

## COMPARISON OF CONDUCT DISORDER AND HYPERKINETIC CONDUCT DISORDER : A RETROSPECTIVE CLINICAL STUDY FROM NORTH INDIA

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### ABSTRACT

*In a retrospective descriptive study of hyperkinetic conduct disorders (HCD) and conduct disorders (CD), as per ICD-10 diagnostic criteria, their clinical and phenomenological correlates were compared; with an aim of describing their distinctive clinical profiles. 20 cases of HCD and 25 cases of CD were compared on socio-demographic variables, temperament and specified clinical variables. The two groups differed in terms of the HCD group having younger age of onset, a more gradual development of and longer duration of conduct symptoms as compared to CD children. HCD children also had temperamental deviance (in the form of inattention, distractibility), lower IQ, more perinatal complications and delayed milestones as compared to the CD group; which made significant contribution to discriminant functions between the two groups. Results point towards different pathways of development of conduct symptomatology in HCD group as compared to the CD group*

*Key words : Hyperkinesia, conduct disorder, hyperkinetic conduct disorder.*

Descriptions of child psychiatric disorders in the early psychiatric classification systems were either missing (Kraepelin, 1883), or were too brief to be clinically meaningful (APA, 1952). Moreover, the reliability of the various diagnostic categories was low. As a result, the empirical-statistical approach to the classification of child psychiatric disorders was followed by a number of early workers, relying on cluster and factor analytical techniques (Achenbach & Edelbrock, 1978). Most of the early empirical classifications had categories corresponding to the present day Attention Deficit Hyperactivity Disorder (ADHD) and Conduct Disorder (CD) (Jenkins & Glickman 1946; Peterson 1961; Jenkins 1966; Lahey et al, 1988). A review of 60 selected factor-analytic studies found that almost 70% studies yielded distinct factors corresponding to conduct problems/aggression, and attention deficit/

hyperactivity (Lahey et al, 1988), and therefore, concluded that these are two distinct dimensions with partial independence and divergent validity.

On the other hand, workers using the categorical approach to the classification of child psychiatric disorders, have almost consistently classified the disorders into one of two large supradomains—a neurotic/over controlled/internalising dimension and a conduct problem/undercontrolled/externalising dimension (Hinshaw, 1987), though disorders may encompass both the supradomains (Puig-Antich, 1982). While there is considerable support for the validity of the two broad-band domains, the validity of the narrow-band syndromes is less clear (Woolston et al. 1989). Added to this is the considerable debate over the taxonomy and nosological approach to ADHD *per se*. Hyperkinesia has been variously used to denote a symptom as well as a syndrome, as a

dimension as well as a category of psychopathology, which may be either situation specific (e.g. in school) or pervasive in occurrence. The classification systems have taken the categorical approach and hyperkinesis must be present to be diagnosable as a syndrome (WHO, 1992; APA, 1994). Various classification systems, have also laid variable stress on the presence of either inattention (APA, 1980; APA, 1987) or hyperactivity (APA, 1994)

A number of studies, using varying diagnostic criteria and rating scales, have compared the two major externalising disorders of childhood, Conduct Disorder and Attention Deficit/Hyperactivity disorder. For pragmatic reasons, the authors of the present study have used the abbreviation CD to denote Conduct Disorder and ADHD to denote Attention Deficit Hyperactivity Disorder, despite the varying names of the disorders in various classifications as these two disorders co-occur more often than would be expected by chance, in both clinic and community-based samples (Anderson *et al.* 1987; Szatmari *et al.* 1989a; Biederman *et al.* 1991; McArdle *et al.* 1995). Studies also suggest that there exists a group of children with mixed symptoms that include overlapping characteristics of both the disorders and an outcome which is worse than of either disorder alone (Biederman *et al.* 1991; Leung *et al.* 1996). This hybrid disorder was introduced in the ICD-9 (WHO, 1978) as Hyperkinetic Conduct Disorder (HCD) and was subsequently retained in the ICD-10 (WHO, 1992) following support for this distinct category emerging in recent literature (Szatmari *et al.* 1989a). A patient of HCD generally presents with severe hyperactivity, inattention, aggressive & destructive behaviour, stealing, lying and disobedience which has an early onset with persistence over time and situations. The conduct and hyperkinetic symptoms overlap so much that a clear distinction into ADHD or CD is very difficult. The clinical profile and boundaries of the ICD-10 HCD have, however, yet to be clearly elucidated.

The present study was, therefore, undertaken to describe the symptomatology and clinical correlates of HCD and compare it with the other common disruptive disorder of childhood i.e. CD, with a view to explore into the clinical profile of the two diagnostic categories. The aim was also to determine the nature and extent of clinical variables that can discriminate between the two disorders as a step towards validation of HCD as a category.

## **MATERIAL AND METHOD**

A retrospective chart analysis of clinical case-records was undertaken. All case-records of patients registered in the Child and Adolescent Psychiatric Clinic of the Postgraduate Institute of Medical Education and Research, Chandigarh, between Jan. 1994 - Dec. 1995 (both months inclusive) were screened for inclusion of cases in the study. All patients at this clinic are assessed in detail by a resident-trainee and a senior consultant with considerable experience in Child Psychiatry, and all diagnoses are made according to the ICD-10 (WHO, 1992). All patients diagnosed as Hyperkinetic Conduct Disorder (F 90.1), Conduct Disorder (F 91) or Mixed Disorders of Conduct and Emotions (F 92.0) were included in the study. The entire case clinical record was scanned by one of the authors (VMA) and reconfirmation of diagnoses was done using ICD-10 criteria.

Since the case-records have a printed, semi-structured format, complete and reliable information was available in all the records. Information was collected on socio-demographic and clinical data such as duration of illness, type of onset, nature of symptoms, comorbid diagnoses, perinatal and developmental history, temperament and family history of mental illness.

Descriptive analyses of the data was undertaken using the Chi-square test for association between frequency variables and t-test for significance of differences between means of continuous variables. A discriminant analysis was performed at the end to elucidate

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the variables significantly discriminating between the two categories of disorders.

belonged to lower middle and lower SES in both the groups.

### RESULTS

45 children from amongst the 506 registered in the clinic over the 2 year study period met the inclusion criteria for the study.

The diagnostic categorisation of the patients was as follows - HCD-20, CD-24 (CD confined to Family Context-7, Unsocialised CD-9, Socialised CD-1, Oppositional Defiant Disorder - 6, Unspecified CD-1) and Depressive CD-1. The single patient of Depressive CD (Mixed Disorders of Conduct and Emotions) was included with the CD patients for analyses. Therefore, analyses was carried out on the groups of HCD (n=20) and CD (n=25).

TABLE 1

SOCIODEMOGRAPHIC VARIABLES

SOCIODEMOGRAPHIC VARIABLES	HYPERKINETIC CONDUCT DISORDER (N=20)	CONDUCT DISORDER (N=25)
Age <sup>1</sup>	7.95 yrs (SD=2.564)	10.12 yrs (SD=3.206)
Sex		
Male	70%	80%
Female	30%	20%
Age of head of family <sup>2</sup>	36.0 yrs (SD=4.425)	39.84 yrs (SD=5.375)
Locality		
Rural	20%	20%
Urban	80%	80%
Socioeconomic status		
Middle	10%	0%
Low middle	35%	64%
Lower	55%	36%

1:  $t=2.52$ ,  $df=43$ ,  $p<0.01$

2:  $t=2.63$ ,  $df=43$ ,  $p<0.01$

Table 1 shows the comparison of socio-demographic profile of the two groups. HCD children and their parents had significantly lower mean age than the corresponding CD group but the groups did not differ on socioeconomic status (SES) and urban-rural residence. Most cases

TABLE 2  
ILLNESS-RELATED VARIABLES

VARIABLES	HYPERKINETIC CONDUCT DISORDER (N=20)	CONDUCT DISORDER (N=25)
Mean age of onset in years (SD) <sup>1</sup>	5.9 (1.9)	8.8 (3.1)
Duration of conduct symptoms <sup>2</sup>		
6 months	0%	28%
> 6 months	100%	72%
Onset (till clinically significant conduct symptoms) <sup>3</sup>		
≤12 months	20%	72%
>12 months	80%	28%
Course		
Worsening	100%	92%
Stable/fluctuating	0%	8%
Associated physical illness		
Absent	70%	64%
Present	30%	36%

1:  $t=3.50$ ,  $df=43$ ,  $p<0.001$

2:  $\chi^2$  (Yates) = 4.67,  $df=1$ ,  $p<0.05$

3:  $\chi^2$  (Yates) = 10.03,  $df=1$ ,  $p<0.001$

Table 2 shows the illness-related variables. HCD children had younger mean age of onset. Significantly more HCD children had a mean duration of conduct symptoms exceeding 6 months, with a longer time from onset to development of clinically significant symptoms. Frequencies of associated life-time physical illness were however comparable for the two groups.

The frequencies of conduct symptoms in the two groups of children was compared (Table 3). Fighting/bullying and persistent, severe disobedience were the most common conduct symptoms in both the groups. At the lower end were cruelty to animals or other people, and fire-setting. There were significant inter-group differences on severe destructiveness to property, temper tantrums and defiant, provocative behaviour, all of which were more common in the group.

TABLE 3  
CONDUCT SYMPTOMATOLOGY

CONDUCT SYMPTOMS	HYPERKINETIC CONDUCT DISORDER (N=20) %	CONDUCT DISORDER (N=25) %
Fighting/bullying	95.0	80.0
Cruelty to animals/other people	20.0	8.0
Severe destructiveness to Property <sup>1</sup>	35.0	64.0
Fire-setting	20.0	12.0
Stealing	55.0	28.0
Repeated lying	55.0	32.0
Truancy	35.0	52.0
Temper tantrums <sup>2</sup>	30.0	68.0
Defiant, provocative behaviour <sup>3</sup>	30.0	60.0
Persistent, severe disobedience	90.0	92.0

1:  $\chi^2=3.74$ ,  $df=1$ ,  $p<0.05$

2:  $\chi^2=6.42$ ,  $df=1$ ,  $p<0.01$

3:  $\chi^2=4.02$ ,  $df=1$ ,  $p<0.05$

Suicidal attempts/gestures, and other non-fatal self-injurious behaviour was seen in 1 patient each of CD, and was absent in the HCD group (not shown in table).

The frequencies of comorbid ICD-10 psychiatric and neurological disorders in both the groups was also compared. A comparable proportion of patients across both groups had presence of comorbidity (55% in HCD and 52% in CD children), with no clear pattern emerging in either group. 20% of HCD children had diagnosable mental retardation as compared to 4% of CD children. Dissociative disorders were diagnosed in 12% of CD children but in none of the HCD children. 16% of CD children had an elimination disorder (non-organic enuresis) as opposed to only 5% of HCD children.

15% of HCD and 32% of CD children had perinatal complications, while 35% and 12% respectively had a history of delayed developmental milestones. The IQ patterns across the two groups again reflected the increased frequency of mental retardation in the HCD group. These differences were not statistically significant

with 20% of HCD children having an IQ < 70 as compared to only 4% of CD children.

TABLE 4  
DEVIANT TEMPERAMENTAL CHARACTERISTICS

TEMPERAMENTAL CHARACTERISTICS	HYPERKINETIC CONDUCT DISORDER (N=20) %	CONDUCT DISORDER (N=25) %
Active	75.0	48.0
Rhythmic	25.0	8.0
Approach-withdrawal	30.0	16.0
Adaptability	30.0	20.0
Mood	20.0	28.0
Intensity	35.0	48.0
Threshold of responsiveness	45.0	48.0
Poor attention span <sup>1</sup>	65.0	32.0
Persistence	55.0	52.0
Distractibility <sup>2</sup>	75.0	44.0

1:  $\chi^2=4.86$ ,  $df=1$ ,  $p<0.05$

2:  $\chi^2=4.38$ ,  $df=1$ ,  $p<0.05$

Table 4 displays the frequencies of deviant temperamental characteristics across the two groups. While the two groups had comparable deviance on most temperamental characteristics, significantly more HCD than CD children had poor attention span and increased distractibility.

There were no significant differences between the groups on the history of psychiatric illness in the family. Though the pattern of psychiatric illness in the family differed in the two groups, the numbers were too small for any meaningful statistical analysis. 15% first degree relatives of HCD children and 3% relatives of CD children had a history of psychiatric illness. In the HCD group, the most common disorders were non-schizophrenic psychosis (5% of parents), and substance use (5% of parents). In the CD group, 4% of sibs had mental retardation, 8% of sibs had epilepsy and related syndromes and 8% of parents had an affective disorder.

Follow-up data for upto 1 year was analysed. There was a sharp rise in the drop-out rates in both groups with increasing follow-up

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duration. At the end of the first month, 35% of HCD and 41.7% of CD patients were in active follow-up, which dropped to 10% and 4.2% respectively at the end of the year. Significantly more HCD than CD children had received pharmacological interventions ( $X^2$  with Yates correction = 3.70,  $df=1$ ,  $p<0.05$ ), while there were no significant differences on the psychological therapies received. The outcome at the end of one year was uniformly poor across both groups. Stepwise discriminant analysis was done with six variables which appeared to be significant i.e. age at onset, presence or absence of perinatal complications, delayed milestones, poor attention span, increased distractibility and IQ score. The results are shown in Table 5.

Age at onset, poor attention span, delayed milestones and perinatal complications made significant contribution to the final discriminant function yielding a correct classification rate of 64.44%.

### DISCUSSION

ADHD and CD are the two most

common externalising disorders of childhood, accounting for a large proportion of children attending child psychiatry clinics. It has been estimated that the DSM-III category Attention Deficit Disorder with Hyperactivity (Anderson et al., 1987) has a prevalence of 3-5% in the school age population (APA, 1980), while the prevalence of CD varies from 3-8% of childhood population, depending upon the diagnostic criteria used (Hinshaw, 1987). Little is known about the distinctive characteristics of HCD, which is a relatively new diagnostic category. Since HCD is basically considered a sub-type of ADHD, it would be worthwhile studying its clinical characteristics in comparison to ADHD and CD.

Data from India is scant. However, the prevalence figures of the two disorders in the clinic population in the present study (3.95% for HCD and 4.94% for CD) were roughly comparable to the figures reported in the western literature (Gibbens 1963; Anderson et al 1987; Hinshaw 1987; Biederman et al., 1991).

It was found that the conduct symptoms had an earlier age of onset and a greater mean

TABLE 6  
RESULT OF STEPWISE DISCRIMINANT ANALYSIS (SELECTION RULE : MINIMISE WILKS LAMBDA) :  
SUMMARY TABLE (UPPER PANEL), CANONICAL DISCRIMINANT FUNCTIONS (MIDDLE PANEL) AND  
CLASSIFICATION RESULTS (LOWER PANEL)

STEP	VARIABLE ENTERED	WILKS' LAMBDA	SIGNIFICANCE
1	Age at onset	0.77272	0.0009 *
2	Poor attention span	0.70893	0.0007 *
3	Delayed milestones	0.67952	0.0011 *
4	Perinatal Complications	0.66131	0.0020 *

  

FUNCTION	EIGEN VALUE	% VARIANCE	CUMUL. %	CANONICAL CORRELATION	WILK'S LAMBDA	X <sup>2</sup> (DF)	SIGN.
1	0.5122	100 *	100	0.5820	0.6613	16.955	0.002 *

  

ACTUAL GROUP	NO. OF CASES	PREDICTED GROUP MEMBERSHIP	
		HCD	CD
HCD	20	14 (70.0%)	6 (30.0%)
CD	25	10 (40.0%)	15(60.0%)

Present cases correctly classified : 64.44%

\*  $p < 0.001$

duration prior to attendance at the clinic in HCD children as compared to CD children. ADHD children have been shown to present earlier in the course of illness than CD (Kapur *et al.*, 1995; Reddy *et al.*, 1997), but little is known about the age at presentation of HCD. However, the age of onset of the symptoms in the mixed group (HCD) has been shown to be earlier than of either pure CD or pure ADHD (Werry *et al.*, 1987), which compares with the findings of the present study. Male predominance for both ADHD and CD has been shown across most studies. In an extensive review, the male: female ratio was reported much higher for the ADHD and mixed group, than for the pure CD children (Werry *et al.*, 1987). In India, male predominance has been variously shown in the hyperkinetic (Reddy *et al.*, 1997), and the CD children (Kapur *et al.*, 1995). In the present study, male predominance was seen equally in both the groups.

There has been considerable interest in the role of environmental factors in the causation of ADHD and CD. Some workers have reported no association between the socio-economic status (SES) with either ADHD or CD (Sandoval *et al.*, 1980; Weiss *et al.*, 1985; Reeves *et al.*, 1987; Szatmari *et al.*, 1989b; Reddy *et al.*, 1997), while others have reported significant association between low SES and CD (Loney *et al.*, 1978). In the present study SES was assessed according to a scale constructed for the Indian population (Gupta & Sethi, 1978) which was modified taking into account the recent revisions in salaries. The proportionate increase in income in the corresponding categories of occupations was incorporated in the revised scale. Using this scale it was seen that the children belonging to lower SES were over-represented equally in both groups. Similarly, no differences between the two groups were found as regards the course of illness being uniformly poor; as has also been previously reported from India (Reddy *et al.*, 1997).

During early childhood, the child has comparatively less mature cognitions. Also younger the age, greater is the likelihood that the symptoms are direct expressions of intrinsic behavioural propensities unaltered by complex

motivational or relationship problems. These non-motivational and non-cognitive behavioural tendencies in childhood have been called as temperament (Chess & Thomas, 1984).

Temperamental characteristics were recorded according to the concept of Chess & Thomas (1984). Significant deviance was found in three-fourth of the HCD group on variables that are, by definition, characteristic of hyperkinesis i.e. decreased attention span and increased distractibility. Similar findings have been previously reported, with the mixed (ADHD+CD) group being more inattentive and restless than the CD group (Werry *et al.*, 1987). Although temperamental deviations are known to occur in children with conduct disorders, this was not seen in about half of CD children in the present study. Moreover, differentiating temperamental characteristics of inattention and distractibility from symptoms of ADHD at a very young age, when other behavioural, conduct or cognitive symptoms do not manifest, remains difficult and could just be a moot point. HCD group, by definition, would exhibit features of inattention, distractibility and impulsivity at a very early age, even before the conduct symptoms appear. It is likely that these features of ADHD influence the occurrence, progression and manifestation of conduct symptoms thereby highlighting the greater role of temperamental style in influencing symptomatology and course in HCD group as compared to CD group of children.

A variety of life-time physical illnesses were seen in the two groups, with no statistically significant differences. Some previous studies have reported an increased life-time frequency of minor head injuries in delinquent children (Gibbens, 1963), alongwith an increased frequency of hospital contacts with significantly more injuries and accidents throughout childhood (Lewis & Shanok, 1977). While a group of normal control children was not included in the present study, only a small number of children across both groups had a life-time history of physical illnesses and no significant increase in the frequency of injuries was evident in the CD children.

The frequency of conduct symptoms

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were expectedly more in the CD children. A review of published studies found that children with mixed ADHD & CD symptoms (corresponding to the HCD group in the present study) were more aggressive and antisocial than 'pure' ADHD children (Reeves et al., 1987). Indian studies have found conduct problems to be significantly more in the CD rather than in ADHD children, although the symptoms differed across studies. One study reported only truancy to be significantly greater in the CD group (Reddy et al., 1997), while another reported significantly more quarrelsomeness, aggression, temper tantrums, truancy, lying and stealing in the CD group (Kapur et al., 1995).

In the present study, CD children had comparatively more severe symptoms of destructiveness to property and defiant provocative behaviour and temper tantrums. On the other hand, HCD children showed greater frequencies of stealing and lying. Stealing and lying at younger ages is more a manifestation of poor impulse control, than purposeful and motivated acts, which fits the pattern of HCD. Of course, both the CD and the HCD groups showed high degree of aggressiveness in the present study; as in symptoms of fighting/bullying and persistent, severe disobedience. However, the many more conduct symptoms and more severe relationship problems that CD children had point towards greater role of external rather than internal factors in the CD group. The temperamental differences, coupled with the difference in clinical presentation give credence to HCD being a variant of ADHD. Also, the differing clinical presentation of conduct-related symptoms in HCD could be evidenced as a modulation of symptomatology by the temperamental deviations. This pathway in development of HCD appears to be different from the pathway for CD in which the social-environmental factors have a greater role and additionally modulate the clinical profile of such children.

Comorbidity is common in the disruptive behavioural disorders of childhood (Werry et al., 1987), and may also include disorders from the

other supradomain (Wooiston et al., 1989). Rates of comorbidity may also be considerably higher in the clinic population (Lalinfeld & Lilienfeld, 1980), and is associated with worse outcome than would otherwise be expected (Weiss et al., 1985). Although comorbidity was present in almost half the patients across both groups, no distinct pattern was associated with either of the two study groups in the present study. However, a substantial co-occurrence of the affective disorders with CD has been observed (Beiderman et al., 1991). 8% of CD children and none of the HCD children had a comorbid affective disorder in the present study, which is rather small for making meaningful comparisons.

Peri-natal complications have been reported to occur more frequently in ADHD children as compared to normal controls (Szatmari et al., 1989b). On the other hand, more adverse child-rearing environments have been reported in CD children (Werry et al., 1987). Indian studies have reported significantly higher frequencies of pregnancy and birth-related complications in the hyperkinetic cluster, with delayed milestones and speech and language problems (Kapur et al., 1995, Reddy et al., 1997). In the present study, there was a trend towards greater perinatal complications in the CD group, where as in the HCD group there were greater proportions of delayed milestones and low IQ. The non-significant clustering of HCD children in the IQ range <70, support the finding that in ADHD and the mixed (ADHD + CD) children, there may be relatively lower intelligence, specially in the verbal area (Werry et al., 1987). In one review, the IQ (Peabody Picture Vocabulary Test) was shown to be significantly below that of normal controls, with no differences between these two groups (Reeves et al., 1987). These findings, considered together, suggest that HCD may be similar to ADHD in having poor cognitive abilities, which is not a feature of CD children.

Adverse family backgrounds have often been reported in the disruptive behaviour disorders of childhood, with antisocial personality disorder and alcoholism in the fathers being the

most frequently reported findings. Studies have variously documented an increased frequency of these disorders in the fathers of CD children (Lahey *et al.*, 1988; Biederman *et al.*, 1991; Reddy *et al.*, 1997), ADHD children (Szatmari *et al.*, 1989b), and the mixed (ADHD+CD) group of children (Reeves *et al.*, 1987). Families of the ADHD cluster children have also been reported to have significantly greater frequencies of mental retardation (Kapur *et al.*, 1995), and major depression (Biederman *et al.*, 1991), while families of CD cluster children have greater prevalence of epilepsy and sibling rivalry (Werry *et al.*, 1987). In the present study, sibs of CD children had more mental retardation and epilepsy-related syndromes while parents of CD children had more affective disorders, while substance use was seen in only 5% of the parents of HCD (but not CD) children. The numbers were however, too small for a detailed disorder-wise analysis.

The results of discriminant analysis revealed that younger age at onset, poor attention span, delayed milestones and perinatal complications made significant contribution to discriminant function. All these variables do indicate the presence of developmental brain disorder affecting basically the attentional and cognitive processes in the HCD group more than in the CD group. Since these factors are 'a priori' i.e. existed before the onset of conduct symptoms, these along with temperament can be considered to have etiological significance for the production of conduct symptoms in the HCD group. In CD group, on the other hand, far greater contribution of environmental and psychosocial factors has been described which was not studied in this work. It would, therefore, appear that conduct symptoms in HCD and CD children have a different developmental pathway justifying their separation into separate diagnostic entities.

Significantly more HCD than CD children were managed with drugs, mostly for the hyperkinesia. As stimulants are not available in India, patients received second-line drugs

(Imipramine, Clonidine, Buspirone). Over the follow-up period, the condition was similarly poor for both diagnostic groups, with 55% HCD and 72% CD children reporting little improvement at last follow-up. The slightly better rates of improvement in the HCD patients, though not statistically significant, can be attributed to improvement in the hyperkinetic symptoms as a result of drugs, while conduct symptoms persisted. However, because the follow-up period was not uniform and treatment of children was not standardised, no meaningful conclusion can be made on the course and outcome on the two groups.

A few limitations of the study, apart from those inherent in a retrospective study itself, were the small sample size, and non-inclusion of samples of ADHD without conduct symptoms and normal controls for comparison, thus placing some limitations on the generalisability of results. Although there were many similarities between HCD and CD children, a distinct clinical profile of HCD does emerge from the study which supports the inclusion of HCD as a separate diagnostic category in ICD-10. The symptom profile of CD group points towards more aggressive (destruction of property) and severe relationship problems (defiant, provocative behaviour & temper tantrums) whereas the HCD group presented with more impulsive (stealing, lying) conduct symptoms. These features, along with a tendency for delayed developmental milestones and low intelligence, in HCD points towards the possibility of cognitive dysmaturity as a significant differentiating variable between HCD and CD.

Another important observation was the clinical profile of children with conduct problems in India, which appears to be slightly different from that reported from the West. A family history of antisocial personality disorder, alcoholism and a history of child abuse in conduct disorder children so often reported in the West, was not seen in the present study.

These findings have been also reported in some previous studies from India, and although others have reported more discordant



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intrafamilial relationship with inadequate parenting in the CD cluster (Reddy et al., 1997) these variables were not the focus of the present study. Overall, this study highlights the need to study the aetiology of conduct problems in children in India which may be at variance with that reported in the western literature.

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