

# Knowledge and attitudes towards HIV/AIDS: differences between spanish adolescents with married or divorced parents

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Original article

## SUMMARY

### Objective

To assess, for the first time, —through a Spanish-speaking sample— if there are differences between adolescents with married or divorced parents regarding the level of knowledge and attitude towards HIV/AIDS. Both of these variables are traditionally associated with unsafe sexual practices, in order to determine whether the family situation should be considered in prevention programs.

### Material and method

An observational cross-sectional study was carried out in fifteen secondary schools from five Spanish provinces. Participants were 342 adolescents aged between 14 and 17 years old, 50% with divorced parents. Participants completed the HIV/AIDS Knowledge Scale on Spanish Adolescents and HIV/AIDS Attitudes Questionnaire.

### Results

Adolescents with divorced parents reported more favorable attitudes towards HIV/AIDS ( $p < .01$ ;  $d = 0.32$ ), condom use ( $p < .05$ ;  $d = 0.24$ ), conducting HIV tests ( $p < .05$ ;  $d = 0.28$ ), and people living with HIV ( $p < .001$ ;  $0.32$ ). No significant differences were found in the knowledge level according to the family structure.

### Conclusions

The results suggest that divorced parents transmit to their children a more favorable attitude towards parents transmit to their children a more favorable attitude towards condom use. It is recommended that prevention programs include sessions aimed at parents, fostering them to transmit their adolescent children positive attitudes of safe sex to prevent them from AIDS and other sexually transmitted diseases.

**Key Words:** HIV/AIDS, adolescents and family structure.

## RESUMEN

### Objetivo

Examinar por primera vez con una muestra de habla hispana si existen diferencias entre los adolescentes con padres casados y divorciados en el nivel de conocimientos y en sus actitudes hacia el VIH/SIDA, variables tradicionalmente asociadas con las prácticas sexuales de riesgo, a fin de conocer si la situación familiar debe tenerse en cuenta en los programas de prevención.

### Material y método

Se trata de un estudio transversal observacional, en el que participaron quince centros escolares de cinco provincias de España. Los participantes fueron 342 adolescentes de entre 14 y 17 años, el 50% de ellos con padres divorciados. Completaron de forma anónima la Escala de Conocimientos sobre el VIH/SIDA para Adolescentes Españoles y el Cuestionario de Actitudes hacia el VIH/SIDA.

### Resultados

Los adolescentes con padres divorciados mostraron actitudes más favorables hacia el VIH/SIDA ( $p < .01$ ;  $d = 0.32$ ), uso de preservativo ( $p < .05$ ;  $d = 0.24$ ), realización del test del VIH ( $p < .05$ ;  $d = 0.28$ ), y hacia las personas que viven con el VIH ( $p < .001$ ;  $0.32$ ). No se hallaron diferencias significativas en el nivel de conocimientos en función de la estructura familiar.

### Conclusiones

Los resultados sugieren que los padres divorciados transmiten a sus hijos una actitud más favorable hacia el uso del preservativo. Se recomienda incluir en los programas de prevención sesiones dirigidas a los padres, para fomentar la transmisión a los hijos de actitudes favorables al sexo seguro que les prevengan del SIDA y de otras enfermedades de transmisión sexual.

**Palabras clave:** VIH, SIDA, adolescentes, estructura familiar.

## INTRODUCTION

HIV/AIDS is still a very important public health problem, with 33.3 million affected people worldwide and 1.8 million deceases during the last reporting year. Yearly, over 7,000

new infections occur — 41% in young people ranging between 15 and 24 years old.<sup>1</sup> Between 75% and 80% of HIV infections occur as a result of unprotected intercourse, and one third of such cases take place through heterosexual intercourse.<sup>2</sup>

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Despite the increase of prevention programs, youngsters still have sexual risk behaviours;<sup>3</sup> thus researches improving their efficiency are to be conducted. Notwithstanding that the latest figures show a decline due to the efficiency of antiretroviral treatments, Spain still is one of the Western European countries with higher incidence of AIDS, with an estimate of 1,162 new cases diagnosed in year 2010.<sup>4</sup>

The theoretic models that explain sexual risk behaviors especially focus on the role played by cognitive and motivational factors as precursors or determinants of behavior.<sup>5</sup> Among the variables more related to unsafe sexual practices the level of information on risk behaviors and protection methods stands out.<sup>6</sup>

A number of studies make evident the adolescents' lack of knowledge towards HIV/AIDS and how to prevent infection.<sup>6-8</sup> Increasing the adolescents' level of knowledge towards HIV is a strategy that has proved to be effective on prevention programs.<sup>9</sup> Nevertheless, despite it is considered important, an appropriate level of knowledge towards HIV/AIDS is not enough to perform preventive behaviors.<sup>10</sup>

Together with the level of information, the theoretic models on health behaviors consider that attitudes towards protection behaviors and HIV/AIDS are an important variable influencing risk behaviors.<sup>11</sup> Lack of knowledge and information is directly related to a negative attitude towards protection methods of risk practices, thus being exposed to the infection.<sup>12</sup>

Both variables – knowledge and attitude on AIDS – determine the healthy sexual behavior practice.<sup>9</sup> Therefore, their jointly study is important as mediating factor of adolescent sexual risk behaviors.

As for adolescents sexual development their family plays a significant role as main agent of children socialization. During adolescence there is an increase of emotional instability, conflicts and risk behaviors.<sup>13</sup> The vulnerability of the adolescent may be increased as a result of certain changes in the family situation, such as parental divorce, which is related to several problem behaviors in children, such as the risk sexual behavior practice.<sup>14,15</sup>

When comparing the sexual behavior of adolescents with married and divorced parents, previous international studies have found that the latter are more likely to have sexual relations,<sup>15-16</sup> sexual activity more often,<sup>17</sup> a higher number of sexual partners,<sup>18</sup> sexual debut at a younger age,<sup>19-20</sup> and higher pregnancy risk.<sup>21</sup>

So far, the studies that have been conducted evidence the differences in adolescent sexual behaviors according to family structure, but no study has assessed whether their knowledge and attitudes differ from unsafe sexual practices. Therefore, the purpose of this study is finding if adolescents' knowledge and attitudes towards HIV/AIDS and towards unsafe sexual practices are related to family structure (having married or divorced parents), so tailor-made prevention programs aimed at the needs of youngsters are developed according to their family situation. Pursuant to previous

studies stating about more risk variables when parents are divorced, it is hypothesized that adolescents whose parents have been divorced will have less knowledge and an attitude less favorable towards the use of condom and towards other aspects related to sexuality and HIV/AIDS.

## MATERIALS AND METHODS

### Participants

It is an observational cross-sectional study. For the recruitment of the study population, wherever available, 15 public and private schools from five provinces of Spain were contacted. Three schools were located in the north of the country; three in the south; two in the east; four in the southeast; and three in the center. Nine were selected from the coast and the other six from the interior. Both rural and urban schools were included. Principals of the educational institutions were provided with information thus the necessary permits were requested. Previously, a human-subject experimental research ethics committee approved the study.

All adolescents aged between 14 and 17 years were assessed, whose parents provided written informed consent so that their children could take part in the research ( $n=1,216$ ; 97% of the total number of students). Then, from the total sample those subjects from families with divorced parents were selected ( $n=171$ ). In order to compare the level of knowledge and attitudes according to family structure, a random adolescent subsample was selected from the total sample with the same characteristics of age, sex, school and socio-economic status, but with married parents. The last sample was made up by 342 Caucasian adolescents of ages ranging between 14 and 17 years old ( $M=15,85$ ;  $DT=.77$ ), from which 39% were males, of a middle socioeconomic level, determined based on the educational institutions location and on parents' economic activity.

For obtaining data, participants answered the questionnaires during class time in groups of approximately 20 students. Instructions were read aloud answering all doubts arisen. The questionnaires were completely anonymous and counterbalanced; so that each student received the questionnaire in a different order to that of the surrounding students. To guarantee the privacy of answers, each participant was provided with an envelope to put the questionnaire in an envelope, once it is completed. No participant left less than 20% of items unanswered, thus no case was excluded from the statistical analysis.

### Key Measurements

For assessing the knowledge of risk practices, the HIV/AIDS Knowledge Scale on Spanish adolescents (HIV-KS) was applied.<sup>9</sup> It is made up by 10 items distributed in three

subscales: HIV oral transmission, HIV effects and other HIV transmission routes. The first factor measures knowledge on risk behaviors through contact with saliva. The second factor analyzes basic knowledge on biological aspects of infection; and the third factor assesses information on the main HIV transmission routes. The psychometric properties of the scale are appropriate, with an internal consistency of .71 for the total scale, .78 for the oral transmission subscale, .57 for HIV effects and .61 for other transmission routes.<sup>9</sup>

For assessing the attitudes towards risk practices, the Attitudes Scale towards HIV/AIDS (HIV-AS) was applied,<sup>22</sup> made up by 12 items, sorted out in four factors. The first factor measures the attitude towards safe sex when there are obstacles, which refers to the subject's perception as for facing situations in which the safe behavior depends on being assertive. The second factor assesses the attitudes towards the HIV test, and includes scenarios of performing the test to oneself or recommending the HIV test to others after a risk behavior. The third factor assesses the attitudes towards the use of condom; and the fourth factor the attitudes towards people living with the syndrome, including supporting situations, discomfort and close correlation with affected people. The HIV-AS presents a proper internal consistency both for the total of the scale ( $\alpha=.81$ ) and for the subscales ( $\alpha=.76$  for the attitude towards safe sex when there are obstacles,  $\alpha=.75$  for the attitude towards the HIV test,  $\alpha=.70$  for the attitude towards the use of condom, and  $\alpha=.69$  for the attitude towards people affected).<sup>22</sup>

### Statistical Analysis

Differences in knowledge and attitudes towards HIV/AIDS as well as risk practices with married or divorced parents were assessed through the Student's *t*-test for two independent samples with the PASW statistical package. The size of the effect was calculated through the typified mean difference in order to know the magnitude of the differences,

considering 0.20 a small effect magnitude, 0.50 a medium magnitude and 0.80 a large magnitude.<sup>23</sup>

## RESULTS

Table 1 shows the comparison between adolescents with divorced and married parents in knowledge and attitudes variables towards risk practices. The knowledge level on HIV/AIDS was similar in both types of family structure. Subjects with divorced parents showed more positive attitudes towards the making of the HIV test ( $p<.05$ ), the use of condom ( $p<.05$ ), and people living with HIV ( $p<.001$ ). The size of the effect was small in the three comparisons ( $d=0.26$ ,  $d=0.24$ ,  $d=.35$ ; respectively).

## DISCUSSION

This study assesses the knowledge and attitudes level towards HIV/AIDS and unsafe sexual practices within a group of Spanish-speaking adolescents with married or divorced parents in order to examine whether the family structure is related to these variables. Previous studies have proven that sexual behaviors of adolescents with divorced parents differ from those with married parents.<sup>16,18,20</sup>

Nevertheless, despite the high frequency of relationship breakups in Spain, being the EU country with the highest increase of divorces during the last decade,<sup>24</sup> and despite the relationship between sexual behaviors and family structure, so far no study had assessed the knowledge and attitudes on HIV/AIDS of adolescents with divorced parents compared to adolescents with married parents.

Contrary to expectations, the results of our study show that the knowledge level on HIV/AIDS does not seem to be related to family structure, since there are no differences between adolescents with divorced parents and with married

**Table 1.** Knowledge and attitudes towards HIV/AIDS

	Divorced (n=171)		Not divorced (n=171)		t	d
	M	SD	M	SD		
Knowledge about HIV/AIDS						
• HIV oral transmission	1.42	1.26	1.40	1.21	-0.13	-
• HIV effects	0.36	0.70	0.28	0.64	-1.13	-
• Other HIV transmission routes	3.39	0.89	3.24	1.09	-1.35	-
• Total	5.16	1.96	4.94	2.12	-1.03	-
Attitudes towards HIV/AIDS						
• Obstacles	9.78	2.01	9.73	2.03	-0.27	-
• HIV test	7.08	1.22	6.76	1.27	-2.39*	0.26
• Use of condom	14.22	1.86	13.76	2.04	-2.16*	0.24
• People with HIV	9.76	1.82	9.08	2.04	3.25***	0.35
• Total	40.84	4.58	39.33	4.74	3.01**	0.32

\* $p<.05$ , \*\* $p<.01$ , \*\*\* $p<.001$ .

parents. The results suggest that sex education provided by parents, regardless of the family situation, has similar effects in adolescents cognitively. The lack of differences in the knowledge level on HIV/AIDS, according to the family structure, could be explained dealing with sources of information transmission. Some studies state that adolescents obtain information about sexuality and prevention methods of HIV and other sexually transmitted diseases mainly from the school context and friends.<sup>6,12</sup> The fact that HIV/AIDS information is provided through the school or friends, and not from the parents, could help explain that adolescents' knowledge level is the same, regardless of whether the parents are married or divorced.

As for the second assessed variable: the attitudes towards the syndrome and risk practices, significant differences were found according to the family structure. In this regard –and against our hypothesis– children with divorced parents are the ones who keep a more positive attitude towards the use of condom, towards performing the HIV test and towards people living with HIV/AIDS. Such attitude, more positive towards safe sex in adolescents with divorced parents, could be explained from the theory of social learning point of view, which affirms that divorced couples seem to be more lenient and reflect more acceptance of their children premarital sexual intercourse.<sup>25</sup>

The greatest approval of divorced parents regarding their adolescent children sexual intercourse could lead them to apply more active strategies in order to foster healthy sexual behaviors in them, through transmission of more positive attitudes towards safe sexual relations and towards HIV infection.

In summary, the results indicate that adolescents with divorced parents have better attitudes towards safe sex and towards AIDS, but their knowledge level do not differ from that of adolescents with married parents. In spite that previous international studies inform about more risk variables in adolescents with divorced parents, the results of this study suggest that Spanish adolescents with divorced parents are not at a higher risk regarding sexual behaviors and HIV infection in connection with knowledge and attitudes. On the contrary, they have a more favorable attitude towards safe sexual relations. As its most important contribution, the study increases scientific knowledge on the prevention of risk sexual behaviors on adolescents, assessing for the first time –with a Spanish sample– the knowledge and attitudes level towards HIV/AIDS and risk practices according to the family structure.

This study presents certain limitations. The main one is that it is a cross-sectional study, which may affect the interpretation of the results and suggests the need to carry out longitudinal studies. Also, in future studies it would be interesting to analyze in depth about the type of attitudes transmitted from parents to their children; thus examining, as it is hereby suggested, whether such attitudes differ according

to the family structure. Likewise, it would be convenient to know certain characteristics of familial interaction such as the parents' information accessibility and availability.

Practical applicability of the results is clear. The results highlight the need to attend family variables in the implementation of prevention programs of risk sexual behaviors on adolescents. The differences in attitudes towards risk practices and AIDS according to family structure suggest the importance of parents as transmitters of attitudes to their children. Adolescents with divorced parents probably transmit their adolescent children more positive attitudes towards safe sex, which implies an important protection variable against this and other sexually transmitted diseases. Designing prevention programs that include sessions aimed to parents could contribute to the transmission, from parents to children, of attitudes that favor early prevention.

## REFERENCES

1. Informe de ONUSIDA sobre la epidemia mundial de SIDA 2010. Available at: <http://www.unaids.org/> (access date: January 22, 2011).
2. De Bedout A. El VIH/SIDA: Factores psicosociales y comportamentales. *Rev Facultad Ciencias Salud* 2008;5:129-140.
3. Piña JA. Eventos disposicionales que probabilizan la práctica de conductas de riesgo para el VIH/SIDA. *Anales Psicología* 2004;20:23-32.
4. Vigilancia epidemiológica del SIDA en España. Situación a 30 de junio de 2011. Ministerio de Sanidad, Política Social e Igualdad. Available at: [http://www.msc.es/novedades/docs/InformeVIH-sida\\_junio2011.pdf](http://www.msc.es/novedades/docs/InformeVIH-sida_junio2011.pdf)
5. Fisher JD, Fisher WA. Theoretical approaches to individual-level change in VIH risk behaviour. En: *Handbook of HIV prevention*. Peterson JL, DiClemente RJ (eds.). New York: Kluwer-Plenum Press; 2000; pp. 3-56.
6. Macchi ML, Benítez S, Corvalán A, Núñez C et al. Conocimientos, actitudes y prácticas acerca del VIH/SIDA en jóvenes de nivel medio de Educación, del área metropolitana, Paraguay. *Revista Chilena Pediatría*. 2008;79:206-217.
7. Faílde JM, Lameiras M, Bimbela JL. Prácticas sexuales de chicos y chicas españoles de 14-24 años de edad. *Gaceta Sanitaria* 2008;22:511-519.
8. Rivas E, Rivas A, Barría R, Sepúlveda C. Conocimientos y actitudes sobre VIH/SIDA de estudiantes de enfermería de las Universidades de la frontera y austral de Chile. *Temuco-Valdivia, Chile*, 2004. *Ciencia y enfermería*. 2009;15:109-119.
9. Espada JP, Huedo-Medina T, Orgilés M, Secades R et al. Psychometric properties of the HIV/AIDS Knowledge Scale for Spanish adolescents (HIV-KS). *Health Addictions* 2009;9:149-164.
10. Díaz-Loving R. Una visión integral de la lucha contra el VIH-SIDA. *Revista Interamericana Psicología* 2001;35:25-39.
11. Sánchez F. Representaciones psicosociales sobre el SIDA. *Revista Información Psicológica* 1997;63:198-200.
12. Santín C, Torrico E, López MJ, Revilla C. Conocimiento y utilización de los métodos anticonceptivos y su relación con la prevención de enfermedades de transmisión sexual en jóvenes. *Anales Psicología* 2003;19:81-90.
13. Arnett JJ. Adolescent storm and stress, reconsidered. *American Psychologist*. 1999;54:317-326.
14. Lansford JE. Parental divorce and children's adjustment. *Perspectives Psychological Science* 2009;4:140-152.
15. Cavanagh SE, Crissey SR, Raley RK. Family structure history and adolescent romance. *J Marriage Family* 2008;70:698-714.
16. Donahue KL, D'Onofrio BM, Bates JE, Lansford JE et al. Early exposure to parents' relationship instability: implications for sexual behaviour and depression in adolescence. *J Adolescent Health* 2010;47:547-554.

17. Ellis BJ, Bates JE, Dodge KA, Fergusson DM et al. Does father absence place daughters at special risk for early sexual activity and teenage pregnancy? *Child Development* 2003;74:801-821.
18. Cleveland HH, Gilson M. The increased importance of mother-child relationships on sexual behaviors of adolescents in disadvantaged neighborhoods. *J Youth Adolescence* 2004;33:319-329.
19. D'Onofrio BM, Turkheimer EN, Emery RE, Slutske W et al. A genetically informed study of the processes underlying the association between parental marital instability and offspring adjustment. *Developmental Psychology* 2006;42:486-499.
20. Zimmer-Gembeck MJ, Helfand M. Ten years of longitudinal research on U.S. adolescent sexual behavior: The evidence for multiple pathways to sexual intercourse, and the importance of age, gender and ethnic background. *Developmental Review* 2008;28:153-224.
21. Hogan DP, Sun RJ, Cornwell GT. Sexual and fertility behaviours of American females aged 15-19 years: 1985, 1990, and 1995. *American J Public Health* 2000;90:1421-1425.
22. Espada JP, Ballester R, Huedo-Medina T, Secades-Villa R et al. Development of a new instrument to assess AIDS-related attitudes among Spanish Youngsters. *Anales Psicología* 2013;29:83-89.
23. Cohen J. *Statistical power analysis for the behavioral sciences*. Segunda edición. Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers; 1988.
24. Informe Evolución de la Familia en España 2010. Instituto de Política Familiar. Available at: <http://www.ipfe.org/documentacion.htm> (access date July 27, 2012).
25. Davis CE, Friel L. Adolescent sexuality: Disentangling the effects of family structure and family context. *J Marriage Family* 2001;63:669-681.

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