

Psychopathology and Neuropsychological Characteristics of Children of Men with Alcohol Dependence

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Abstract

Introduction: Children of men with alcohol dependence are at high risk for a wide range of behavioral and neuropsychological problems.

Aim: The aim of this study was to assess the psychopathology and neuropsychological characteristics of children of men with alcohol dependence syndrome.

Materials and Methods: A total of 100 children (50 in the study group and 50 in the control group) were evaluated for psychopathology and neuropsychological characteristics. Tools used were semi-structured proforma for sociodemographic data, general health questionnaire, child behavior checklist (CBCL), and Malin's intelligence scale for Indian children (MISIC).

Results: Children of men with alcohol dependence had higher scores on CBCL and lower scores on MISIC, as compared to the children in control group.

Conclusion: Our study suggests that children of men with alcohol dependence had increased psychopathology and impaired neuropsychological characteristics when compared to children of men without alcohol dependence syndrome.

Key words: Alcoholic dependence, Children, Neuropsychological characteristics, Psychopathology

INTRODUCTION

Parental alcoholism has severe effects on their children. Many of these children have symptoms such as low self-esteem, loneliness, guilt feelings of helplessness, fears of abandonment, and chronic depression.¹ These children are at higher risk for psychiatric problems such as learning disability, hyperactivity, psychomotor delays, somatic symptoms, and emotional problems. There have been attempts to study various aspects of children of people with alcohol dependence from India, and some published literature is available that looks at various domains in the same sample.²⁻⁵

Neuropsychological functions in these children have been the center of attention over the last decade. Pihl and Brice⁶ reviewed studies of cognitive functioning in children of alcoholic parents. They found that these children have inferior verbal intelligence, by and large poor verbal skills, poor verbal and nonverbal memory and poor abstraction and planning.

Raman⁷ found that children of men with alcohol dependence have difficulties with frontal lobe functions and neurodevelopmental tasks.

The children of alcoholics are at a greater risk for developing substance use disorders. The highest risk for developing alcoholism exists for individuals who start using alcohol as adolescents, have a high family loading for alcohol problems and display a cluster of behavior traits described as under controlled, impulsive and disinhibited.^{8,9}

This study was an attempt to examine the neuropsychological characteristics and psychopathology in children of men

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with alcohol dependence so that early identification and intervention can be planned.

MATERIALS AND METHODS

Our study was a prospective case–control study, conducted in a tertiary care psychiatric hospital in the state of Goa, in which we compared a group (50) of children of men with alcohol dependence with a control group (50) of children of men without alcohol dependence.

The study was approved by the hospital ethics committee. Written informed consent was taken from parents of all children who participated in this study.

Sample

The sample consisted of children aged between 8 and 18 years of men meeting ICD-10¹⁰ criteria for alcohol dependence syndrome reporting to this hospital. The control group consisted of children aged between 8 and 18 years from a local school, whose parents did not consume alcohol.

The inclusion criteria for children were fathers with diagnosis of alcohol dependence syndrome according to ICD-10 criteria, aged between 8 and 18 years, with mother having general health questionnaire score <4 and living with the index parent for at least the preceding year.

The exclusion criteria were children with mental retardation, developmental disorders, parents having any known organic brain syndrome, mental retardation or any other psychiatric illness; children with known chronic medical illness such as diabetes mellitus, asthma or chronic renal disease, children having any known visual/auditory handicap.

Procedure

Each child and parent was interviewed separately. Sociodemographic data were collected on a semi-structured proforma.

The child’s mother was then administered the general health questionnaire-12 developed by Goldberg and Williams.¹¹ Children whose mothers scored above four were excluded from the study.

The child behavior checklist (CBCL) was used as a tool for assessment of psychopathology of the children. Adequate reliability and validity has been established by Achenbach and Edelbrock.¹²

The children were then assessed with the Malin’s intelligence scale for Indian children (MISIC)¹³ which is an Indian adaptation of Wechsler’s intelligence scale for

children. Full-scale IQ, verbal IQ, and a performance IQ are provided by this scale. The reliability and validity of this instrument is well established.

Statistical Analysis

Statistical analyses were conducted using the SPSS software (IBM SPSS Statistics version 20). A comparison of the psychopathology and the neuropsychological characteristics was made between the study and the control groups.

RESULTS

The study included 100 children of which 50 (31 boys and 19 girls) were in the study group, and 50 (29 boys and 21 girls) were in the control group. There was no significant difference between the study and control group with respect to the age and gender of the children as illustrated in Tables 1 and 2, respectively.

The scores obtained by the two groups on CBCL are shown in Table 3. 32% of children in the study group obtained scores higher than 10 on the CBCL, whereas only 8% of the children of the control group scored above 10. This 8-fold higher score on CBCL of the children of the study group was statistically significant.

Table 1: Age distribution of children

Age (in years)	N (%)		χ^2	df	P
	Study group	Control group			
8-12	26 (52.0)	25 (50)	0.040	1	0.841
13-18	24 (48.0)	25 (50)			

There was no significant difference between the study and control group

Table 2: Sociodemographic profile of the sample (gender)

Gender	N (%)		χ^2	df	P
	Study group	Control group			
Male	31 (62)	29 (58)	0.167	1	0.683
Female	19 (50)	21 (50)			

There was no significant difference between the study and control group

Table 3: Scores obtained by the 2 groups on CBCL

CBCL score	N (%)		χ^2	Df	P
	Study group	Control group			
≤10	34 (68)	48 (96)	37.395	5	0.000
>10	16 (32)	2 (4)			

CBCL: Child behavior checklist. 32% of children in the study group obtained scores higher than 10 on the CBCL, whereas only 8% of the children of the control group scored above 10. This 8-fold higher score on CBCL of the children of the study group was statistically significant

Neuropsychological characteristics were assessed using the MISIC. The results are presented in Table 4. The average IQ of the children of the study group was 81.83 and that of the control group was 103.96. The verbal, performance, and full-scale IQ of the study group was 76.24, 87.42, and 81.83, respectively, whereas that of the control group was 100.64, 107.28, and 103.96, respectively. The difference between these scores was statistically significant.

DISCUSSION

Our study aimed to assess the psychopathology and neuropsychological characteristics of children of fathers with alcohol dependence syndrome in comparison to children of fathers without alcohol dependence syndrome.

A total of 50 children each in the study and control group were assessed for the sociodemographic profile. Further, the psychopathology of these children was assessed using the CBCL and the neuropsychological characteristics with MISIC.¹³

As seen from the sociodemographic profile of the study group, 52% of the children belonged to the pre-adolescent age group (8-12 years), and 48% of the children belonged to the adolescent age group (13-18 years). In the study by Raman *et al.*, the mean age of the children included in the study was 7.6 years. A slight male preponderance was seen in the gender distribution of the children in our study. This is in contrast to the study by Raman *et al.* where a female preponderance was seen.

The CBCL, used to assess the psychopathology, found high scores in 18 children. 88% of these were children of men with alcohol dependence. We found an 8-fold increase in the prevalence of psychopathology in children of men with alcohol dependence syndrome in comparison to the control group, which was statistically significant.

Table 4: IQ obtained by the 2 groups on MISIC (on verbal, performance tests and total scores)

MISIC	Mean IQ	SD	df	T	P value
MISIC verbal					
Study group	76.24	8.94	98	13.3	<0.0001
Control group	100.64	9.4			
MISIC performance					
Study group	87.42	14.96	98	6.71	<0.0001
Control group	107.28	14.62			
MISIC total					
Study group	81.83	11.95	98	4.72	<0.001
Control group	103.96	12.01			

MISIC: Malin's intelligence scale for Indian children, SD: Standard deviation. The average IQ of the children of study group was 81.83 and that of the control group was 103.96. The verbal, performance and full scale IQ of the study group was 76.24, 87.42, and 81.83, respectively, whereas that of the control group was 100.64, 107.28, and 103.96, respectively. The difference between the total IQ scores in the two groups was found to be statistically significant.

This was comparable to the findings of the study by Raman *et al.*⁷ wherein the children of alcohol-dependent men obtained statistically significant high scores on the externalizing scale and a marginal, though not statistically significant high score on the internalizing scale of CBCL.

In the study by Obot and Anthony,¹⁴ it was found that adolescent children living with an alcohol-dependent parent have more delinquency problems when compared to adolescents with non-alcoholic parents. The study by West *et al.*¹⁵ suggest that children from homes of alcoholic parents exhibit such problems as lying, stealing, fighting, truancy and school behavior problems, and they often are diagnosed as having conduct disorder.

The reasons for the above may be a lack of care of the children in families wherein the father has alcohol dependence syndrome. Another reason may be that children tend to model their fathers who would have frequently engaged in disruptive behavior under the influence of alcohol. These reasons, along with an underlying genetic predisposition need further exploration.

The MISIC was used to assess the neuropsychological characteristics in both the groups. We observed that there was a difference in the verbal, performance and full-scale IQ of children of men with alcohol dependence syndrome and those of men without alcohol dependence syndrome. The mean full-scale IQ of children of men with alcohol dependence syndrome was (81.830) which was less in comparison to the mean full-scale IQ of the control group (103.96). The difference in full-scale IQs was statistically significant. Similarly, the children of men with alcohol dependence syndrome also showed lower scores in verbal and performance IQ in comparison to children of men without alcohol dependence. This difference in verbal and performance IQ showed statistical significance. Our findings are in keeping with those of the below-mentioned studies.

In a study by Ervin *et al.*,¹⁶ full IQ, performance scores, and verbal scores were lower among a sample of children raised by alcoholic fathers than among children raised by nonalcoholic fathers. In another study comparing children of alcoholics and children of nonalcoholics, Bennett *et al.* found that children from alcoholic families had lower IQ, arithmetic, reading and verbal scores.¹⁷

CONCLUSIONS

Alcohol consumption in the father has a negative impact on the child's psychopathology and neuropsychological characteristics. Preventive strategies for emotional and behavioral problems of children of men with alcohol

dependence syndrome may decrease adverse consequences. Early detection of academic difficulties in children of fathers with alcohol dependence syndrome and appropriate intervention for these children will help in their academic performance.

Limitations of the Study

1. The sample size was small and the subjects included were children of men with alcohol dependence syndrome who attended a tertiary care psychiatric hospital, hence, the findings cannot be extrapolated to the general population.
2. Those children whose parents were separated, divorced and whose parents had deceased were not included in the study.

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