Risk factors for alcohol consumption in adolescents students

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This is a qualitative and descriptive work, which has used the clinical and qualitative method. The sample was composed of nine patients living with HIV. We used the interview technique with semi-structured questions to collect data. The data were analyzed using the method of content analysis. Our objective was to describe the symbolic representations that emerged during the group activity, assigned to patients with HIV/AIDS. We conclude that the symbolic is very strong and representative in the life of this population. The myth surrounding HIV can be overcome by knowledge acquired during meetings in groups. Alternatives that offer care aimed at populations that tend to social isolation and exclusion should be encouraged by health professionals and their managers.

Descriptors: HIV; Symbolism; Qualitative Research.

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Introduction

In 2010, one in 20 people consumed illicit drugs in the world, and the equivalent of 230 million people is alcohol consumers mainly at very young ages. Alcohol is the most consumed drug by adolescents, given the high diversity and forms of distribution of alcoholic beverages to adolescents from all social strata. Alcohol consumption phenomenon is complex and multifactorial of sociopolitical, economic and psychosocial impact in all countries. Alcohol consumption is among the top five accident risk factors. Adolescents are 4.4 times more likely to consume alcohol if their father consumes; 4.6 times more if their brother consumes and 10.4 times more if their best friend consumes. If they live with family members there is less risk of using drugs.

In Mexico, the state of Póvoa is 11th place above the national average in alcohol consumption, 7% of the population (7,800 cases), 47% men and 15% women.

Adolescence varies by individual or group characteristics and comprises anatomo-physiological changes that modify the psychological and personality profile. There are two steps: a) very young adolescence, 10 to 14 years; b) late adolescence, 15 to 19 years. Teenagers make adjustments or modifications to the extent that they feel socially accepted. Their emotional instability by unfamiliarity and fear of new experiences or decision-making and low self-esteem can lead...
them to alcohol and illicit drug use, school problems, unprotected sex, legal problems, emotional changes, traffic accidents, suicides and homicides (12).

The conduct of alcohol consumption in adolescents is a result of the influences of risk factors, which may be personal factors; studying them should receive further scientific research (13).

This study addresses the alcohol consumption phenomenon in adolescents by placing the following research question: What is the factors effect (personal and risks) in alcohol consumption in adolescents studying in high schools of the educational system in the state of Póvia, Mexico?

Method

This is a correlational study

The study was conducted in 2012 with male and female adolescents, 11-16 years-old; studying in the morning period, of three grades of urban public high schools of the educational system of the state of Póvia, Mexico. Random sampling, confidence level of 95%, .05 significance and .90 power rating for a sample (n = 894). The selection of schools was random, the selection of participants was stratified by proportional allocation to the size of each stratum. Inclusion criteria were students enrolled in high school, with informed consent signed by the parent or guardian and signed by the student.

Three instruments were applied, the personal data cell (PDC), the historical of use and drug addiction (HUDA) and the Tamizaje questionnaire of problems in adolescents (Problem Oriented Screening Instrument for Teenager [POSIT]), translated and validated by Marino et al., (1998) (14). The data were transformed into rates from 0 to 100, that is why the highest score is the risk factor. To select the sample, the sample mark of students was obtained. Data were obtained in selected educational institutions in 2012.

In accordance with provisions of the General Health Law for research (1987), human dignity, the rights and well-being of participants were protected and respected.

Procedure

For data analysis, the Statistical Package for Social Sciences (SPSS) version 18.0 for Windows was used for descriptive and inferential statistics. POSIT reliability was obtained by the Cronbach’s Alpha above .7000.

This research had the approval of the ethics committee and research of the Nursing School of Meritorious Autonomous University of Puebla (FE-BUAP) with register P-2012-0044-CIP and Secretary of Public Education.

Results

The study findings are shown according to the results of the research objective in three items: a) reliability of the instruments; b) descriptive statistics; c) inferential statistics.

Internal consistency of the POSIT instrument or Tamizaje questionnaire of problems in adolescents (Problem Oriented Screening Instrument for Teenager [POSIT]), obtained acceptable internal consistency of .8300.

Descriptive statistics: biological personal factors (PF), 55% were women, 11-13 age was 51%. In PF sociocultural, 42% were enrolled in third grade of high school; 59% rarely miss classes, 88% only study, 38% work in trade.

Global prevalence, period and current: global prevalence, period and current alcohol consumption; Alcohol consumption once life or global prevalence was 65% (CI95%, 62-68%). Period of alcohol prevalence 31% (CI95%, 28 - 34%). Current alcohol prevalence 31% (CI95%, 18 - 23%). There were significant differences of alcohol consumption in age; the highest proportion of alcohol consumption once in life, in the last year and in the last month was in adolescents between 14 and 16 years.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Once in life</th>
<th>In the last year</th>
<th>In the last month</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes f %</td>
<td>No f %</td>
<td>Yes f %</td>
</tr>
<tr>
<td>Male</td>
<td>263 45</td>
<td>140 45</td>
<td>143 35</td>
</tr>
<tr>
<td>Female</td>
<td>319 55</td>
<td>172 55</td>
<td>136 28</td>
</tr>
</tbody>
</table>

X2=.008, p=.928 X2=6.249, p=.012 X2=.709, p=.400

Source: PDC, History of Drug Use
Table 1 shows the difference by gender in alcohol consumption in the last year; in other consumption, proportions of women’s consumption were slightly higher than men. In alcohol consumption, compared by school grade, there are statistically significant differences in alcohol consumption once in life ($\chi^2=49.569$, p.001<), in the last year ($\chi^2=31.180$, p.001<) and in the last month ($\chi^2=41.285$, p.001<); it highlights a higher prevalence of alcohol consumption in adolescents of high school. There are statistically significant differences in alcohol consumption by occupation; in consumption once in life ($\chi^2=17.935$, p=.001), in the last year ($\chi^2=14.771$, p=.001) and in the last month ($\chi^2=18.491$, p=.001).

Alcohol consumption Pattern in Adolescents Studying in High School

On a typical day, alcohol consumption pattern is an average of 2 alcoholic beverages. The favorite beverage in a typical day is beer (35%) followed with a significant difference by vodka (7.3%) and cider, 6.2%. The average age of onset in alcohol consumption was 12.2 with DE 1.93.

With the results, the second objective was achieved.

<table>
<thead>
<tr>
<th>Source: POSIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>n=894</td>
</tr>
</tbody>
</table>

Figure 1 - averages of risk factors (POSIT) in alcohol consumption.

Risk factors before drug use: descriptive and the Kolmogorov-Smirnov test.

Averages of POSIT risk factors were found in alcohol consumption, for substance abuse ($\bar{X}=93.65$, DE=64.32); interest in work ($\bar{X}=85.71$, DE=18.36); aggressive behavior ($\bar{X}=80.65$, DE=18.36); and mental health ($\bar{X}=79.50$, DE=21.27); family relationships ($\bar{X}=40.54$, DE= 16.99), as shown in Figure 1, in which students have high risk of getting involved in alcohol consumption.

The Kolmogorov-Smirnov test did not indicate normal distribution for POSIT data (K-S = 5.10 to 14.52 p = .001). Thus, using the non-parametric inferential statistics was decided.

POSIT instrument description by subscales: to identify risk factors (RF) compared to alcohol consumption; for each POSIT question frequencies were obtained to identify the highest score.

Risk factor (RF), use and substance abuse by high school students with 16 questions, 70% achieved a score greater than 90% of non-use and drug abuse.
RF of mental health of high school students has 16 questions and over 22% indicated some difficulty. RF of family relations with 10 questions pointed out that more than 30% of students do not have good relations. RF of friends’ relations with 10 questions pointed out that more than 20% live in this risk. RF of educational level with 12 questions pointed out that more than 20% live in this factor. RF of interest in work of high school students has five questions and pointed out problems with 11%. RF of aggressive/delinquency behavior pointed out that 51% have at least one risk factor.

Difference in risk factors for consumption once in life, in the last year and in the last month.

There is a statistically significant difference of RF regarding the alcohol consumption once in life, in the last year and in the last month (p<.001). Results show higher RF averages in adolescents that consume alcohol compared to those who do not consume (Table 2).

Table 2 - Risk factors and alcohol consumption among students-Puebla/Mexico

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>n</th>
<th>X</th>
<th>U of Mann-Whitney</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>Consumption once in life</td>
<td>Yes</td>
<td>582</td>
<td>503.01</td>
<td>58484.50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>312</td>
<td>343.95</td>
<td></td>
</tr>
<tr>
<td>Consumption in the last year</td>
<td>Yes</td>
<td>279</td>
<td>553.07</td>
<td>56337.50</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>615</td>
<td>399.61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumption in the last month</td>
<td>Yes</td>
<td>182</td>
<td>600.21</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>712</td>
<td>408.47</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In the RF and alcohol consumption correlation matrix, there was weak and moderate relations; but positive and significant: Alcohol consumption once in life relates to POSIT \(r=.294; p=.001\); with RF; use and substance abuse \(r=.344; p=.001\); with mental health \(r=.167; p=.001\); with relations with family members \(r=.137; p=.001\), relations with friends \(r=.226; p=.001\), with educational level \(r=.124; p=.001\), interest in work \(r=.137; p=.001\), with aggressive/delinquency behavior \(r=.331; p=.001\). Alcohol consumption in the last year relates to POSIT \(r=.276; p=.001\); with use and substance abuse \(r=.328; p=.001\); with mental health \(r=.170; p=.001\), with relations with family members \(r=.152; p=.001\), relations with friends \(r=.170; p=.001\), with educational level \(r=.115; p=.001\), interest in work
Effects of Risk Factors on Drug Use of Adolescents from High School

To determine the effects of risk factors (RF) on alcohol consumption, 16 models of logistic regression were built. The independent variables were gender, age, and RF, and dependents were alcohol consumption once in life, in the last year and in the last month.

Table 3 - Models of logistic regression, risk factors, gender and age in alcohol consumption: once in life, in the last year and in the last month

<table>
<thead>
<tr>
<th>Consumption</th>
<th>Dependent variable</th>
<th>LRM</th>
<th>X²</th>
<th>p Value</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>Once in life</td>
<td>1</td>
<td>143.61</td>
<td>.001</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>In the last year</td>
<td>2</td>
<td>121.80</td>
<td>.001</td>
<td>18%</td>
</tr>
<tr>
<td></td>
<td>In the last month</td>
<td>3</td>
<td>107.44</td>
<td>.001</td>
<td>18%</td>
</tr>
</tbody>
</table>

Table 3 shows the model 1 of logistic regression (LRM1), in which the independent variables gender, age, and RF (substance abuse, mental health problems, relationship with family members, relationship with friends, educational level, interest in work and aggressive behavior) affect the alcohol consumption at least once in life. Age (W= 16.02; p= .001) promotes effect. LRM 2 shows that independent variables gender, age, and RF (substance abuse, mental health problems, relationship with family members, relationship with friends, educational level, interest in work and aggressive behavior) influence the alcohol consumption in the last year, effect fostered by gender (W = 4.27; p = .038) and age (W= 9.56; p = .003). LRM 3 shows that independent variables gender, age, and RF (substance abuse, mental health problems, relationship with family members, relationship with friends, educational level, interest in work and aggressive behavior) influence the alcohol consumption in the last month, effect fostered by gender (W= 12.40; p= .001).

Discussion

The results found in biological, sociocultural and personal factors differ from those appointed by Molinero, Salguero, Castro, Mora and Marquez (2011) and Gómez et al. (2006)\(^\text{15-16}\). The period prevalence (31%) “alcohol consumption in the last year, less than pointed (52%) by CONADIC (2008)\(^\text{18}\). The current prevalence or in the “last 30 days” is 20% lower than presented (62%) by Gómez et al., (2006)\(^\text{16}\) and pointed (41%) by CONADIC (2008)\(^\text{18}\).

There were significant differences in alcohol consumption by age and gender; very similar to the results of Molinero, Salguero, Castro, Mora, and Márquez (2011)\(^\text{15}\).

The preferred beverage by high school students was similar to those reported by Herrera, Wagner, Velazco, Borges & Lazcano (2004)\(^\text{8}\); Gómez, et al., (2006)\(^\text{16}\) and the nationally shown by CONADIC (2008)\(^\text{18}\) and INSP (2008)\(^\text{20}\). The average age in years as early in alcohol consumption was similar to that presented by other researchers (Herrera, Wagner, Velazco, Borges & Lazcano, 2004)\(^\text{8}\); Gómez, et al., 2006\(^\text{16}\) and bodies at national level CONADIC (2008)\(^\text{18}\) and INSP, (2008)\(^\text{20}\). The frequency they consume alcohol in the last 30 days was similar to what happens at the national level (CONADIC, 2008)\(^\text{18}\) and INSP, (2008)\(^\text{20}\).

The results related to risk factors (RF) compared to alcohol consumption in adolescents are consistent to those appointed by Anicama (2001), Clayton (1992); Nazar et al. (1994), Hawkins, Catalano & Miller (1992)\(^\text{21-24}\), especially in mental health, aggressive behavior, education level and relationships with family members are individual conditions and characteristics, situational or environmental context conditions of the high school students that are exposed to use and abuse of drugs.

The RF results before alcohol consumption that have been identified are consistent with the stated by
Catalano, Hawkins, et al., (1996); Hawkins, Catalano and Miller (1992)\[^{24-25}\], who claim the relevance to the RF reduction, as a broad set of them cause the likelihood that the person uses drugs. They also indicate that emotional problems among youth increase the risk that they consume alcohol.

RF results regarding family members relations are vulnerable, consistent with the recommendation of CONADIC (2008) and INS (2008)\[^{18,21}\], which states that adolescents are more likely to consume alcohol when they were exposed to opportunities, and progress to dependence when they used alcohol. RF of relations with friends is vulnerable to over 25%; closing the gap in these RF is expected so that they are consistent with the CONADIC (2008) and INS (2008)\[^{18,21}\], which states that current generations have increased accessibility to alcohol, higher consumption and more likely to progress from abuse to addiction than previous generations.

RF results with educational level are consistent with CONADIC (2008) and INS (2008)\[^{18,21}\], when stating that emotional problems among youth increase the risk that they consume alcohol.

RF results of interest in work are congruent with CONADIC (2008) and INS (2008)\[^{18,21}\], and the claimed by Catalano, Hawkins et al. (1996); Hawkins, Catalano and Miller (1992)\[^{24-25}\]. Great importance should be given to the reduction of these RF as a broad set of them cause the likelihood that adolescents consume alcohol.

The relationship and effect of risk factors on alcohol consumption are different to those found by CONADIC (2008) and the INS (2008)\[^{18,21}\]. Effects of personal, gender, age and RF factors were found on alcohol consumption. Age as a predictor is consistent with Peréz et al. (2007)\[^{7}\], but not with gender as a personal biological factor according to Pender (2006)\[^{13}\].

**Final considerations**

Data indicate that the adolescent population in this study shows that, although there is a smaller or equal local consumption than the national consumption, it suggests that this group of students is vulnerable to risk factors of both personal and interpersonal origin. This highlighted the need to implement local preventive action.

The limitations of this study are random sampling and the use of restricted use of data collection instruments.

**Acknowledgments**

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**References**