

To study the usefulness of CBCL-TRF for assessment and screening of psychiatric morbidity in juvenile delinquent boys in an observation home.

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Abstract

Background: Given the growth of juvenile delinquent population, epidemiologic data on their psychiatric evaluation is becoming increasingly important. Rehabilitation for juvenile delinquent children is the key whether addressing healthcare, poverty, population control, unemployment or human rights issues. Therefore, the present study was undertaken to evaluate the usefulness of CBCL (Child Behaviour Checklist – TRF (Teacher Report Form) for assessment and screening of psychiatric morbidity in juvenile delinquent boys in an observation home.

Method: The present cross-sectional study was conducted in an Observation Home for Boys. Prior to conducting the study, informed written permission was sought from the Superintendent of Observation Home for Boys. Study sample consisted of 50 boys aged between 6-16 years. The children were recruited through application of inclusion and exclusion criteria and after taking written informed permission from the Observation Home authorities.

Results: Significant CBCL total score was found in 22 (44%) juveniles. Eighteen (36%) juveniles had high score on externalizing behaviour, and 14 (28%) on internalizing behaviour. The sensitivity of CBCL significant score was found to be 88.64% and specificity was 100%. This indicates the utility of CBCL in epidemiological studies and screening of juveniles. It is a simple tool for screening and as noted it has high sensitivity and specificity.

Conclusion: In conclusion, the CBCL has implications for the training of manpower for strengthening of mental health services for these children. There is immediate need for multidisciplinary mental health services at each juvenile center.

Keywords: CBCL-TRF, Psychiatric morbidity, Juvenile delinquent boys, Observation home.

Introduction

In general, it is now well established that children and adolescent with conduct problem are at an increased risk of a wide range of adverse educational and psychosocial outcomes that span: educational under-achievements, occupational problems, juvenile delinquency, substance use, violent victimization, mental health problems, and related physical and social difficulties^[1]. It is estimated that 10-20% of children and adolescents are affected annually by psychiatric problems^[2]. Though an essential component of overall health of children, importance of mental health is being recognized only in the past few years, surveys conducted by psychiatrists in India have suggested that 7- 30% children below 12 years of

age, need either evaluation or continuing psychiatric care^[3,4].

Generally, delinquency in one age range and delinquency in another age shows continuity. In the Cambridge Study, nearly three-quarters (73%) of people convicted as juveniles aged 10 to 16 years were reconvicted at age 17 to 24 years, compared with only 16% of those not convicted as juveniles^[5]. Nearly one-half (45%) of people convicted as juveniles were reconvicted at age 25 to 32 years, compared with only 8% of those not convicted as juveniles. Similar continuity is found in self-reports of offending. Also, the number of juvenile offences is an effective predictor of the number of adult offences.

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It is not surprising that very little work has been done in the area of mental health of children in the world and more so in India^[6]. Most of the epidemiological surveys have not mentioned about childhood psychiatric disorders. Whereas, the surveys that have mentioned about child psychiatric disorders have reported a wide variation (20-30%) in the prevalence rates in both rural and urban setting and also in school children^[7-11].

A recent study conducted by Savita Malhotra in school going children in Chandigarh, for estimating the incidence of psychiatric disorders in childhood, also reported similar findings with annual incidence rate of 18-37 per 1000 per year^[12]. She concluded that there is need for further research to understand the rates and pattern of causation in childhood psychiatric disorders. Hence, focused studies in high-risk group like juvenile delinquents will help to assess psychiatric illness in children^[12]. Young offenders have shown higher rates of psychiatric morbidity than youths in the community in the studies all over the world. Although findings of these studies vary, most recent studies have found that 65%–85% of youths in correctional facilities have a major psychiatric diagnosis, with 31%–45% having a substance use disorder^[13,14]. These numbers are significantly higher than those found for age-matched youths in the community. A systematic review and Meta regression analysis of 25 surveys on adolescents in juvenile detention and correctional facilities showed that among boys 3.3 % were diagnosed with psychotic illness, 10.6 % with major depressive disorder, 11.7 % with ADHD and 52.8 % with conduct disorder. Among girls 2.7% were diagnosed with psychotic illness, 29.2% with major depressive disorder, and 18.5 % with ADHD 52.8 % with conduct disorder. Adolescents in detention and correctional facilities were 10 times more likely to suffer from psychosis than general population^[15].

Rehabilitation for juvenile delinquent children is the key whether we are addressing healthcare, poverty, population control, unemployment or human rights issues. Therefore, the present study was undertaken to evaluate the usefulness of CBCL-TRF for assessment and screening of psychiatric morbidity in juvenile delinquent boys in an observation home.

MATERIAL & METHODS:

The study was conducted in an Observation Home for Boys. Prior to conducting the study, informed written permission was sought from the Superintendent of Observation Home for Boys. This study is Cross sectional in nature. The study sample consists of 50

boys from the Observation Home aged between 6-16 years.

The children were recruited through application of inclusion and exclusion criteria and after taking written informed permission from the Observation Home authorities.

Inclusion Criteria:

1. Boys from Observation Home for whom responsible legal authority gave permission for study.
2. Age of boys between 6years to 16 years.
3. Boys without any medical illness which may be requiring urgent medical management.

Exclusion Criteria:

1. Boys from Observation Home for whom responsible legal authority did not give permission for study.
2. Boys from Observation Home with age below 6 years and above 16 years.
3. Boys with any medical illness requiring urgent medical management.

The tools used in the study are as follows:

1. A semi structured proforma
2. The Child Behaviour Check List (CBCL) - Teachers Report Form (TRF)^[16]

This tool developed by T. M. Achenbach in 1991, provides standardized description of children's behaviour, to be rated by teachers for children between 6-16 years of age. It consists of two parts, one a measure of social competence and the other, a measure of behavioural problems. For the purpose of this study only that part of scale pertaining to behavioural problems was used as the juveniles were detained for the temporary period and the adequate details of school performance were not available for all. Each item is rated as 0= not true, 1=somewhat/sometimes true, or 2= very/often true. It was translated into vernacular i.e. Marathi language. Also, back translation was done by language expert for verification. This investigator along with lecturers at parent institute trained existing teachers, play therapist and counselor to use CBCL-TRF (Marathi translation).

The CBCL is an extensively validated instrument with adequate reliability and validity. TRF has also been used in epidemiological studies in India and abroad^[16,17].

3. Mini-International Neuropsychiatric Interview (MINI)-Kid version-

This is a short structured diagnostic interview, developed jointly by psychiatrists and clinicians in the United States and Europe, for DSM-IV and ICD-10 psychiatric disorders. With an administration time of approximately 15 minutes, it was designed to meet the need for a short but accurate structured psychiatric interview for multicenter clinical trials and epidemiology studies and to be used as a first step in outcome tracking in non-research clinical settings. The MINI Kid was designed as a brief structured interview for the major Axis I psychiatric disorders in DSM-IV and ICD-10 in children and adolescents^[18].

Statistical Analysis:

The findings were tabulated and statistical analysis was done by using OpenEpi software for epidemiological studies. We applied Chi Square Test and Fischer Exact Test, to test the significance of correlation between risk factors for delinquency and psychopathology. Further, sensitivity and specificity were calculated. A p-value less than 0.05 were considered as significant.

Results

Table-1: Juveniles with significant scores on CBCL and delinquency

CBCL variable	Juvenile under conflict of law (20)	Juvenile under care and protection (30)	p-value
Withdrawn	00	01(3.3%)	P=0.15
Somatic complaints	01(05%)	00	
Anxious/depressed	03(15%)	00	
Social problems	02(10%)	00	
Thought problems	00	01(3.3%)	
Attention problems	06(30%)	03(10%)	
Delinquent behaviour	11(55%)	08(26.7%)	P=0.043
Aggressive behaviour	03(15%)	00	P=0.058
Internalizing behaviour	07(35%)	07(23.3%)	0.37
Externalizing behaviour	11(55%)	07(23.3%)	0.022
Total score significant	12(60%)	10(33.3%)	0.063
No significant scores	02(10%)	09(30%)	0.18

Significant CBCL total score was found in 22 (44%) juveniles. 18 (36%) juveniles had high score on externalizing behaviour, and 14 (28%) on internalizing behaviour. In other CBCL variables delinquent behaviour with 19 (38%) juveniles having high score, was most common followed by attention problems 09 (18%), aggressive behaviour 03 (06%), anxious/depressed 03 (06%), social problem 02 (04%), and thought problem, withdrawn behaviour, somatic complaints with each of them high in 01(02%) of juveniles (Table-1).

Sensitivity of CBCL-TRF=88.64% ad Specificity of CBCL-TRF=100%

The sensitivity of CBCL significant score to be 88.64% and specificity was 100%. This indicates the utility of CBCL in epidemiological studies and screening of juveniles. It is a simple tool for screening and as noted it has high sensitivity and specificity. This has an implication for training of manpower in the form of teachers to screen such juveniles (Table-2).

Table-2: CBCL score and psychiatric morbidity

Any CBCL score	Psychiatric morbidity present	Psychiatric morbidity absent	TOTAL
Significant	39	00	39
Not Significant	05	06	11
Total	44	06	50

Discussion:

The average age of juveniles under conflict of law (14.75 years) was more than the average age of juveniles under care and protection (11.97 years). Information regarding the type of admission was obtained from the records. Their exact age was not known to many juveniles, so the age was taken as noted in official records of the Observation Home.

Juveniles with significant scores on CBCL:

Significant CBCL total score was found in 22 (44%) juveniles. 18 (36%) juveniles had high score on externalizing behaviour, and 14 (28%) on internalizing behaviour. Internalizing and externalizing problem behaviours are important broad-band indicators of maladjustment, and as such, are salient youth mental health outcomes^[19]. Buehler has categorized internalizing problems for example into depression, withdrawal, anxiety, somatic complaints, and low self-esteem, while examples of externalizing problems include aggression, delinquency, and substance abuse^[20].

In other CBCL variables delinquent behaviour with 19 (38%) juveniles having high score, was most common followed by attention problems 09 (18%), aggressive

behaviour 03 (06%), anxious/depressed 03 (06%), social problem 02 (04%), and thought problem, withdrawn behaviour, somatic complaints with each of them high in 01 (02%) of juveniles. Juveniles under conflict of law predominated in variables like delinquent behaviour, attention problems, aggressive behaviour, anxious/depressed, social problems, and somatic complaints. No significant score was noted in 13 (26%) of juveniles out of which 11 (22%) were from the group juveniles under care and protection and only 02 (04%) from the group juveniles under conflict of law.

We found that the variables like delinquent behaviour (p value = 0.04317), externalizing behaviour (p value = 0.0223) had statistically significant correlation with delinquency. Also, the lack of significant score was noted in 9 of juveniles under care and protection and 2 of juveniles under conflict of law. Externalizing behaviours have been shown to be related to or to predict the occurrence of delinquent and conduct behaviours in various studies^[21].

CBCL score and psychiatric morbidity:

In our study we found the sensitivity of CBCL significant score to be 88.64% and specificity was 100%. This indicates the utility of CBCL in epidemiological studies and screening of juveniles. This finding was previously noted and tested^[22,23]. Teacher is an important professional in life of such children, as they spent considerable amount of their time in schools. This can be used to report the behaviour using proper tool like CBCL. It is a simple tool for screening and as noted it has high sensitivity and specificity. This has an implication for training of manpower in the form of teachers to screen such juveniles. In a country like India, such steps are important in view of scarcity on resources in child mental health.

Conduct disorder (CD) and oppositional defiance disorder (ODD):

This was the most common diagnosis in both groups. 70% of juveniles under conflict of law and 30% of juveniles under care and protection had conduct disorder. The prevalence of conduct disorder in previous studies on juvenile delinquent boys varied between 40-100%^[24,27]. Our finding is similar to the study by Rhode, Mace, and Seeley, who reported prevalence of 73% in both boys and girls in secure detention facility^[28]. In our study, significant correlation was found between conduct disorder and delinquency (p value=0.0005433). This finding was obvious as conduct disorder is considered to be precursor of delinquent behaviour and antisocial personality. Delinquency is defined according to acts prohibited by the criminal law, such as theft, burglary,

robbery, violence, vandalism, and drug use. Thus, many delinquent acts are also symptoms of conduct disorder^[29].

In our study 8% of juveniles had oppositional defiance disorder. It is known to be a precursor of the conduct disorder. All these children were admitted under care and protection, for the reason of being unmanageable at home. All four were from the broken home, with father dead in two of them and absconded in another two. Mothers of these children had to work resulting in neglected parenting which is described as risk factor in conduct disorder and oppositional defiance disorder both. Parental separation and single parenthood predict conduct disorder in children^[1].

Anxiety disorders:

In 10% of the juvenile inmates had anxiety disorders, which included generalized anxiety disorder, separation anxiety disorder and anxiety disorder NOS. These juveniles had significant CBCL score on internalizing behaviour. All of them had lost one or both the parents, and were admitted under care and protection. This finding is similar to the finding of the studies; who reported prevalence of anxiety disorders in adjudicated boys to be 8-9%^[30,31]. Now such children have different needs and requirements of their care. If these are kept with the delinquent children they may behave abnormally. This has an implication of need for segregation of the juveniles after initial screening by the professional psychiatrists. This will help in their management and proper care and prevention of complications like criminal activities in future.

Depression and suicidal behaviour:

In 4% of delinquent boys were diagnosed as depression. Another two juveniles had history of self harm attempts one in the form of consumption of poisonous compound and other with cuts on the forearm. The one with cuts on forearm also had substance abuse disorder, and he was admitted for homicidal crime. The prevalence of affective disorders in the studies varies from 5% to 88%. Affective disorders are more common in female juvenile delinquents than males^[13]. This may be due to under reporting by the boys than girls. The incidence of suicidal behaviour is five times more common in delinquent boys than girls^[32]. In our study the juveniles with self-harm attempt were suffering from conduct disorder and childhood disorder of emotions and conduct. This is of particular concern because of suicidal risk among boys with comorbid conduct disorder and depression^[33]. Irritability and anger outburst are common in childhood depression, so it should be considered as differential in evaluation of delinquent acts.

Mental retardation:

In 6% of the juveniles were having mild mental retardation. All of whom were admitted under care and protection. One was orphan and two others were found unattended on the streets while begging. Due to mental retardation they were not able to travel back to their homes and were unable to tell the address. They were doing some labor works like in hotel or railway station. Low IQ is related to delinquency but in our study all mentally retarded children were non delinquent. These children need special interventions than the normal children. Usually they are kept in facilities for mentally retarded children, so again the need for evaluation by the experts and segregation according to the needs is to be stressed for better child mental health care.

Attention deficit hyperactivity disorder (ADHD):

Several studies demonstrated that ADHD is precursor to conduct disturbances, and that ADHD is risk factor for early onset of conduct disorder in boys^[34]. Children with ADHD often demonstrate learning difficulties^[35]. In our study an 8-year boy admitted for care and protection with reason of unmanageable at home had ADHD with enuresis. While other two were diagnosed as ADHD comorbid with conduct disorder, both admitted for care and protection. In a his study of school children, concluded that psychosocial adversity in general and low social class, maternal psychopathology, and family conflict in particular increased the risk for ADHD and associated morbidity; boys were more vulnerable to the disorder than girls^[36]. The findings of current study also showed that lower socioeconomic status and parental loss or discord, are risk factors for ADHD, as all three boys were from lower socioeconomic status and broken families.

Limitations of the study:

It was not feasible to interview the parents or caretakers at home, and only few would have been available. In view of the fact that under reporting by the juveniles is endemic especially for the disruptive behaviour^[37], our data are subject to the validity and reliability of the juvenile's self-report. We have tried to overcome this by checking the records and collateral information from the caretakers at the observation home. Despite these limitations our findings have implications for the mental health research and treatment.

Implications:

Improve screening as many detention centers do not screen juveniles for the psychiatric problems. The frequent presence of comorbidity often makes it a difficult task to arrive at a diagnosis in this population.

Thus, need for the expert mental health professional from the initial assessment of these juveniles is highlighted.

Training of teachers in the use of Child Behaviour Checklist (CBCL-TRF) and regular screening and availing expert advice for the juveniles should be sought. Only a sustained partnership between mental health professionals and juvenile justice system offers the hope for rational management of not only psychiatric morbidity of the juveniles in Observation Homes but also the enhancement of their development towards productive adulthood and productive integration into the general society. The current trend is restricted to referrals only in care of behavioural problems.

Implications for the future research

Further studies are needed in psychiatric co morbidities of the juvenile delinquents, pathways to the co morbid illness and their relationship with the delinquency. Also further research into the course of behavioural problems of this population in juvenile justice system and their needs for rehabilitation to be addressed. Assessment of the adequacy of the mental health services to this population, and development and evaluation of interventions in this area is an immediate need.

Conclusion:

In conclusion, the sensitivity and specificity of CBCL indicates the utility of CBCL in epidemiological studies, screening of juveniles and importance of teacher in reporting observed behaviour. This has implications for the training of manpower for strengthening of mental health services for these children. There is immediate need for multidisciplinary mental health services at each juvenile center.

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