PREVELANCE AND CLINICAL CHARACTERISTICS OF SOME NEURODEVELOPMENTAL DISORDERS AMONG CHILDREN AT ALEXANDRIA UNIVERSITY CHILDREN'S HOSPITAL

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INTRODUCTION

Neurodevelopmental disorders (NDD) are conditions with onset in the developmental period. The disorders manifest early and are characterized by developmental deficits that produce impairments of personal, social, academic, or occupational functioning.

Attention deficit hyperactivity disorder (ADHD) is the most frequent NDD and defined as persistent pattern of inattention and/or hyperactivity-impulsivity that interfere with function. Autism spectrum disorders (ASDs) are persistent deficits in social communication and interaction, including deficits in social reciprocity, nonverbal communication, and skills in developing relationships.

Intellectual disability (ID) and global developmental delay (GDD) are prevalent pediatric concerns, with diverse etiologies. ID is defined as disorder with onset during the developmental period that includes both intellectual and adaptive functioning deficits in conceptual, social, and practicaldomains.GDD is defined as significant delay, usually two or more standard deviations below the mean, in two or more developmental domains.

Estimates of the prevalence of NDDs are critical in pediatric medicine. The estimates typically influence medical welfare policy decisions and provide the foundations for pediatric research advancement.

AIM OF THE WORK

The aim of this study was to identify the prevalence and clinical characteristics of a cohort of children with some neurodevelopmental disorders attending the outpatient neurology clinic of Alexandria University Children's Hospital (AUCH).

PATIENTS AND METHODS

PATIENTS:

This retrospective study included medical records of all patients with neurodevelopmental disorders including ADHD, ASD, ID and GDD who attended the Outpatient Neurology Clinic at AUCH from the 1st of January 2017 till the 31st of December 2021.

METHODS:

Each This retrospective study included medical records of children diagnosed with at least one neurodevelopmental disorder including ADHD, ASD, ID, or GDD according to DSM-5 diagnostic criteria attending the outpatient neurology clinic at AUCH during a period of 5 years, from the 1st of January 2017 till the 31st of December 2021.

The following data was retrieved from patients' files: Demographic data, family history data, Prenatal, natal, post-natal data, developmental data, and school-related data.

RESULTS

The prevalence of NDDs was 42.17% (501 out of 1188 children). The most frequently diagnosed NDD was ADHD, followed by GDD, ID, and ASD. While the majority of NDD cases received single diagnosis (470 out of 501), mixed diagnosis was reported in only 31 patients (2.6%).

Table : Distribution of the studied neurodevelopmental cases according to demographic data

	Total (n = 501)	ADHD (n= 190)	ID (n= 123)	ASD (n= 78)	GDD (n= 141)
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Gender					
Male	344 (68.7%)	147 (77.4%)	80 (65.0%)	65 (83.3%)	77 (54.6%)
Female	157 (31.3%)	43 (22.6%)	43 (35.0%)	13 (16.7%)	64 (45.4%)
Residence					
Rural	237 (47.3%)	72 (37.9%)	69 (56.1%)	27 (34.6%)	86 (61.0%)
Urban	264 (52.7%)	118 (62.1%)	54 (43.9%)	51 (65.4%)	55 (39.0%)
Age at first visit (years)					
Infant (2 Month–1 year)	79 (15.8%)	1 (0.5%)	4 (3.3%)	3 (3.8%)	71 (50.4%)
Toddler and preschool (2–5 years)	190 (37.9%)	50 (26.3%)	26 (21.1%)	51 (65.4%)	70 (49.6%)
School age (6–12 years)	224 (44.7%)	136 (71.6%)	87 (70.7%)	24 (30.8%)	0 (0.0%)
Adolescent (13 to 16 years)	8 (1.6%)	3(1.6%)	6 (4.9%)	0 (0.0%)	0 (0.0%)
Min. – Max.	0.17 15	0.25–15	1–14	0.58–12	0.17–4
Mean ± SD.	5.27±3.36	7.0 ±2.36	7.72±2.98	4.48±2.36	1.67±1.08
Median (IQR)	5 (2– 8)	7 (5–8)	7 (6–10)	4 (3–6)	1 (0.75–2)

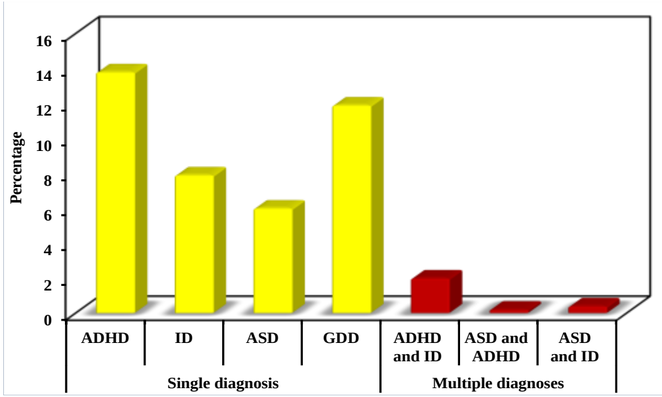

Figure: Distribution of patients with neurodevelopmental disorders according to their diagnoses

CONCLUSIONS

- The prevalence of NDD is 42.17% with a male-to-female ratio of 2.19: 1.
- The most frequently diagnosed NDD is ADHD followed by GDD, ID, and ASD.
- The most important risk factor for NDD was genetic predisposition, represented by a high incidence of family history.
- There was lag in the diagnosis.