Psychiatric morbidity in children of alcoholic parents

Context: Children of alcoholics (COAs) are children who have grown up in families in which either one or both parents are alcoholic. The interplay of several factors such as environmental, cognitive, and genetic vulnerability has been linked to the psychopathology among COAs. Aims: To assess psychiatric morbidity in COAs and to compare these children with the children of nonalcoholic parents. Setting and Design: This cross-sectional study was conducted on children of outpatients and inpatients of a tertiary health-care center in Central India, for 18 months. Subjects and Methods: A total of 100 children, fifty children of alcoholic parents and fifty children of nonalcoholic parents between the age groups of 4 and 14 years, were assessed using childhood psychopathology measurement schedule. Statistical Analysis Used: Statistical analysis was done by using descriptive and inferential statistics using Chi-square test and Student’s unpaired t-test. SPSS version 22.0, were used for statistical analysis, and P < 0.05 was considered as level of significance. Results: Most of the children were in the age group of 8–11 years. Depression and anxiety were found to be statistically significant (P < 0.05) in COAs than in children of nonalcoholics. Whereas, there was no difference (P > 0.05) for low intelligence and behavioral problems, conduct disorder, psychotic symptoms, special symptoms, physical illness, emotional problems, and somatization. Conclusions: Thus, there is a high need to address the stress to children of persons with substance abuse. Early detection of psychiatric morbidities in such children and appropriate intervention can produce beneficial changes in such children.

Keywords: Alcohol dependence, children, mental disorders

Children of alcoholics (COAs) are children who have grown up in families in which either one or both parents are alcoholic. According to the “National Survey on extent, pattern and trends of drugs abuse in India,” the prevalence of alcoholism is 21.4%.[1] In America, approximately one in ten is a drinker, and many of them are married and have families and children. A national survey on Drug Use and Health, which was conducted in the US from 2005 to 2010, concluded that about 7.5 million children in the US have lived with an alcohol-dependent parent, and that almost 1 out of 5 people had grown up in an alcoholic family.[2]

The interplay of several factors such as environmental, cognitive, and genetic vulnerability has been linked to the psychopathology among COAs.[3] Alcohol affects the child from the time the child is in the womb. If the mother of the child abuses alcohol, the child is at the risk of developing fetal alcohol syndrome. It can cause various malformations, functional defects, growth deficiencies, and in some cases death.[4] COAs grow up in an environment where there is a lack of parental care and love, which is essential for the child’s development.[5] The characteristics of alcoholic parents are the defective parenting styles. Parenting should ideally be based on discipline and predefined rules, which, in alcoholic parents, are in turn based on parents’ drinking status and moods. This results in inconsistent and unpredictable behavior of parents, leaving children to feel insecure and unsafe.[6-7]
The age of elementary school years, i.e., from 6 or 7–15 years of age, is known as the latency developmental period of children, but this phase of development does not apply to COAs, as they are constantly under stress which hinders their self-development. COAs suffer from direct physical, verbal, emotional, and sexual abuse from their alcoholic parent.[8] Parent–child role reversal has also been seen in COAs, as it has been frequently seen that they have to take responsibilities of the family. These children usually do daily house chores, look after their alcoholic parent(s) and siblings, and even protect other family members when the alcoholic parent becomes intoxicated and abusive.[8] The effects of these stressors are seen in the form of learning difficulties, conduct and behavioral problems, loss of concentration, and poor scholastic performance in COAs.[1]

In COAs, stress sensitivity can be observed through behavioral signs and symptoms. Stress due to external environment not only disrupts the self-regulation of the child, but also interferes with developing a normal coping mechanism, which can be seen in later years, as these children develop more anxiety and depression than the children of nonalcoholic parents.[9] In addition, due to alcoholism, the home environment becomes disharmonious and interaction among family members gets poorer, which in turn affects the psychosocial development of the children.[11]

This study aimed at assessing the psychiatric morbidity in the children of persons with alcohol dependence syndrome. The objectives of the study were (1) To assess the psychiatric morbidity in the children of persons with alcohol dependence syndrome and (2) To compare them with the children of nonalcoholic parents.

**SUBJECTS AND METHODS**

It is a cross-sectional study, conducted on children of outpatients and inpatients admitted in the Psychiatry Ward at a tertiary health-care center in Central India. A total of 100 cases, with fifty cases and fifty controls, were included in the study. Institutional ethical clearance was taken before commencing the study, and an informed consent was taken from the parent/caregiver before interviewing. Children between the ages of 4 and 14 years, whose caregivers gave an informed consent, and understood Hindi/English or Marathi were included in the study. Whereas, caregivers who refused to give informed consent were excluded from the study.

Children of persons diagnosed as alcohol dependence syndrome according to the International Classification of Diseases 10th Revision[12] criteria were included in case group. The parents of these children were interviewed by a consultant psychiatrist, and they did not fulfill the criteria for any other major psychiatric illness.

As it was a hospital-based study, children who were admitted in pediatrics ward and having nonalcoholic parents were included in the control group.

The study was conducted over a period of 18 months (January 1, 2015, to June 1, 2016).

Tools used in the study were – (1) A semi-structured sociodemographic pro forma and (2) Childhood Psychopathology Measurement Schedule (CPMS): CPMS was developed and standardized in India according to a study done by Malhotra et al.[13] The CPMS contains 74 questions pertaining to eight factors, i.e., intelligence with behavior problems, conduct disorders, anxiety, depression, psychotic symptoms, special symptoms, physical illness emotional problems, and somatization. These answers are scored on a 2-point scale, i.e., “0” if that particular behavior is not present and “1,” if present. The scale has a total score of 74. A cutoff score of ≥10 is considered to have some psychopathology. Children of ages 4–14 years of both sexes can be assessed. The informant was the parent of the child, preferably mother, or a parent surrogate.

Statistical analysis was done by using descriptive and inferential statistics using Chi-square test and Student’s unpaired t-test, and software used in the analysis were Statistical Package of Social Sciences (version 22.0), North Illinois university, USA. P < 0.05 was considered as the level of significance.

**RESULTS**

A total of 100 children were included in the study, fifty each for case and control groups. It was found that majority of the children included in the study, i.e., 56% for the case group and 62% for the control group, were males [Table 1].

Majority of the COAs (44%) and children of nonalcoholics (38%) were in the age group of 8–11 years. The mean age of COAs was 8.69 ± 3.26 and of children of nonalcoholics was 9.46 ± 3.33 [Table 2].

Majority of children were pursuing education in primary school (42% and 40%, respectively, for COAs and children of nonalcoholics) [Table 3].

Majority of the children were residing in rural areas [Table 4].

No significant differences were noted in demographic variables between the children of two groups. Furthermore,
there were no differences in demographic variables of the parents of the two groups.

On CPMS, statistically significant difference was found for anxiety ($P < 0.05$) and depression ($P < 0.05$) between the COAs and children of nonalcoholics. Whereas, there was no significant difference for low intelligence and behavioral problems, conduct disorder, psychotic symptoms, special symptoms (viz., obsessive-compulsive disorder, pica, and enuresis), physical illness with emotional problems, and somatization. The total score of CPMS was statistically significant between the two groups [Table 5].

**DISCUSSION**

In this study, the children of age group between 4 and 14 years were included as the children of this age group are vulnerable and the scale measured this age range. The middle childhood is a period of a psychological state as the child is calm, pliable, and educable. Resources of children of this age group are insufficient to effectively cope up with stressful situation, thus they may develop a coping mechanism which is defective. Puberty is another factor for personality change in these children.

In this study, it was found that COAs scored significantly higher for anxiety than children of nonalcoholics. Our study is in concordance with the studies done by Sher et al. and Hill et al., which also stated that COAs have higher chances of developing general anxiety disorder, agoraphobia, and social phobia. The Epidemiologic Catchment Area Project Data also suggest that COAs have higher 6-month prevalence rates of agoraphobia and simple phobia and also higher lifetime rates of simple phobia, generalized anxiety disorder, panic disorder, and agoraphobia. This can be attributed to the fact that alcoholism in the parent can lead to family disruption and can lead to unpredictable parental behavior and home environments, which can expose the child to anxiety-provoking situations. Abnormal coping mechanism, which the child develops, can again lead to anxiety. Neglect of the child, interparental arguments, economic reversal of family, hospitalization, or accidents of the parent are also other factors.

Another important finding in our study was that depression was found to be significantly higher in COAs than children of nonalcoholics. This finding in our study is in concordance with the study by Chassin et al. and Anda et al. who found that the risk of depression increases as the number of reported adverse experiences increases due to parental alcohol abuse. Hinrichs et al. also found that COAs have a tendency to be passive, avoidant, depressed, and may fear rejection or abandonment. Growing up in an alcohol-abusing home substantially increases the risk for the child to experience adverse situations such as domestic violence, abuse, and family dysfunction. Alcoholism in family also diminishes a mother's capacity to care for child as she is busy with the household problems, and hence the child feels alone, neglected, and lonely.

There was no significant difference for low intelligence and behavioral problems between the two groups. This is corroborated by a study by Narang et al. and Earls et al. who did not find any difference for low intelligence between the COAs and nonalcoholics. Some studies mention that the low intelligence in COAs can be attributed to alcohol's effect on morphogenesis when the child was in its mother's womb. This finding in our study can be due to the fact that all the COAs included in our study had their father as

| Gender   | Children of Alcoholics ($n_1=50$) | Children of Non Alcoholics ($n_2=50$) | $\chi^2$ | $P$     |
|----------|----------------------------------|--------------------------------------|---------|---------|
| Male     | 28 (56%)                         | 31 (62%)                            | 0.37    | 0.54 NS, $P>0.05$ |
| Female   | 22 (44%)                         | 19 (38%)                            |         |         |
| Total    | 50 (100%)                        | 50 (100%)                           |         |         |

| Age (yrs) | Children of Alcoholics ($n_1=50$) | Children of Non Alcoholics ($n_2=50$) | $\chi^2$ | $P$     |
|-----------|----------------------------------|--------------------------------------|---------|---------|
| 4-7 yrs   | 17 (34%)                         | 13 (26%)                            | 2.44    | 0.29 NS, $P>0.05$ |
| 8-11 yrs  | 22 (44%)                         | 19 (38%)                            |         |         |
| 12-14 yrs | 11 (22%)                         | 18 (36%)                            |         |         |
| Total     | 50 (100%)                        | 50 (100%)                           |         |         |

| Education | Alcoholics ($n_1=50$) | Non Alcoholics ($n_2=50$) | $\chi^2$ | $P$     |
|-----------|-----------------------|---------------------------|---------|---------|
| Pre-primary | 16 (32%)               | 10 (20%)                  | 2.89    | 0.235 NS, $P>0.05$ |
| Primary   | 21 (42%)               | 20 (40%)                  |         |         |
| Middle School | 13 (26%)               | 20 (40%)                  |         |         |
| Total     | 50 (100%)              | 50 (100%)                 |         |         |
the alcoholic parent and mother as nonalcoholic, as this study was done in a rural setup where the standards of education are not as high as urban areas and hence children with low intelligence may not have been identified by the teachers and parents. However, overall, it has been seen that COAs may have some behavioral problems.\[11\]

In the study, it was found that there was no significant difference for conduct disorder between COAs and children of nonalcoholics. The finding in our study is in concordance with the study by Schuckit et al\[26\] who found that there was no significant relationship between a family history of alcoholism and childhood diagnoses of conduct, oppositional, or attention-deficit disorders. The finding in our study is also in concordance with other studies which did not find any difference in COAs and children of nonalcoholics\[23\] though some studies found that conduct disorder is seen more in COAs than in children of nonalcoholics\[27,28\].

Other factors such as emotional problems, somatization, special symptoms (viz., obsessive-compulsive disorder, pica, and enuresis), psychotic symptoms, and physical illness were not significantly different between the two groups in our study. This study is in concordance with other studies by Earls et al. and Goodwin et al\[23,29\] who did not find any significant difference in COAs and children of nonalcoholics. Although some studies have found that COAs have higher admissions in hospitals, spend more days in hospital, and are more susceptible to illnesses than other children\[30\].

As observed in the study, anxiety and depression were significantly higher in COAs than in children of

| Residence  | Children of Alcoholics (n=50) | Children of Non Alcoholics (n=50) | $\chi^2$ | P       |
|------------|-------------------------------|---------------------------------|---------|---------|
| Urban      | 16 (32%)                      | 9 (18%)                         | 2.61    | 0.10 NS, P>0.05 |
| Rural      | 34 (68%)                      | 41 (82%)                        |         |         |
| Total      | 50 (100%)                     | 50 (100%)                       |         |         |

| Factors                                                                 | Mean±SD  | t      | P       |
|-------------------------------------------------------------------------|----------|--------|---------|
| Factor I – Low Intelligence with Behavioural Problems                    |          |        |         |
| Children of Alcoholics                                                   | 0.70±1.14| 0.43   | 0.66    |
| Children of Non-Alcoholics                                               | 0.82±1.59|        |         |
| Factor II – Conduct Disorder                                             |          |        |         |
| Children of Alcoholics                                                   | 1.78±3.28| 1.10   | 0.27    |
| Children of Non-Alcoholics                                               | 1.20±1.74|        |         |
| Factor III – Anxieties                                                  |          |        |         |
| Children of Alcoholics                                                   | 0.66±0.89| 2.36   | 0.020*  |
| Children of Non-Alcoholics                                               | 0.28±0.70|        |         |
| Factor IV – Depression                                                  |          |        |         |
| Children of Alcoholics                                                   | 1.70±2.50| 2.44   | 0.016*  |
| Children of Non-Alcoholics                                               | 0.72±1.32|        |         |
| Factor V – Psychotic Symptoms                                            |          |        |         |
| Children of Alcoholics                                                   | 0.38±0.56| 1.38   | 0.16    |
| Children of Non-Alcoholics                                               | 0.24±0.43|        |         |
| Factor VI – Special Symptoms viz. OCD, Pica & Enuresis                   |          |        |         |
| Children of Alcoholics                                                   | 0.06±0.31| 0.00   | 1.00    |
| Children of Non-Alcoholics                                               | 0.06±0.23|        |         |
| Factor VII - Physical Illness with Emotional Problems                    |          |        |         |
| Children of Alcoholics                                                   | 0.48±0.18| 0.14   | 0.88    |
| Children of Non-Alcoholics                                               | 0.46±0.54|        |         |
| Factor VIII – Somatization                                              |          |        |         |
| Children of Alcoholics                                                   | 0.34±0.59| 1.68   | 0.09    |
| Children of Non-Alcoholics                                               | 0.16±0.46|        |         |
| Total Score of Childhood Psychopathology Measurement Schedule            |          |        |         |
| Children of Alcoholics                                                   | 6.10±5.23| 3.54   | 0.0001* |
| Children of Non-Alcoholics                                               | 3.12±2.18|        |         |

*P<0.05
nonalcoholics. These children are vulnerable and difficult to identify in our society. They have to suffer a lot due to alcoholism in family, may be directly by physical and emotional abuse of the child, or indirectly by witnessing the marital disharmony among parents and physical and emotional abuse of mother.

Limitations
As this is a hospital-based study, children admitted in pediatrics ward were included in the control group. Due to their physical ailments, the children may have comorbid psychiatric conditions as well, which may have led to bias.

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Conflicts of interest
There are no conflicts of interest.

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