Profile of children with learning disabilities

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Increasing numbers of children are being brought to pediatricians or family physicians because of underachievement and behavior problems in school. The physician must try to differentiate between neurologic dysfunction and disorders of emotional origin, so that these children may receive appropriate treatment. It has been emphasized repeatedly that early detection of learning disabilities is mandatory if treatment is to be successful.[1, 2] Learning disabilites in children of elementary school age have been estimated to range from 2% to 15%.[2-4] Learning disability is defined as underachievement in school when performance is lower than would be expected considering the intellectual abilities of the student.

This report describes the experience in evaluating 69 cases in the Learning Disability Program at the Cleveland Clinic. The children were referred because of underachievement in school or school-related behavior problems.

Method

The 69 cases reported in this paper include all children in whom evaluation was completed and who had been referred to the Cleveland Clinic for school problems during the 12-month period preceding October 1972. They were almost exclusively from middle or upper socioeconomic class families, and

they ranged in age from 5 to 12 years.

The evaluation team consisted of a pediatrician, a child psychologist, speech pathologist, and a pediatric ophthalmologist. The evaluation consisted of a medical history including development, social, and psychological aspects, complete physical examination, psychological evaluation including an interview, Peabody Picture Vocabulary Test,[5] Bender Visual Motor Gestalt Test,[6] Wechsler Intelligence Scale for Children,[7] Draw-a-Person Test,[8] Word Recognition Test,[2] and a Werry-Weiss-Peters Activity Scale[9] completed by the parents. The ophthalmologic examination included tests for visual acuity, ocular movements, and color vision; an auditory evaluation included tests for auditory acuity, auditory discrimination, and auditory memory. Since an electroencephalogram is usually of no help in evaluating these children,[10] it was not routinely included. Documentation of school performance, behavior, and social adaptation was elicited from the child's teacher by means of a questionnaire.

Results

The *Table* shows the distribution of diagnoses in our 69 cases. Minimal brain dysfunction (MBD) was the commonest primary diagnosis (46%); psychosocial disturbances (30%) and perceptual handicaps (19%) accounted for most of the others. Most of the children were boys (72%), a phenomenon long recognized by educators. Most of the children with MBD were hyperactive (69%) as elicited on the Werry-Weiss-Peters Activity Scale.

Only two children had previously unrecognized mental retardation as the cause of their learning disability. Children with IQs of 85 and above are usually believed to have grossly normal intelligence,[11] and because these children had IQs of 73 and 77 they would be classed as having borderline mental retardation. One child's poor visual acuity was considered to be the major factor responsible for school underachievement. Although the range of IQs was from 73 to 127, 30% of the children had IQs over 100. An abnormal perinatal history (e.g., premature delivery, difficult labor, neonatal distress) was obtained in 14 cases (20%); 11 of these were children with MBD.

Discussion

MBD has been defined as a syndrome affecting "children with near average or

Table. Primary diagnosis of children in Learning Disability Program

Diagnosis	Cleveland Clinic series 69 children %		Inner-city series[12] 100 children %	
Minimal brain dysfunction		46		19
Psychosocial disorder		30		35
Emotional disturbance	22		15	
Emotional or social immaturity	7		9	
Cultural deprivation	1		11	
Perceptual handicaps		19		33
Visual-motor	16		19	
Auditory discrimination	3		2	
Miscellaneous	0		12	
Mental retardation		3		12
Visual acuity impairment		1		0
Auditory impairment		0		1

above general intelligence with certain learning or behavior disabilities ranging from mild to severe which are associated with deviations of function of the central nervous system. These deviations may manifest themselves by various combinations of impairments in perception, conceptualization, language, memory, attention span, impulse control, and motor function."[2] The major symptoms and signs of MBD include abnormal motor activity (i.e., hyperactivity), emotional lability, perceptual deficits, short attention span, distractibility, impulsivity, poor coordination, and equivocal or "soft" neurologic signs.

MBD is now recognized as a serious problem causing countless numbers of children to underachieve at school and to become behavior problems both at home and at school. It is often difficult to be absolutely sure whether the principal problem is MBD or psychosocial, since the child with MBD exhibits upsetting behavior as a result of his frustration at the reaction of adults and peers to his hyperactivity and impulsivity. The manner in which his teachers react to those same traits, short attention span and possibly perceptual handicap which result in poor reading ability compounds the problem of differentiating between these two conditions.

The diagnostic category of "psychosocial disorder" used in this study includes children whose basic learning capacity is adequate, but whose emotional disorder interferes with learning. We have further subdivided this group into (1) significant emotional disturbances in which personality instability is the main factor, and emotional adjustments in many areas of the child's life experience are simultaneously impaired; (2) emotional or social immaturity or both, in which the child is immature and unable to start learning or to keep up with his classmates; (3) cultural deprivation, in which the child lives in an environment that does not stimulate his intellectual processes.[12]

The perceptual handicaps observed in 19% of our patients were primarily visual-motor as demonstrated by poor performance on the Bender-gestalt. The defect in these children is believed to reside in the visual-motor processing system in the central nervous system and is unrelated to ocular problems such as eye muscle imbalance. Two children did have an auditory perceptual deficit; they could apparently hear pure tones normally, but the spoken word was confusing to them.

Our findings differ in the frequency of primary diagnostic categories from a similar study of disadvantaged children in an inner city population[12] (*Table*). MBD was approximately twice as common in our group of patients; perceptual handicaps were found less frequently, and emotional disorders were of similar frequency.

The larger number of cases of MBD in our series is probably explained by the relatively large number of patients in the inner city series who were culturally deprived[11] or mentally retarded (12%). Presumably, the larger number of mentally retarded children in the inner city group can be explained because quality medical care was not available to diagnose this handicap prior to school age.

From both these studies it is clear that the underachieving child becomes a clinical problem because of the variety of etiologies that must be considered. This is true regardless of the socioeconomic spectrum from which the child comes. These unfortunate children must be accurately classified according to diagnosis so that appropriate help can be offered: special educational techniques by the school, family counselling by the physician or psychologist, and drug therapy

(i.e., methylphenidate) by the primary physician.

The Learning Disabilities Center serves as a resource for the diagnosis and evaluation of difficult learning problems. However, the family physician or pediatrician can readily evaluate most of these children in conjunction with the teacher and school psychologist,[13] and he can play an important role in coordinating the various diagnostic and therapeutic approaches necessary to help these children achieve their maximum potential.

Summary

Data on 69 children in a Learning Disabilities Program were evaluated and analyzed. The patients were mainly boys (77%). The MBD syndrome was the principal diagnosis (46%); a psychosocial cause was presumed in 30%, and a perceptual handicap was the principal problem in 19%. Our patients were compared with patients in a similar study of disadvantaged children, and some differences readily explained on a social basis were observed.

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