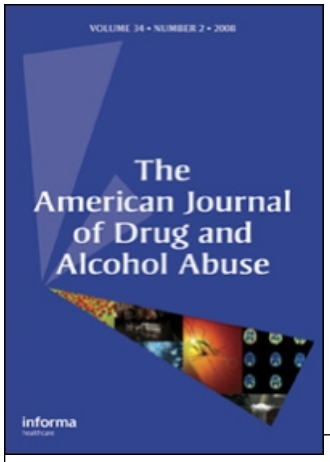

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Psychiatric Comorbidity Related to Alcohol Use Among Adolescents

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Abstract: *Introduction*: Alcohol use is apparently related to high prevalences of psychiatric comorbidity, although scientific studies focusing the problem among adolescents are still lacking. *Objective*: To evaluate the performance of adolescents with different patterns of alcohol use on screening instruments for psychiatric disorders. *Method*: Forty-one adolescents seeking assistance for alcohol-related problems were compared to a nonclinical sample of 43 adolescents. These 84 users were divided in three sub-groups according to pattern of recent alcohol intake. All subjects responded to validated versions of screening scales for mental disorders. Comparison of groups was held through Analysis of variance (ANOVA). *Results*: Self Report Questionnaire (SRQ) aims to evaluate the presence of mental disorders. Heavy users presented significant higher scores than the other groups ($p < .05$) and half of them presented a psychiatry diagnosis. The same was observed for the CES-D. Using the cut-off, 76.9% of daily-users adolescents were considered depressive. In the Beck Anxiety Inventory the same was observed and 50.0% of those adolescents who drank daily could be considered at risk of presenting anxiety disorders. *Conclusion*: We detected higher prevalences of mental disorders among heavy alcohol users. This reinforces the importance of detailed diagnostic investigation of patients.

Keywords: Adolescence, alcohol, comorbidity, drugs

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INTRODUCTION

A progressive increase in psychoactive substances misuse has been observed in the last few years (1, 2). Simultaneously to drug abuse, other clinical and psychiatric conditions can be found on 70% of the patients (3). If we considered life-time psychiatry diagnosis, the rate can be as high as 90% (4). Based on these figures, some studies (5–7) suggest that drug abuse could be a strategy used to relieve psychiatric symptoms. Furthermore, some authors (8–10) state that substance abuse can cause or worsen already established mental disorders. This emphasizes the importance of detailed diagnostic assessment, once co-morbidities have an important impact on both prognosis and the choice of specific treatment strategies. The low success rates observed in the treatment of addicts can be attributed at least partially to the negligence of comorbid disorders (3).

The incidence of comorbid diagnoses among the population has been widely studied. Nevertheless, few studies focus on adolescence, when alcohol intake is specially disseminated due to its low cost and legal status. The objective of this research is to evaluate the performance of adolescents with different patterns of alcohol use on screening instruments for psychiatric disorders.

METHOD

Two samples of adolescents have been studied. A clinical sample involved 41 adolescents with at least four years of educational background. All were outward patients from the Addiction Unit of the Department of Psychiatry (PROAD) at the Federal University of São Paulo, Brazil. For comparison, a nonclinical sample was composed of 43 teenagers with at least 8 years of educational background. Both groups had similar demographic characteristic. These 84 users were divided in three subgroups according to the pattern of recent alcohol intake: non-users; mild users (those who reported having used alcohol 1 or more times per week but not daily during the 30 days preceding assessment); and heavy users (those who reported having used alcohol every day during the 30 days preceding assessment).

Instruments

Self Report Questionnaire (SRQ), developed by Harding et al. (11) in 1980, was validated in Brazil by Mari and Willians in 1986 (12). It was designed to identify psychiatry symptoms on primary care setting. The first 20 questions concern mental status as a whole, being the best

cut-off 7/8. On its second part (4 questions), psychotic characteristics are investigated. One or more positive answers suggest a psychotic condition (12).

Drug Use Screening Inventory (DUSI) area 1, developed by Ralph Tarter in 1992 (13) and validated in our country by De Michelli and Formigone (14), is composed of ten areas, each one evaluating a different aspect of the problem. Area 1, comprising 15 questions, is specific to investigate substance abuse and the validity study demonstrated it is a fast and efficient self-administered questionnaire for drug use screening. It is advisable the use of the 3/4 cut-off (15, 16).

Center for Epidemiologic Studies Depression Scale (CES-D), validated in our country by Silveira and Jorge (16), was developed by Radloff in 1977 (17), in order to investigate depressive symptoms. Twenty questions evaluate the patient in terms of distinct aspects of depression during the week before assessment. The score range is 0–60 and the recommended cut-off is 16/17 (16). To complement the investigation of depressive symptoms, a question about suicide thoughts has been included, which was not originally part of the scale.

Beck Anxiety Inventory is a 21-item scale; according to the severity of symptoms, the scores vary from 0 to 63. The cut-off that better discriminates cases from non-cases is 20/21 (18).

A profile of the adolescents was established based on the data obtained from a general information self-completed questionnaire which had been included during the data collection procedure.

Concerning statistics, comparisons were held through Analysis of variance (ANOVA) since there were three distinct groups. The statistic significance was considered when $p < .05$. Afterwards, the control of interactions and confounders was performed by logistic regression, being the performance on each scale the dependent variable. Due to the limited sample size only 6 parameters have been analyzed at the same time. A variation of *beta* lower than 10% was respected.

RESULTS

After data collection, it was possible to establish a profile of both groups. According to pattern of alcohol intake, 52 adolescents were non-users, 18 were mild users, and 14 were heavy users. The score of DUSI area 1 showed different results among the groups. Non-users presented a mean DUSI score of 2.75 ± 3.59, whereas mild users obtained a mean score of 7.05 ± 3.62, and the heavy users 6.00 ± 3.37 ($p < .001$).

Considering the first part of SRQ, heavy users presented significant higher scores than the other groups (non-users: 4.84 ± 3.67; mild users:

5.12 ± 3.62; heavy users: 8.43 ± 6.18 $-$ $p = .02$). Using the 7/8 as cut-off, 50.0% of them also presented a comorbid psychiatric diagnosis. After logistic regression, educational background, having had trauma followed by conscience loss, poor parent's relationship, and positive CAGE scoring were identified as variables influencing these results ($p < .05$). Gender and satisfaction with school were probable confounders. The second part of the same instrument focuses on psychotic symptoms. Also in this case heavy users showed higher mean scores (non-users: $1.13 \pm .99$; mild users: $1.55 \pm .92$; heavy users: $1.86 \pm .77 - p = .027$).

The same could be observed for the CES-D, a screening instrument for depression (non-users: 14.93 ± 9.73; mild users: 14.60 ± 7.43; heavy users: $24.46 \pm 10.12 - p = .005$). Using 15/16 as cut-off, 76.9% of daily-users adolescents were considered depressive. In this case, gender, age, parent's relationship, educational background, and satisfaction with school were identified as independent variables. Furthermore, 9.8% of non-users, 16.7% of mild users, and 50.0% of heavy users have already considered committing suicide ($p = .002$).

In the Beck Anxiety Inventory again heavy users had significant higher scores than the other groups (non-users: 9.16 ± 9.28; mild users: 9.55 ± 6.55; heavy users: $17.00 \pm 15.48 - p = .05$). Using a 15/16 cut-off, half of those adolescents who drink alcohol daily could be considered presenting an anxiety disorder. Through logistic regression, the frequency of alcohol use on the previous month and a positive CES-D score (≥ 16) were considered variables that influenced being anxious or not.

DISCUSSION

Higher prevalences of mental disorders, psychotic, depressive, and anxious symptoms were detected among adolescents who were heavy users of alcohol. It is important, however, to emphasize that none of the instruments used in this research have been designed for diagnostic purposes, but just to screen psychiatric disorders. However, based on other similar investigations (19–22), we can infer that the similar results would have been observed if we used diagnostic tools. Moreover, as this is a cross-sectional design, one cannot establish a cause-effect relationship, which is still a point of controversy in the literature (22, 23).

It is important to state that substance and alcohol abuse can lead to the development of mood and anxiety disorders. In our study gender, age, parents relationship quality, educational background, and satisfaction with school were identified as variables that independently influence the depression scale scores. Another recent research, with higher number of adolescents has also identified gender and educational background as

important predictors of depressive symptoms comorbid with substance abuse (24). In this study, family history of mental disorders has also been pointed as a risk factor (24).

Frequency of recent alcohol intake and high scores on the depression scale have been identified as predictors of anxiety. The frequent relationship between anxious and depressive symptoms has already been established (24). Moreover, trauma followed by conscience loss seems to be a predictive factor for the development of mental disorders.

It is also relevant that mild users have not presented high scores in any of the instruments. One can argue if this pattern of alcohol intake may not be associated to the presence of mental disorders or, alternatively, that mild use of alcohol is less disruptive and may relieve psychiatric symptoms, thus reinforcing the self-medication theory (5).

Finally, all this information confirms the importance of a detailed diagnostic assessment. Once co-morbidities seems to have an important impact on both the prognosis and the choice of more adequate treatment strategies they must be actively investigated. Co-morbid conditions are extremely common among dependent patients. Only by treating both the addiction as well as the associated psychiatric conditions we will approach the patient more comprehensively and as a consequence, will be able to offer the best fitting treatment (19).

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