

Similarly, Melamud¹⁶ considers that the Internet can become a risk and it refers to it as

the "new epidemic of the 21st century". It is for this reason that the Nursing profession has implemented new ways to promote health and prevent diseases. The term "Nursing Informatics" is especially important because, through computer technology nurses provide services, provide education, and conduct research¹⁷. In Mexico, as far as it was examined, none studies were found that have researched the effect of using sexual material online on sexual risk behavior for acquiring HIV/AIDS in young people. Therefore, the overall objective of this study was to determine whether the use of online sexual material influences the sexual risk behavior among university students.

METHODS

A correlational descriptive cross-sectional design was used in this study¹⁸. The population was composed by 200 young people between 18-25 years old from eight schools of a private university in Monterrey, Nuevo León; they were selected by a proportional gender and number of students per school by systematic random sampling ($k = 11$). The sample was estimated for a test of correlation with a coefficient of .20, a confidence level of 95%, and a power of 90%

Instruments

A profile of demographic data was used to describe the participants of the study which included: age, gender, and marital status. The Gonsalves instrument¹⁵ was used to measure the use of sexual material online, consisting of 45 questions that assess seven online sexual activities: Masturbation, arousal, stimulation, adventure, meeting people, images, and cybersex. This instrument has shown acceptable reliability, Cronbach Alpha 72-90¹⁵. The Sexual Behavior Student Health Survey¹⁹ was used to measure sexual risk behavior for HIV/AIDS, consisting of 31 questions that assess sexual risk behavior for HIV/AIDS. This instrument in the test-retest reported values above .64²⁰ and reported acceptable convergent validity coefficients between .76 and 88²¹.

Procedures

The approval of the Research and Ethics Committees of the School of Nursing at the Universidad Autónoma de Nuevo León (UANL) was requested in order to conduct this study. The authorization from the directors of the private university where the study was conducted was also requested. Afterward, the researcher went to the front of the main doors of the school departments, on the right side, then counted 1 in 11 with a people counter starting with the first person to set a foot on the door entry counting from right to left; the researcher explained the purpose of the study to the selected people and invited them to participate in the study. The participants were asked to sign informed consent; they were also informed that the survey was going to be sent by email so that they could answer from their home or location of their choice. They were given one week to reply; reminders were sent to them every third day until the survey was answered. The filling out of the questionnaires was conducted through the SurveyMonkey portal. The participants were asked to respond as honestly as possible, and were assured that their responses would be kept strictly confidential. This study followed the Regulations of the General Health Law in the Field of Health Research²².

Data analysis strategy

Data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 18 for Windows[®]. Prior to the analysis, indexes for each of the scales and

subscales of the instruments used were generated. To describe the study variables descriptive statistics was used, such as mean, minimum and maximum for continue variables, and frequencies and percentages for categorical variables. Before analyzing the data, the normality of the distribution was checked using the Kolmogorov-Smirnov (KS) Lilliefors correction. Because most of the variables were not normally distributed, nonparametric statistics were used to analyze the objective of the study, and Spearman correlation test was conducted. Simple Linear Regression models were also used.

RESULTS

The average age of university students was 20.6 years ($SD = 1.83$); most of them were male (53%). Regarding the use of the Internet, most of the students indicated having access to a computer (97%), from which 51.5% had used a computer to watch and/or interact with sexual material online, and had spent 10 to 120 minutes in a normal day for this activity ($M = 44.88$, $SD = 24.67$). They also mentioned that they were alone when using online sexual material (53.5%), from which 64.1% were between 14 and 18 years old the first time they looked at and/or interacted with sexual material online. Most of the participants had access to this material through websites (64%).

Regarding sexual risk behavior for HIV/AIDS, it was found that 74.7% of young people had had vaginal sex, 59% oral sex, and 27.9% anal sex. The average age of first intercourse was 17.07 years ($SD = 1.98$), in average they had had more than two sexual partners ($M = 2.45$, $SD = 2.13$) and most of them reported they did not plan their sexual relationships (56%). On the use of condoms, it was found that 37.6% did not use condom when having vaginal sex, 87.3% when having oral sex, and 50.9% when having anal sex for the first time. The results also showed that 32.4% had had more than 9 sexual encounters in the past 12 months and 4.3% had sex with people of the same sex. The total instrument provided an average of 35 ($SD = 18.89$; Max = 71), indicating that young people were having sexual risk behavior for HIV/AIDS.

In order to meet the purpose of this study, it was found that there was a significant correlation between the use of online sexual material and sexual risk behavior for HIV/AIDS (Table I). Most coefficients were moderate, except for the scale of images, which showed a weak coefficient. Therefore, it can be said that young people who used sexual material online for sexual activities as masturbation, arousal, stimulation, seeking adventure, meeting people, sharing images of sexual acts, and having cybersex showed greater sexual risk behavior for HIV/AIDS ($p < .01$).

Table I. Spearman correlation matrix between the use of sexual material online and sexual risk behavior for HIV / AIDS

USMO	SRB for HIV/AIDS
Masturbation	.34**
Arousal	.29**
Stimulation	.29**
Adventure	.30**
Meeting people	.27**
Images	.14*
Cybersex	.25**

Note: USMO = Use of Sexual Material Online. SRB = Sexual Risk Behavior * $p < .05$; ** $p < .01$.

Also, simple linear regression tests were performed. As it is shown in Table II, the use of sexual material online influences the sexual risk behavior of HIV/AIDS. It was found that the use of sexual material online for online sexual activities as masturbation, seeking adventure, meeting people, and having cybersex had a positive and significant effect on sexual risk behavior for HIV/AIDS.

Table II. Simple Linear Regression of the use of sexual material online with sexual risk behavior for HIV/AIDS

Models	USMO	B	Standard Error	Beta	p-value
1	Masturbation	.30	.09	.25	.00
2	Arousal	.30	.15	.15	.04
3	Stimulation	.15	.11	.09	.20
4	Adventure	.44	.14	.22	.00
5	Meeting people	.38	.11	.24	.00
6	Images	.43	.29	.11	.14
7	Cybersex	.40	.14	.20	.00

Note: USMO = Use of Sexual Material Online

DISCUSSION

Based on the findings for the achievement of the objective of the present study, it was found that over half of the young people had used sexual material online. This may be because young people use the Internet to a greater extent compared to other age groups²³. This high percentage could be explained since having a high use of the Internet increases the exposure to the use of sexual material online. It was also found that most young people perform this activity when alone and being minors, which is illegal. This is consistent with the reports by Cooper²⁴, who states that one of the characteristics of sexual activity online is the accessibility and anonymity; Ybarra and Mitchell²⁵ also reported that adolescents lie about their age to visit places with sexual material online.

In relation to sexual risk behavior for HIV/AIDS, it was found that most young people had initiated sexual activity and that they started before they were eighteen or legal age; which is consistent with the CENSIDA's reports²⁶, that the 10 to 29 year old group has the highest risk of acquiring HIV/AIDS. A relevant fact which had not been previously explored was the use of condoms during oral sex; the study found that most young people did not use neither during their first nor their last experience with this type of sex. This result may be because most young people do not know they can also get HIV through oral sex²⁷, in addition, they do not believe that oral sex is a sexual act²⁸. The results also showed that most young people use condoms inconsistently and have multiple sexual partners, which is consistent with several studies^{29,30,31,32,33}. It was found that many of the young people who participated in the study were not planning their sexual relationships, which is consistent with their stage of development, since at this age they tend to be very impulsive and do not control their actions³⁴.

Also, the results of the study revealed that the greater the use of sexual material online, the greater the sexual risk behavior for HIV/AIDS. This is similar to what was proposed by several authors^{13,14,15,35} who used Social Cognitive Theory and suggest that, sexual risk behaviors for HIV/AIDS can be acquired and reproduced in their behavior through imitation and copy of sexual acts models found on the Internet.

Moreover, it was determined that the use of online sexual material has a significant effect on sexual risk behavior for HIV/AIDS. It can be said that young people feel more pleasure from using sexual material online, and this material can have a major impact on their learning since they may be more motivated to model what is observed online. Also, Bandura³⁶ states that individuals have the ability to learn by watching. Therefore, it can be inferred that young people were able to increase their learning about sexual risk behaviors when they watched sexual material online³⁷.

In terms of the design, the design was appropriate to conduct the present study; however, the systematic random sampling, which involves the use of a people count, requires more personnel. One limitation was in relation to the sensitivity of the issue, because sexuality is still considered a taboo in Mexican society, although the Internet platform was used, the social complacency was not evaluated. Along the same lines, it should be noted that some concepts related to sexuality need to be clarified because there were inconsistencies regarding the oral sex questions since it was not assessed whether participants considered oral sex as sexual behavior. Finally, the study was cross-sectional and data were collected in a Private Institution of Education, therefore, the generalization of the results must be made for young people with similar characteristics without establishing a cause-effect relationship.

For future studies it is recommended to include early adolescents (10-14 years) to track these variables over time and establish a cause-effect relationship. It is recommended to continue using Internet platforms like SurveyMonkey as these are inexpensive, also allow greater confidentiality to the subject, and the export data function avoids recording data errors. It would also be of interest to investigate the relationship between the use of sexual material online and sexual risk behaviors for HIV/AIDS more specifically, for example: number of sexual partners. It would be particularly relevant to conduct a similar study among men who have sex with men, since most of them establish relationships through Internet. Based on the findings of this study, it is suggested the development of interventions aimed at children and young people to establish measures for sexual hygiene in the electronic media, especially on the Internet.

CONCLUSIONS

It can be concluded that young people use sexual material online from an early age, and that most of them feel pleasure when watching sexual material where people his age are involved. Most young people reported sexual risk behaviors, most of the participants had had oral, vaginal, or anal sex in the last twelve months; the first sexual intercourse was at 17 years old on average, more than half of the participants reported not having used condoms consistently, and one third of these young people had had sex with more than four sexual partners; which puts them at high risk of acquiring an STI-HIV/AIDS. Also, the use of online sexual material influences sexual risk behavior for HIV/AIDS. Finally it can be said that men consult / interact more with sexual material online than women. The findings of the study confirm the points made by the Social Cognitive Theory.

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