ABSTRACT
The aim of this study was to identify predictive risk factors for psychological distress in adolescents who live or do not live with alcoholic family members. An epidemiological study was conducted with a selection of 211 adolescents under psychological distress from a sample of 715 students from the state education network of João Pessoa, state of Paraíba, Brazil. Data were collected using three instruments: the Family CAGE; the Self-reporting Questionnaire and a structured questionnaire. The logistic regression model was used for analysis. The results evidenced that adolescents who lived with alcoholic family members whose mothers had higher education levels had lower chances of manifesting psychological illnesses (OR = 0.63). Among adolescents who did not live with alcoholic family members, the highest chances for manifesting illnesses were associated with the education level of their fathers (OR = 1.2), being female (OR = 1.8), and belonging to a non-nuclear family. The planning of actions/interventions that favor the effective construction of care for these individuals must take into consideration the socio-cultural singularities of the family context.

Descriptors: Psychiatric Nursing; Adolescent; Risk Factors; Alcohol-Related Disorders.

RESUMO
Objetivou-se identificar fatores de risco preditores para sofrimento psíquico em adolescentes que convivem ou não com familiares alcoolistas. Estudo epidemiológico que selecionou 211 adolescentes em sofrimento psíquico a partir de uma amostra de 715 estudantes da rede estadual de ensino de João Pessoa/PB- Brasil. Os dados foram coletados utilizando-se trés instrumentos: CAGE-familiar; Self-Reporting Questionnaire e um questionário estruturado. Para a análise, empregou-se o modelo de regressão logística. Evidenciou-se que adolescentes que conviviam com pais alcoolistas, cujas mães apresentavam maior nível de escolaridade, tiveram menor chance de manifestarem adoecimento psíquico (OR=0,63). Entre os adolescentes que não conviviam com familiares alcoolistas, a maior chance para manifestação do agravo esteve associada ao nível de escolaridade paterna (OR=1,2), ser do sexo feminino (OR=1,8) e pertencer à família de modelo não nuclear. O planejamento de ações/intervenções que favoreçam a construção efetiva de cuidados a esses indivíduos deve considerar as singularidades socioculturais do contexto familiar.

Descritores: Enfermagem Psiquiátrica; Adolescente; Fatores de Risco; Transtornos Relacionados ao Uso de Álcool.
INTRODUCTION

Alcoholism is currently a high-interest problem for public health care because of the large losses caused by the excessive use of alcoholic beverages. Although alcohol consumption has been historically depicted since centuries past, problems linked to its use were not always the same or had the same extent. Changes in patterns of consumption\(^{(1-2)}\) have been causing serious damage to the biological, psychological and social health of the world population\(^{(3)}\).

Globally, harmful consumption of alcohol causes 3.3 million deaths yearly (or 5.9% of total deaths), and 5.1% of the global load of illnesses can be attributed to alcohol. In countries with lower wealth, morbidity and mortality risks are higher than in countries with higher wealth\(^{(4)}\).

Among the main disorders and/or illnesses associated with alcohol consumption, there are mentions of neuropsychiatric disorders (epilepsy, depression, anxiety), liver cirrhosis, cancer (liver, larynx, pancreas), hypertension, diabetes, suicide, violence, fetal alcohol syndrome (FAS) and preterm birth complications\(^{(5)}\).

In Brazil, a study conducted in 2012 regarding alcohol consumptions showed that 6.8% of the population are addicted to the substance. Among adults who drank, 32% mentioned being unable to stop drinking after starting, 10% mentioned that someone had been hurt as a consequence of their alcohol consumptions, 9% admitted a harmful effect of alcohol on their family and marital relationships and 8% had professional losses\(^{(6)}\).

Hence, in addition to the impact on the incidence of disorders and illnesses, the damage caused by alcohol consumption is not limited to the users. Alcohol consumption negatively affects their personal, professional, financial and social lives, reaching family relationships. Chemical addiction harms family life, reaching all individuals close to the alcoholic, establishing an atmosphere of anguish, tension, guilt and anxiety that may sign the beginning of family disruption\(^{(7)}\).

Thus, living with an alcoholic family member may contribute for the psychological distress of all members, especially affecting children and adolescents who are going through the process of personal development. Since they are routinely exposed to situations of risk for mental distress, they generally develop symptoms of depression, anxiety, behavior and learning problems\(^{(6)}\).

In recent years, an increase in the percentage of psychological illnesses in adolescents was observed, where 20% of these individuals presented some type of mental distress\(^{(7)}\). When associated with living with alcoholic family members, we found a percentage of 23% of adolescents under psychological distress, like depression\(^{(8)}\).

Based on studies conducted in the state of Paraíba, which identified frequencies of alcohol consumption between 41% and 71% of the adult and adolescent population\(^{(9-10)}\), and the implications that its excessive use may cause to the mental health of the users’ family members, this study had the aim of answering the following question: which are the predictive risk factors for psychological distress in adolescents who live or do not live with alcoholic family members?

Therefore, we had the aim of identifying predictive risk factors for psychological distress in adolescents who live or do not live with alcoholic family members.

METHODS

A cross-sectional, population-based epidemiologic study was developed with a comparative procedure. The population consisted of 21,214 adolescents enrolled in state high schools in João Pessoa, in the state of Paraíba.

In order to calculate the sample, we used a significance level of 5%, a sampling error of 3% and a confidence level of 95% (\(Z = 1.96\)). We adopted an expected value for population proportion (\(P\)) equal to 20%. The minimum sample of 662 adolescents was obtained through the equation \(n = P \cdot (1-P) \cdot Z^2/e^2\), with an addition of 10% for possible losses, finishing with a representative sample of 715 adolescents.

The process of systematic sampling was based on an electronic spreadsheet with a list of all students enrolled,
by class, in each school of the education state network. Afterwards, the equation \( N/n \) \((21.214/662 = 29)\) was used, and the number found determined the size of the interval between interviewees, respecting the spreadsheet’s random order.

Data were collected between July and October, 2011, through primary sources (interviews), using three instruments: the Family CAGE (Cutting Down, Annoyed by Criticism, Guilt and Eye-opener) – one of the most simple and reliable tracking tools used to detect family alcoholism; the Self-Reporting Questionnaire (SRQ – 20) – used to identify mental disorders in populations without the presence of a specialist; and a structured questionnaire to identify sociodemographic and family variables.

For this study, we selected 211 adolescents under mental distress, classified according to their status in relation to living or not living with alcoholic family members.

For the statistical analysis, the logistic regression model was used in order to assess the level of psychological distress in both populations and to identify predictive risk factors that may contribute for the manifestation of the illness.

In order to construct the model, the chi-squared association test was applied between explanatory variables in pairs with the aim of observing the existence of any associations. Since the logistic regression model presupposes that these variables are not associated, the variables that were taken into account in the model were those with a p-value > 0.25. Therefore, it was possible to generate the models of multiple logistic regression, built from the introduction of all these variables. In the sequence, those that, in group, were not statistically significant (p-value > 0.05) were eliminated.

The “R” software, version 2.010.0, was used to estimate the logistic models. The method consisted of successively removing the less significant variables, with only part of the variables that were significant, with a significance level lower than 5%, remaining.

This study met the ethical requirements proposed by Resolution 196/96 of the National Health Council, which addresses standards and guidelines for research involving human subjects. The project was approved by the Ethics Committee of the Health Sciences Center of the Federal University of Paraíba (CCS/UFPB), under protocol number 066/11.

RESULTS

For the group of adolescents under psychological distress who lived with their alcoholic family members, the remaining variables were: father’s education level (p-value = 0.004); mother’s education level (p-value = 0.008); and head of the family (p-value = 0.088) (Table 1). As for the group of adolescents under psychological distress who did not live with alcoholic family members, the variables were: gender (p-value = 0.001); father’s education level (p-value = 0.026); type of family (p-value = 0.146); head of the family (p-value = 0.171); and family income (p-value = 0.163) (Table 2).

Table 1: Explanatory variables for the group of adolescents under psychological distress who live with alcoholic family members. João Pessoa, Paraíba, Brazil, 2011.

<table>
<thead>
<tr>
<th>Father's education level</th>
<th>Mother's education level</th>
<th>Head of the family</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father's education level</td>
<td>-</td>
<td>0.000*</td>
</tr>
<tr>
<td>Mother's education level</td>
<td>0.000*</td>
<td>-</td>
</tr>
<tr>
<td>Head of the family</td>
<td>0.074</td>
<td>0.736</td>
</tr>
</tbody>
</table>

*p < 0.05 chi-squared test
Table 2: Explanatory variables for the group of adolescents under psychological distress who do not live with alcoholic family members. João Pessoa, Paraíba, Brazil, 2011.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>OR</th>
<th>CI (95%)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>-</td>
<td>0.107</td>
<td>0.311</td>
<td>0.380</td>
</tr>
<tr>
<td>Father’s education level</td>
<td>0.107</td>
<td>-</td>
<td>0.311</td>
<td>0.002*</td>
</tr>
<tr>
<td>Type of Family</td>
<td>0.311</td>
<td>0.739</td>
<td>-</td>
<td>0.195</td>
</tr>
<tr>
<td>Head of the family</td>
<td>0.380</td>
<td>0.002*</td>
<td>0.195</td>
<td>-</td>
</tr>
<tr>
<td>Family income</td>
<td>0.676</td>
<td>0.000*</td>
<td>0.355</td>
<td>-</td>
</tr>
</tbody>
</table>

*p < 0.05 chi-squared test

Regarding the group of adolescents under psychological distress who lived with alcoholic family members, only the head of the family variable was not associated with the other researched variables, which made it a viable reference for building the regression model.

The variables gender and type of family had hypotheses of association that were rejected (p-value > 0.25) for the group of adolescents under psychological distress who did not live with alcoholic family members. When associated with the other variables, they became viable references for building a model of multiple logistic regression for the individual’s mental well-being.

Logistic regression model for psychological distress in adolescents who lived with alcoholic family members

The statistically significant variables (p-value < 0.05) to identify psychological distress in adolescents who lived with alcoholic family members are shown in Table 3, followed by their respective coefficients, odds ratio, and confidence intervals.

Table 3: Significant family variable for the manifestation of psychological distress in adolescents who live with alcoholic family members. João Pessoa, Paraíba, Brazil, 2011.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>OR</th>
<th>CI (95%)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother’s education level</td>
<td>-0.462</td>
<td>0.63</td>
<td>0.49</td>
<td>0.82</td>
</tr>
<tr>
<td>Constant</td>
<td>2.147</td>
<td>8.56</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

*p < 0.05

In this group, only the variable mother’s education level was found statistically significant (p-value < 0.05). Adolescents whose mothers had higher levels of education had lower chances of manifesting psychological illness (OR = 0.06), which represents a protective factor. Inversely, lower education levels for mothers represented a higher probability of psychological illness.

Logistic regression model for psychological distress in adolescents who did not live with alcoholic family members

Regarding the statistically significant variables (p-value < 0.05) to identify psychological distress in adolescents who did not live with alcoholic family members, the variable type of family was a protective factor for this group. Adolescents whose families were classified as nuclear had 1.5 times fewer chances of having psychological distress (Table 4).

Regarding the gender of the researched adolescents, female adolescents had 1.8 times more chances of having psychological distress than male adolescents. Similarly, a higher level of education for the father increased in 1.2
times the chance of adolescents manifesting this illness.

Table 4: Significant sociodemographic and family variables for manifesting psychological distress in adolescents who do not live with alcoholic family members. João Pessoa, Paraíba, Brazil, 2011.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>OR</th>
<th>CI (95%)</th>
<th>p-value *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>0.616</td>
<td>1.85</td>
<td>1.27</td>
<td>2.69</td>
</tr>
<tr>
<td>Father’s education level</td>
<td>0.181</td>
<td>1.20</td>
<td>1.05</td>
<td>1.37</td>
</tr>
<tr>
<td>Type of family</td>
<td>-0.0217</td>
<td>0.80</td>
<td>0.66</td>
<td>0.98</td>
</tr>
</tbody>
</table>

*p < 0.05

DISCUSSION
This study provides relevant information regarding factors that can influence mental health either as a protection or as a risk factor in a group of adolescents, in relation to the situation of living with alcoholic family members or not.

As observed in the group of adolescents under psychological distress who lived with alcoholic family members, the low level of maternal education represented a predictive risk factor, with higher chances of manifesting the illness.

A Brazilian study that analyzed the association between sociodemographic determinants and the development of behavior problems in students found that the presence of behavior problems was more frequent among children and adolescents who had parents with low levels of education and who lived under problematic social conditions. Therefore, living with undereducated family members negatively influences the children’s mental health.

Individuals with higher levels of education have better professional positions, higher family income, access to better living conditions and, as a consequence, can provide satisfactory conditions for their family members, such as education, leisure, health care and housing. In other words, survival necessities are fulfilled. These characteristics mostly work as protective factors for preserving the individuals’ mental health.

Considering that family directly influences the biological, psychological and social development of adolescents, the presence of individuals who abuse alcohol in the family is generally associated with fragile affective relationships in their daily life, with its members becoming detached as a consequence of frequent conflicts and existential crises. Therefore, adolescents exhibit a high level of anxiety or even feelings of powerlessness in the face of such situations, which frequently result in physical and psychological distress.

Regarding the evidences that family members of alcoholic individuals are more vulnerable to psychological distress, the indication in this study that low maternal education influences the illness’s manifestation leads to the assumption that mothers with higher education are more available to support their children emotionally. Access to information and means of communication favor the development of skills so that these mothers recognize significant behavior changes, increase opportunities for dialog and support for identifying the needs and requirements that they present.

The generated logistic model indicated that the type of family was a predictive risk factor for adolescents under psychological distress who did not live with alcoholic family members. Individuals with families different from the nuclear type had higher chances of presenting psychological distress.

Family dynamics is fundamental for understanding human beings as social elements because it is in the family environment that they develop their individual constitution, psychological development, personality and the organization of their identity. Therefore, it is one of the individuals’ needs, since it is inside the family that the
first emotional exchanges take place, where moments of happiness and sadness are experienced, but it is also inside of it that individuals learn to differentiate and to face their conflicts during the process of personal growth\textsuperscript{[13-14]}.

Therefore, it is inferred that adequate family cohesion, a positive relationship with parents and living in nuclear families work as protective factors against mental illness in their members\textsuperscript{[17]}. Severed family ties sometimes generate noticeable consequences in the lives of children and adolescents, with potential to cause many behavior disorders\textsuperscript{[13]}.

Another result presented for this group is related to the gender variable, which was a predictive risk factor, since female adolescents had higher changes of manifesting psychological distress. According to authors\textsuperscript{[18-19]}, this predisposition is related to pressures imposed by the expansion of their roles, excessive work, gender discrimination, and domestic and sexual violence.

It is important to highlight that gender inequality may privilege men and affect female self-esteem due to male-centric social values that are still predominant in today’s society; therefore, it is understood that male dominance has favorable conditions throughout the entire social structure\textsuperscript{[20]}.

Facing these conclusions, and when proposing public policies for young people and adolescents, it is important to view mental health as based on both personal well-being and social contexts, recognizing these aspects as fundamental for a healthy development\textsuperscript{[21]}. Still on the group of adolescents who did not live with alcoholic family members, higher paternal education meant higher chances of manifesting psychological distress in the group. Among the reasons, a longer and more exhausting work day stand out, which consequently decreases the presence of father figures at home and their participation in the family.

Fathers have been occupying a new space in the family environment, no longer limited to the roles of providers or authority figures, but sharing daily activities of the children with mothers, which range from education to playing and sharing affectionate moments. Higher involvement from fathers in activities related to children contributes to good psychosocial development\textsuperscript{[22]}.

The relationship between parents and children results from a set of shared expectations and the engagement between these individuals is important for physical and mental development. Consequently, it is important to highlight the need to increase care for adolescents, so they may be inserted in a social care network capable of providing for the needs of a developing individual.

It is also noteworthy the importance of the team of health professionals in the social network of care for the family, and the strategic position that nursing must have in health care, performing care that is closer and more humanizing, prioritizing actions of prevention and identification of risk factors because of their implications for adolescents and for the social environment\textsuperscript{[23]}.

The results found in this study indicated the variables that presented higher influence on the manifestation of psychological illness in adolescents. Therefore, these variables should be prioritized though specific interventions. Because it is a challenge for public health care in Brazil, the use of alcohol and other psychoactive drugs has become a constant and worrying theme for families, healthcare professionals, and education and government authorities, since it is becoming more common in the Brazilian population\textsuperscript{[24]}.

The construction of proposals for preventive actions must have the participation of all stakeholders in the social context of the relevant population, respecting the expression of singularities and valuing individual needs.

The “drug” theme is increasingly present in the life of the Brazilian population, especially children and adolescents. Thus, schools and those who are part of it are increasingly pressured to approach this matter in a more significant way, by addressing it preventively with students and more effectively with those who need special attention because of their vulnerability.
Families who live with alcoholic members should be a priority in the context of healthcare policies, with special focus on mental health, since all family members are vulnerable to illnesses when sharing situations of alcoholism with their families\(^{(13,16)}\).

**CONCLUSION**

This study allowed us to identify predictive risk factors for psychological distress in adolescents related to alcoholism in the family. In families with alcoholics, the members are more vulnerable to the manifestation of psychological distress. In turn, such psychological illnesses are more frequent among adolescents when mothers have lower education levels.

Psychological distress in groups of adolescents who do not live with alcoholic family members is more frequent when they are female, their fathers are more educated and families have a non-conventional model, in other words, not the traditional nuclear type.

Considering the constant changes and evolution in all areas of knowledge, it is necessary to develop scientific research to support the adoption of preventive practices so that everyone feels co-responsible for raising preventive awareness regarding the abusive use of alcohol and other drugs in all social environments.

It is necessary to take into consideration that activities for the promotion of mental health have high relevance in the social context, since the problem of consumption of alcohol and other psychoactive substances has become a threat for the stability of family, social, cultural, economic and political values in Brazil.

The risk factors identified in this study are markers with high social magnitude and may support the planning of actions/interventions that favor the effective construction of care for these individuals. However, we emphasize that the problem must be more widely analyzed, with approaches that take into consideration the sociocultural singularities of the family context and the multiple existing determinations.

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