

## Timely Detection of Behavioral Risks in High School Students in Mexico City

### *Detección oportuna de riesgos conductuales en estudiantes de nivel medio superior en la Ciudad de México*

David I. Rodríguez-Ramírez,\* Haydee A. Martini-Blanquel.\*\*

#### Summary

**Objective:** To assess the risk of behavioral problems in adolescent students in Mexico City. **Methods:** analytical cross-sectional study, 432 adolescents from the College of Sciences and Humanities (CCH) participated, where the POSIT instrument (*Problem Oriented Screening Instrument for Teenagers*) was applied, which measures the risk of behavioral problems in adolescents through seven dimensions: drug use/abuse, mental health, family and friends' relationships, level of education, job interest, and aggressive-delinquent behaviors. Student's t-Test was used to assess whether there were differences between males and females (by dimension). **Results:** 55.9% of the 432 students were female, 42.3% were studying the second semester, 34.6% the fourth semester, and 23.1% the sixth semester. When the dimensions were analyzed according to gender, statistically significant differences were found in favor of women in the mental health area ( $p=0.022$ ). In the case of men, there were two areas: relationships with friends ( $p=0.001$ ), and job interest ( $p=0.0000$ ). **Conclusions:** some of the most affected areas were mental health, relationships with friends, and job interest in the studied group; however, aspects such as family, and those related to aggressive/delinquent behaviors continue to be important triggers for risk behaviors.

**Key words:** Factors, Illicit Drugs, Adolescents

\*Family Medicine Unit No. 2, Mexican Institute of Social Security, Mexico City, Mexico.

\*\*Family Medicine Unit No. 33, Mexican Institute of Social Security, Mexico City, Mexico.

Received: 04/27/2023  
Approved: 08/04/2023

Suggestion of quotation: Rodríguez-Ramírez D, Martini-Blanquel HA. Timely Detection of Behavioral Risks in High School Students in Mexico City. *Aten Fam.* 2023;24(4):265-269. <http://dx.doi.org/10.22201/fm.14058871p.2023.486539>

This is an open access article under the license CC BY-NC-ND (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Correspondence:  
David I. Rodríguez-Ramírez  
[dave9young@gmail.com](mailto:dave9young@gmail.com)

## Resumen

**Objetivo:** evaluar el riesgo de problemas conductuales en estudiantes adolescentes de la Ciudad de México. **Métodos:** estudio transversal analítico, participaron 432 adolescentes del Colegio de Ciencias y Humanidades (CCH), a los cuales se les aplicó el instrumento POSIT (*Problem Oriented Screening Instrument for Teenagers*), éste mide el riesgo de problemas conductuales en adolescentes, a través de siete dimensiones: uso/abuso de drogas, salud mental, relaciones familiares, relaciones con amigos, nivel educativo, interés laboral y conductas agresivas-delinuenciales. Para valorar si existieron diferencias entre hombres y mujeres (por dimensión) se utilizó la prueba t de Student. **Resultados:** de los 432 estudiantes, 55.9% fue del sexo femenino. De la totalidad de participantes, 42.3% estaba cursando el segundo semestre, 34.6% el cuarto y 23.1% el sexto. Al realizar el análisis de las dimensiones de acuerdo con el sexo, se encontraron diferencias estadísticamente significativas a favor de las mujeres en el área de la salud mental ( $p= 0.022$ ). En el caso de los hombres fueron dos áreas: relaciones con amigos ( $p= 0.001$ ) e interés laboral ( $p= 0.0000$ ). **Conclusión:** la salud mental, las relaciones entre amigos y el interés laboral son algunas de las áreas más afectadas en el grupo estudiado; no obstante, aspectos como los familiares y los relacionados con conductas agresivas/delinuenciales siguen siendo detonantes de comportamientos de riesgo.

**Palabras clave:** factores de riesgo, drogas ilícitas, adolescentes.

## Introduction

According to the World Health Organization (WHO), adolescence corresponds to the age between 10 and 19 years, and has three

stages: early, middle, and late.<sup>1</sup> It is composed of three moments: pre-adolescence (9-10 years), early adolescence (11-14 years), middle adolescence (15-17 years), and late adolescence, the latter between 18 and 21 years of age.<sup>2</sup>

Adolescence is a period in which the personality of the individual is shaped, giving rise to the psychosocial milestones of future life (adoption of adult roles and responsibilities).<sup>3</sup> Hall, the precursor of the scientific study of adolescence, attributes a major role to environmental factors in the development of the individual, as did Mead, who proposed that the critical situations of the adolescent stage are related to the culture of a given society.<sup>4</sup>

Adolescent development is influenced by personal experiences, the influence of the social groups to which they belong, family support, and conflicts within the family, as well as other phenomena such as consumerism, migration, social inequality, technology, etc.<sup>5</sup> It is worth mentioning that these situations are not usually identified in the clinical evaluation performed by primary care physicians, as they are initially detected by educational institutions, where guidance is offered to both the adolescent, and the family.<sup>6</sup>

The primary care physician should follow up on physical, psychological, and social aspects of the adolescent's development; their sex life, prevention of pregnancy, and sexually transmitted infections, conflicts with authority figures, and drug use.<sup>7</sup>

This last case deserves attention on the part of health care stakeholders. According to figures reported by the United Nations Office on Drugs and Crime (UNODC), in 2014, about 183,000 drug-related deaths were reported.<sup>8</sup>

One of the most widely used instruments for the identification of adolescents

who may present vulnerabilities associated with this stage is the POSIT (Problem Oriented Screening Instrument for Teenagers), it consists of 81 items that assess seven areas of functioning: substance use and abuse, mental health, family and friends' relationships, level of education, job interest, and aggressive/delinquent behavior (Cronbach's alpha= 0.9057). Some of these items are considered "red flags" and their presence independently indicates greater risk in the corresponding area.<sup>9-11</sup>

Therefore, the objective of this study was to evaluate the risk of behavioral problems in adolescent students in Mexico City.

## Methods

Analytical cross-sectional study, 432 students from the College of Sciences and Humanities (CCH) participated in Mexico City. The sample size was calculated using the finite sample formula (95% CI). Adolescents from 15 to 18 years, from the afternoon shift, and who agreed to participate in the study (with prior informed consent and authorization from the educational institutions) were included. Those with a diagnosis and/or medical or psychological management for drug use/abuse were excluded. This study was approved by the local ethics and health research committee.

Sociodemographic (age and gender), and educational variables (school year completed) were collected. Subsequently, the POSIT instrument was applied.

The results were analyzed using descriptive statistics (for the sociodemographic variables); frequencies, and proportions were calculated. The Student's t-Test was used to compare the results obtained between men and women in POSIT; the statistical analysis was performed using SPSS v. 24.

## Results

55.9% of the 432 students, were women. 42.3% were studying the second semester, 34.6% the fourth semester, and 23.1% the sixth semester. The average age was 16 years.

Of the total sample, 66% (n= 285) did not present risk problems of drug use, while 34% (n= 147) reported having this condition (Table 1). Of the latter, a greater number of women were observed to be at risk of initiating or increasing their drug use ( $p>0.05$ ). Table 1

In the mental health area, 57.6% of respondents did not present a risk (n= 249). Within the mental health risk category, 46% of women identified with this vulnerability compared to 36% of men ( $p= 0.022$ , Table 2).

Regarding the item of inappropriate relationships with friends (Table 3), it was observed that 77.7% (n= 336) did not present risk in this area. Among those who were identified as being at risk, 27.7% were men compared to 17.8% that were women ( $p= 0.001$ ). Table 3

On the other hand, 86.11% of adolescents were identified as not at risk in the dimension of job interest. Of the rest of the sample, men were more represented than women (17.8% vs 10.7%, respectively;  $p<0.0001$ ). Table 4

Regarding the dimensions of aggressive and delinquent behaviors, as well as family relationships, most students were not at risk (80.1% and 70%, respectively;  $p>0.05$ ); likewise, no statistically significant differences were found with respect to gender.

## Discussion

In this study, it was observed that the proportion of women at risk of initiating or increasing drug use was higher compared to men. This increased risk in women was

also found in the mental health dimension. This is like what was reported in the study by García et al.,<sup>12</sup> who analyzed the risk indexes in various areas of functioning of middle and high school students, finding a greater vulnerability to risky behaviors in women. However, these results are opposite to those reported by Vega et al.,<sup>8</sup> who point out that the risk of drug use is higher in men, which is also directly related to their mental health (RM: 1.5).

This is relevant because these dimensions are interrelated in their functioning; Azmawati et al.,<sup>13</sup> and Rodriguez et al.,<sup>14</sup> reported that impairment of mental health status increases the risk of drug use (OR 1.71,  $p= 0.0001$ ). Given this scenario, it is important to study the association between both risk conditions.

Regarding relationships with friends, the differences in terms of genders (27.7% in men vs. 17.8% in women) are comparable to those found by García et al.,<sup>12</sup> who, in a study conducted in students from the state of Chiapas, identified a higher risk in men in this dimension.<sup>15</sup> Duffy et al.,<sup>15</sup> also reported that 91.4% of children and adolescents with problems relating to their peers had family members or friends with alcohol consumption habits. This suggests that the consumption of alcohol and other drugs is influenced by groups close to adolescents and other antecedents such as delinquency; this has been identified in cross-sectional studies, as well as in systematic reviews, thus corroborating the direct influence of the group of friends, and their behaviors in the development of antisocial, and risk behaviors.<sup>16-20</sup>

Besides, these data are opposed to those obtained by Ozeylem et al.,<sup>21</sup> who conclude that the lack of friends or social interaction increases the risk of drug use (OR= 1.41, 95% CI= 1.23- 1.63). This shows that the health of teenagers is a com-

plex phenomenon in which interactions between different spheres of life can lead to different outcomes, even when exposure to vulnerability factors is present.

There are few studies that point to the relationship between lack of working interest and problems during adolescence. However, there is evidence linking job/academic interest with mental health, as shown by the work of Iriarte et al.,<sup>22</sup> in which the mental health status of a group of high school students was assessed. Among the most important results, it was observed that those who report lower satisfaction in the affective area are 1.8 times more likely to have difficulty concentrating, compared to someone who feels affectively integrated (especially in the family and school environment). Consequently, students are more easily distracted and are not connected to their academic activities, gradually losing interest in their education and, of course, in their professional and work future.

The strength of this study lies in the fact that it included adolescents at different academic stages, which makes the population heterogeneous in the different life situations that students go through, and which can significantly influence the problems they present. In addition, this research makes evident the need to use screening instruments for the timely detection of behavioral problems in primary care.

A limitation of this study is that the POSIT does not provide precise information regarding the areas in which the greatest affectation is found. Therefore, this research can be the starting point for an independent study of aspects such as mental health, relationships with friends or job interest, using other instruments that may complement what is addressed by this instrument.

**Table 1. Comparison of Frequency of Substance Abuse Risk by Gender in Surveyed Students**

Risk for Substance Use / Abuse					
	Men	%	Women	%	Total
Without risk	125	66	160	56	285
With risk	66	34	81	44	147
Total	191	100	241	100	432

$t=0.152$ ,  $p>0.05$

**Table 2. Comparison of Frequency Risk of Mental Health, by Gender, in Surveyed Students**

Mental Health					
	Men	%	Women	%	Total
Without risk	121	63.4	128	52.9%	249
With risk	70	36.6	113	46.9%	183
Total	191	100	241	100%	432

$T$  Test= 27.85,  $p=0.022$

**Table 3. Comparison of the Frequency of Risk for Inappropriate Relationships with Friends, by Gender, in Surveyed Students**

Relationships with Friends					
	Men	%	Women	%	Total
Without risk	138	72.3	198	81.8	336
With risk	53	27.7	43	17.8	96
Total	191	100	241	100	432

$T$  Test= 25.46,  $p=0.001$

**Table 4. Comparison of Frequency of Risk due to Lack of Job Interest, by Gender, in Surveyed Students**

Job Interest					
	Men	%	Women	%	Total
Without risk	157	82.2	215	89.2	372
With risk	34	17.8	26	10.8	60
Total	191	100	241	100	432

$T$  Test= 20.57,  $p=0.0000$

## Conclusions

Mental health, relationships among friends and job interests are some of the most affected areas in the studied group; nevertheless, other aspects, such as family aspects (lack of parental involvement and control, communication problems, among others) and those related to aggressive/delinquent behaviors (to obtain social status, search for adventure or novelty, out of curiosity, etc.) are important triggers of risk behaviors. For this reason, it is a priority for Primary care physicians to identify them in a timely manner, in order to manage them individually and in the family, thus avoiding damage to health from a biopsychosocial point of view.

## Authors' contribution

D R-R: conceptualization, survey application, and data analysis. H M-B: conceptualization, analysis, and discussion of results. All authors approve the publication of this paper.

## Funding

This research did not receive external funding.

## Conflict of interest

The authors declare not having conflicts of interest.

## References

- Hidalgo M, Ceñal M. Adolescencia. Aspectos físicos, psicológicos y sociales. *Rev. Hab.* 2014;12(1):43-46.
- Arriola M, Frari S, Torres A, Gargantúa S, Ávila M, Morales F. Factores de riesgo para el consumo de alcohol en adolescentes estudiantes. *Rev. Ele. Sal. Men. Alc y Dro.* 2017;13(1): 22-29.
- Gaete V. Desarrollo psicosocial del adolescente. *Rev chil pediatri.* 2015;86(6):436-443.
- Lozano A. Teoría de teorías sobre la adolescencia. *Última décad.* 2014;22(40):11-36.
- González-Trujillo KL, Londoño-Pérez C. Factores personales, sociales, ambientales y culturales de riesgo de consumo de marihuana en el adolescente. *Psicología y Salud.* 2017; 27(2):141-153.
- Flores-Acosta M. Pensar el cuerpo del adolescente: retos para la clínica psicoanalítica actual. *Revista Electrónica De Psicología Iztacala.* 2023;25(3):1029-1042.
- Maturana A. Consumo de alcohol y drogas en el adolescente. *Rev. Med. Clin. Condes.* 2011;22(1):98-109.
- Vega-Blancas JL, Alvarado-Gutiérrez T. Factores psicosociales que intervienen en el consumo de sustancias psicotrópicas en adolescentes. *Aten Fam.* 2019;26(2):63-67.
- Del-Valle-Ávila PC, García-Rodríguez JC. Factores de riesgo en alumnos de la UT del norte de Aguascalientes. *Revista de Pedagogía Crítica.* 2018;2(6):31-38.
- Ávila- Arrollo ML, Rodríguez-Aguilar L, Armendáriz-García NA, Pérez-Carrillo VE, Tenahua-Quitl I, Guzmán-Facundo FR. Factores de riesgo y etapas de adquisición del consumo de drogas lícitas en estudiantes mexicanos. *Journal Health NPEPS.* 2019; 4(2):280-296.
- Mariño MC, González-Forteza C, Andrade P, Medina-Mora ME. Validación de un cuestionario para detectar adolescentes con problemas por el uso de drogas. *Salud Mental.* 1998;21(1):27-36.
- García-Lara GA, Hernández-Solís S, Cruz-Pérez O, Ocaña- Zúñiga J. Tamizaje de problemas en escolares de secundaria y bachillerato Tzeltales y Tsotsiles de Chiapas. *Enseñanza e Investigación en Psicología.* 2014;19(2):1-10.
- Nawi AM, Ismail R, Ibrahim F, Hassan MR, Manaf MRA, Amit N, et al. Risk and protective factors of drug abuse among adolescents: a systematic review. *BMC Public Health.* 2021;21(1):2088.
- Rodríguez-Cano R, Kypriotakis G, Cortés-García L, Bakken A, von Soest T. Polysubstance use and its correlation with psychosocial and health risk behaviours among more than 95,000 Norwegian adolescents during the COVID-19 pandemic (January to May 2021): a latent profile analysis. *Lancet Reg Health Eur.* 2023;28:100603.
- Duffy D. Factores de riesgo y factores protectores asociados al consumo de alcohol en niños y adolescentes. *Salud & Sociedad.* 2014;5(1):40-52.
- Igunma C, Ohari B, Ojo I, Barbarimisa O. Risk factors associated with substance abuse among adolescents. *INDJ.* 2022; 18(1):11-24.
- Dennermalm N, Karlsson P, Ekendahl M. Risk factors for substance use in Swedish adolescents: A study across substances and time points. *Nordisk Alkohol Nark.* 2022;39(5):535-552.
- Aguirre-Guiza NC, Aldana-Pinzón OB, Bonilla-Ibáñez CP. Factores familiares de riesgo de consumo de sustancias psicoactivas en estudiantes de una institución de educación médica técnica de Colombia. *Rev. Salud pública.* 2017;19(1):3-9.
- Zaso MJ, Maisto SA, Glatt SJ, Hess JL, Park A. Effects of polygenic risk and perceived friends drinking and disruptive behavior on development of alcohol use across adolescence. *J Stud Alcohol Drugs.* 2020;81(6):808-815.
- Mak YW, Leung D, Loke AY. The vulnerability to alcohol, tobacco, and drug use of adolescents in Hong Kong: a phenomenological study. *BMC Pediatr.* 2019;19(1):303.
- Ozeylem F, de la Torre-Luque A, Essau CA. Factors related to substance use among adolescents from six low-and middle-income countries. *Addict Behav Rep.* 2021;14:100-370.
- Iriarte-Bennetts MT, Estévez-Ramos RA, Basset-Machado I, Sánchez-González A, Flores-Villegas J. Estado de salud mental de adolescentes que cursan la educación media superior. *RICS Revista Iberoamericana De Las Ciencias De La Salud.* 2018;7(13):100-124.