Behavioral Disorders in Multiply Handicapped Egyptian Children

Nabil Kitchener[1]; Magdy Khalaf[1]; Ahmed Raouf[2]; Nilly Nagy[3]
Departments of Neuropsychiatry[1], Psychology[3],El-Mataryia Teaching Hospital;
Pediatric Neurology, Police Hospitals[2]

ABSTRACT

Objective: *To describe the characteristics, proposed etiology, prevalence and types of different behavioral and emotional disturbances among multi handicapped Egyptian children.* ***Subjects and Methods****: A total of 3800 consecutive multiply handicapped patients were retrospectively studied. Criteria for inclusion were regular follow-up period for at least 24 months. Types and prevalence of behavioral disorders were correlated with the different forms of disabilities. Other factors associated with mental retardation such as degree of disability, etiology, correlation between degree of disability and percentage of behavior disorders; and types of behavioral disorders encountered were also analyzed.* ***Results:*** *Follow-up ranged between 24 and 153 months (mean 61 months). Total group composed of 3800 multiply handicapped patients, of which 94% suffered from mental retardation, 25% suffered from cerebral palsy, 16% suffered from sensory deficits, and 29% suffered from epilepsy. The overall prevalence of behavioral disorders was 13% in the total group; (n=494 patients with behavioral disorders included pervasive developmental disorders(190), attention deficits with(152) or without hyperkinesis (114) and disruptive behavior (253) disorders, those include 38 patients with pure disruptive behavior, all patients with ADHD, 2 patients with ADD, and 61 patients with PDD). It was 13.8% in mental retardation group; 4.3% in Cerebral palsy group; 3.8% in sensory deficits group; and 16.3% in epilepsy group. In mental retardation group 1.3% suffered from profound mental retardation, 5% suffered from severe mental retardation, 36.6% suffered from moderate mental retardation, and 57% suffered from mild mental retardation. Behavioral disorders are more prevalent in the moderately retarded group (18%). The proposed etiologies for disabilities were: Perinatal injury (41%); prenatal (37%); Postnatal (9.5%); and Indeterminate (12.5%).* ***Conclusions****: Behavioral disorders are not only very distressing to multiply handicapped patients and their families but also have a negative impact on their learning at school or other facility, peer relationships and social competence, so more attention should be paid to diagnose (detect and classify) and aggressively treat behavioral disorders by pharmacological, educational and environmental interventions.* **(Int. J. Ch. Neuropsychiatry, 2005, 2(1): 89-96)**

INTRODUCTION

Medical and psychological problems in multiply handicapped individuals are generally complex, interdigitating and multifactorial, and often incompletely understood. Specific diagnoses are often inadequate and sometimes impossible. Communication with the patient is often difficult, and extensive testing may be limited or impractical[1]. The family constitute the formulating media for their offspring development.

For many years, clinicians did not specifically attend to the variety of symptoms of psychopathology in persons with mental

retardation or in young children with developmental delays. In all likelihood, this lack of attention was the result of "diagnostic overshadowing", a process in which deficits related primarily to intellectual limitations dominated clinical concerns, and the symptoms consistent with criteria for psychological disorders were often considered to be a function of the intellectual deficit rather than indicative of another diagnosis[2].

The studies concerning the effects of additional disabilities on children's behavior are inconsistent. Gillberg et al.[3], McQueen et al.[4], and Molteno et al.[5], reported an increased risk of psychiatric disturbance in children with epilepsy. Jones and Cull[6] did not find significant differences between those with and without epilepsy when assessed by the ABS scale (adaptive behavior scale), whereas by using the Rutter scale (Rutter behavior scales), hyperactive behavior was found to be more common in the group with epilepsy.

According to McQueen et al.[4] and Molteno et al.[5], cerebral palsy did not increase the risk of psychiatric disturbances, but Goodman and Graham[7] showed an association between hemiplegia and psychiatric disorders.

Aim of the study

We tried to describe the characteristics, proposed etiology, prevalence and types of different behavioral and emotional disturbances among multi handicapped Egyptian children.

SUBJECTS AND METHODS

In a retrospective study, we reviewed the files of 3800 consecutive multiply handicapped patients, presented to the out patient clinic of Centre for Children with Special Needs; Egyptian Integrated Care Association (CCSN; EICA). The patients fulfilling inclusion criteria, of at least two years follow up, were taken. The following data were obtained: gender, gestational age (premature, mature, or post-mature newborns), follow-up period in the service, age at manifestation of disability, types of disability and its accused etiology (Perinatal, prenatal, postnatal or unknown)[8,9,10,11,12].

Types and prevalence of behavioral disorders were correlated with the different forms of disabilities. Other factors associated with mental retardation such as degree of disability, etiology, correlation between degree of disability and percentage of behavior disorders; and types of behavioral disorders encountered were also analyzed.

RESULTS

Follow-up ranged between 24 and 153 months (mean 61 months). Total group composed of 3800 multiply handicapped patients, with age range from 55 months to 11years (mean 6.7±2.9 years). 94% of the total group suffered from mental retardation, 25% suffered from cerebral palsy, 16% suffered from sensory deficits, and 29% suffered from epilepsy (Table 1). The overall prevalence of behavioral disorders was 13% in the total group; It was 13.8% in mental retardation group; 4.3% in Cerebral palsy group; 3.8% in sensory deficits group; and 16.3% in epilepsy group (Table 1).

494 patients, who suffered from behavioral disorders, included pervasive developmental disorders (190), attention deficits with (152) or without hyperkinesis (114) and disruptive behavior (253)

disorders, those, in turn, include 38 patients with pure disruptive behavior, all patients with ADHD, 2 patients with ADD, and 61 patients with PDD (Table 2).

In mental retardation group 1.3% suffered from profound mental retardation, 5% suffered from severe mental retardation, 36.6% suffered from moderate mental retardation, and 57% suffered from mild mental retardation. Behavioral disorders are more prevalent in the moderately retarded group (18%) (Table 3).

The proposed etiologies for disabilities were: Perinatal injury (41%); prenatal (37%); Postnatal (9.5%); and Indeterminate (12.5%) (Table 4).

Table 1. Frequency of types of disability in the 3800 patients and behavioral disorders prevalence in each type.

Group	No of Patients	No of behavioral disorders patients	Prevalence of specified disability	Prevalence of behavioral disorders
Total study group	3800	494		13%
Cerebral Palsy	950	41	25%	4.3%
Mental retardation	3572	493	94%	13.8%
Sensory deficits	608	23	16%	3.8%
Epilepsy	1102	180	29%	16.3%

Table 2. Types of behavior disorders in the studied subjects, and combined observed frequency.

Patients with behavioral disorders N= 494	ADHD	ADD	PDD	Disruptive behavior
Pervasive developmental disorders (PDD) N=190	00	00	129	61
Attention deficits with hyperkinesis (ADHD) N=152	152	00	00	152
Attention deficits without hyperkinesis (ADD) N=114	00	112	00	2
Disruptive behavior N=253	152	2	61	38

N=total number of the group

Table 3. Distribution of behaviorally disordered (BD) patients in different mental retardation (MR) degrees.

Degree of MR	Profound IQ<20	Severe IQ 20-34	Moderate IQ 35-49	Mild IQ 50-70	Total
Total (n)	47	179	1308	2038	3572
Percentage	1.3%	5%	36.6%	57%	
N of BD patients	8	29	236	220	493
% of BD patients	17%	16.2%	18%	10.8%	

Table 4. Etiology of proposed brain lesion causing disability.

	Causes
Perinatal (n=1558) (41%)	Hypoxia (74.2%) Jaundice (18.3%) Hypoxia + jaundice (3.6%) Prematurity (3.9%)
Prenatal (n=1406) (37%)	**Maternal** Drug abuse (1.4%) Ingestion of alcohol (0.3%) Profuse bleeding due to incomplete abortion (6.7%) Eclampsia (10.8%) Premature disruption of placenta (9.4%) **Fetal** placental dysfunction (39.1%) **Infections** Cytomegalovirus (5.4%) Toxoplasmosis (5.4%) Rubella (4%) Uterus rupture (1.3%) Fetal Malformation (16.2%)
Postnatal (n=361)9.5%	Meningoencephalitis (9.5%)
Indeterminate (n=475)12.5%	Unknown (12.5%).

DISCUSSION

In recent years, there has been a good deal of attention focused on the occurrence of behavior problems in older children and adolescents with developmental disabilities, including those with mental retardation. From this work, there have emerged strong indications that children with developmental problems may have the likelihood of having a concurrent mental health diagnosis compared with children who are typically developing[13,14]. The co-occurrence of mental retardation and mental health problems is often referred to as "dual diagnosis," and it is only within the past 2 decades that concerns associated with dual diagnosis have developed within the field[2,15]. The concept of dual diagnosis, however, avoids labeling either the developmental disability or the psychological disorder as primary, and reflects the belief that the diagnoses are distinct and equally important to recognize for treatment[14].

The prevalence of emotional and behavioral problems in handicapped children with intellectual disability (ID) is higher (30%-65%)[16-21] than that in the general child population (14%-25%)[22-28]. Behavioral problems, such as aggressiveness and hyper-activity, emotional problems, including mood disorders, withdrawal and self-injury, as well as pervasive developmental problems, such as autism, stereotyped behaviors and disintegrative psychosis, are common among individuals with ID[29,30,31]. In accordance with our results, the level of ID affects the type of behavior in such a way that disruptive behavioral problems are more prominent in children with mild ID [Intelligence Quotient (IQ) 50-70], whereas self-absorbed, psychotic and autistic behaviors, self-injury and stereotyped mannerisms are more common in the group of children with severe ID (IQ <50)[17,19,21,32].

A wealth of data has established that families are affected by and affect their young children with developmental delays[33]. These families are more stressed as a rule, and may engage in interactions that can place their child at further risk for developmental problems. Both stress and less positive interactions have been found to be correlates of behavior problems in children regardless of cognitive functioning, but clearly create increased risk in children that do have cognitive deficits. But family factors alone do not offer a complete explanation for the behavior problems, because child characteristics, such as temperament and self-regulatory ability, are likely key, and may in fact mediate the relations between developmental delay, family functioning, and the emergence of behavior problems during early childhood[33]. It is critical to note that the presence of early developmental delay is not a sentence to poorer outcomes across the various domains of life. It is important to be aware that the greater risk for behavior problems in children with developmental delays is real and substantial. These behavior problems are not first apparent in adolescence or adulthood for persons with developmental disabilities, or even during middle childhood. Rather, problems are apparent as young as age 2 and 3, and the factors associated with the emergence of these problems must be addressed at this early childhood period. And this is critical, because these behavior problems have important clinical costs. In the extreme, Blacher, Hanneman, and Rousey[34] have noted that behavior problems are the major reason that families place their children with developmental disabilities out of home. So,

diagnosis, and aggressive treatment of those behavioral problems may improve patient and family quality of life.

Conclusions

Behavioral disorders are not only very distressing to multiply handicapped patients and their families but also have a negative impact on their learning at school or other facility, peer relationships and social competence, so more attention should be paid to diagnose (detect and classify) and aggressively treat behavioral disorders by pharmacological, educational and environmental interventions.

REFERENCES

1. DeToledo JC, Lowe MR, Haddad H. Behaviors mimicking seizures in institutionalized individuals with multiple disabilities and epilepsy: a video-EEG study. Epilepsy Behav 2002;3:242–4.
2. Borthwick-Duffy, S. (1994). Epidemiology and prevalence of psychopathology in people with mental retardation. Journal of Consulting and Clinical Psychology, 62(1), 17–27.
3. Gillberg C, Persson E, Grufman M, Themner U. Psychiatric disorders in mildly and severely mentally retarded urban children and adolescents: epidemiological aspects. Brit J Psychiatry 1986; 149: 68-74.
4. McQueen PC, Spence MW, Garner JB, Pereira LH, Winsor EJ. Prevalence of major mental retardation and associated disabilities in the Canadian Maritime Provinces. Am J Ment Defic 1987; 91: 460-466.
5. Molteno G, Molteno CD, Finchilescu G, Dawes AR. Behavioural and emotional problems in children with intellectual disability attending special schools in Cape Town, South Africa. J Intellect Disabil Res 2001; 45: 515-520.
6. Jones S, Cull C. An investigation of behaviour disturbance and adaptive behaviour of children with severe intellectual disabilities and epilepsy: a comparative study. J Appl Res Intellect Disabil 1998; 11: 247-254.
7. Goodman R, Graham P. Psychiatric problems in children with hemiplegia: cross sectional epidemiological survey. BMJ 1996; 312: 1065-1068.
8. Curatolo P, Arpino C, Stazi MA, Medda E. Risk factors for the cooccurrence of partial epilepsy, cerebral palsy and mental retardation. Dev Med Child Neurol 1995;37:776-782.
9. Ellenberg JH, Nelson KB. Early recognition of infants at high risk for cerebral palsy: examination at age four months. Dev Med Child Neurol 1981; 23:705-716.
10. Brett EM. Cerebral palsy, perinatal injury to the spinal cord and brachial plexus birth injury. In Brett EM (ed.) Paediatric neurology. Edinburgh: Churchill Livingstone, 1983.
11. Nelson KB, Ellenberg JH. Predisposing and causative factors in childhood epilepsy. Epilepsia 1987;28:S16–24.
12. Ingram T. Paediatric aspects of cerebral palsy. Edinburgh: Churchill Livingstone, 1964.)
13. Baker, B. L., Blacher, J., Crnic, K., & Edelbrock, C. (2002). Behavior problems and parenting stress in families of three-year old children with and without developmental delays. American Journal on Mental Retardation, 107, 433–444.
14. Pfeiffer, S., & Baker, B. (1994). Residential treatment for children with dual diagnoses of mental retardation and mental disorder. In J. Blacher (Ed.), When there's no place like home: Options for children living apart from their natural families. Baltimore, MD: Paul H.Brookes.
15. Matson, J., & Frame, C. (1986). Psychopathology among mentally retarded children and adolescents. Beverly Hills, CA: Sage.

16. Koller H, Richardson SA, Katz M, McLaren J. Behavior disturbance since childhood among a 5-year birth cohort of all mentally retarded young adults in a city. Am J Ment Def 1983; 87: 386-395.
17. Gillberg C, Persson E, Grufman M, Themner U. Psychiatric disorders in mildly and severely mentally retarded urban children and adolescents: epidemiological aspects. Brit J Psychiatry 1986; 149: 68-74.
18. McQueen PC, Spence MW, Garner JB, Pereira LH, Winsor EJ. Prevalence of major mental retardation and associated disabilities in the Canadian Maritime Provinces. Am J Ment Defic 1987; 91: 460-466.
19. Einfeld SL, Tonge BJ. Population prevalence of psychopathology in children and adolescents with intellectual disability: II epidemiological findings. J Intell Disabil Res 1996; 40: 99-109.
20. Linna SL, Moilanen I, Ebeling H, et al. Psychiatric symptoms in children with intellectual disability. Eur Child Adolesc Psychiatry 1999; 8: 77-82.
21. Molteno G, Molteno CD, Finchilescu G, Dawes AR. Behavioural and emotional problems in children with intellectual disability attending special schools in Cape Town, South Africa. J Intellect Disabil Res 2001; 45: 515-520.
22. Rutter ML. Child psychiatry: the interface between clinical and developmental research. Psychol Med 1986; 16: 151-169.
23. Linna SL, Moilanen I. The Finnish National Spidemiological Study of Child Psychiatric Disorders: results from prevalence screening in Northern Finland. Arctic Med Res 1994; 53: 7-11.
24. Costello EJ, Angold A, Burns BJ, Erkanli A, Stangl DK, Tweed DL. The Great Smoky Mountains Study of Youth: Functional impairment and serious emotional disturbance. Arch Gen Psychiatry 1996; 53: 1137-1143.
25. Einfeld SL, Tonge BJ. Population prevalence of psychopathology in children and adolescents with intellectual disability: I rationale and methods. J Intellect Disabil Res 1996; 40: 91-98.
26. Almqvist F, Kumpulainen K, Ikäheimo K, et al. Behavioural and emotional symptoms in 8-9-old children. Eur Child Adolesc Psychiatry 1999; 8: 7- 16.
27. Dekker MC, Koot HM, van der Ende J, Verhulst FC. Emotional and behavioral problems in children and adolescent with and without intellectual disability. JChild Psychol Psychiatry 2002; 43: 1087-1098.
28. Emerson E. Prevalence of psychiatric disorders in children and adolescents with and without intellectual disability. J Intellect Disabil Res 2003; 47: 51-58.
29. Gath A, Gumley D. Behaviour problems in retarded children with special reference to Down's syndrome. Brit J Psychiatry 1986; 149: 156-161.
30. Fraser WI, Leudar I, Gray J, Campbell I. Psychiatric and behaviour disturbance in mental handicaps. J Ment Defic Res 1986; 30: 49-57.
31. Saxby H, Morgan H. Behaviour problems in children with learning disabilities: to what extent do they exist and are they problem? Child Care Health Dev 1993; 19: 149-157.
32. Goodman R, Graham P. Psychiatric problems in children with hemiplegia: cross sectional epidemiological survey. BMJ 1996; 312: 1065-1068.
33. Keith Crnic; Casey Hoffman; Catherine Gaze; Craig Edelbrock. Understanding the Emergenceof Behavior Problems in YoungChildren With Developmental Delay. Infants and Young Children; 2004, Vol. 17, No. 3, pp. 223–235.
34. Blacher, J., Hanneman, R., & Rousey, A. M. (1992). Out-ofhome placement of children with severe handicaps: A comparison of approaches. American Journal on Mental Retardation, 96, 607–616.

الملخص العربي

الإضطرابات السلوكية عند الأطفال المصريين متعددي الإعاقة

الهدف: تهدف الدراسة الى وصف الخواص المميزة لأنواع الاضطرابات السلوكية و العاطفية لدى الأطفال المصريين متعددي الإعاقة، و نسبة شيوعها.

العينة والطرق: تناولت الدراسة تحليل بيانات 3800 طفل مصري متعدد الإعاقة من المنتظمين في المتابعة خلال الأربعة وعشرين شهراً السابقة لبداية الدراسة.

تمت دراسة أنواع الاضطرابات السلوكية ونسب إنتشارها لدى عينة الدراسة وعلاقتها بالأشكال المختلفة للإعاقة. مع وضع العوامل المختلفة المصاحبة للإعاقة الذهنية في الإعتبار.

النتائج: أشارت نتائج تحليل بيانات عينة الدراسة المكونة من 3800 طفل مصري متعدد الإعاقة إلى أن متوسط مدة المتابعة 61 شهراً، وأن 94% منهم يعانون من إعاقة عقلية، و 25% يعانون من شلل دماغي، و 16% يعانون من إعاقات حسية، و 29% يعانون من الصرع، وتمثل نسبة إنتشار الاضطرابات السلوكية 13% من المجموع الكلي لعينة الدراسة.

الخلاصة: تشكل الإضطرابات السلوكية لدى متعددي الإعاقة عامل هام جداً في تعطيل تعلمهم، وأيضاً قد تمثل عامل معيق في ممارسة الحياة الإجتماعية، ولذلك يجب زيادة الإهتمام بتشخيص وعلاج هذه الاضطرابات بكافة الطرق.