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TO EVALUATE THE ASSOCIATION BETWEEN SOCIODEMOGRAPHIC FEATURES AND MEDICAL ILLNESS AMONG PATIENTS WITH ADHD AND SLD

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ABSTRACT Specific learning disorders (SLD) and attention-deficit/hyperactivity disorder (ADHD) are prevalent neurodevelopmental disorders that are impacted by prenatal, medical, and sociodemographic variables. Analyzing these characteristics in a group of patients with SLD and ADHD was the goal of this investigation. A total of 60 patients were recruited, 30 each with ADHD and SLD, for sociodemographic characteristics and medical comorbidities. According to the survey, the majority of patients (55%) were from middling socioeconomic backgrounds, and men made up 73% of the patient population. The majority of patients (55%) lived in cities. Ninety percent of patients reported no serious medical issues, but five percent of patients in each group had congenital hydrocephalus or head injuries. There were no significant changes in the two groups' distributions of perinatal variables, such as developmental delays, and cesarean delivery ($p = 0.5$).There were no discernible changes in the sociodemographic features, medical conditions, and perinatal traits of patients with ADHD and SLD. These results highlight the necessity of more thorough analyses and extensive research to clarify these connections and enhance diagnostic and treatment approaches.

KEYWORDS : Prenatal, Sociodemographic, Attention Deficit Hyperactivity Disorder, Specific Learning Disorder

INTRODUCTION:

Neurodevelopmental disorders such as Attention-Deficit/Hyperactivity Disorder (ADHD) and Specific Learning Disorders (SLD) frequently disrupt the social, academic, and emotional lives of those who suffer from them (APA, 2013). While SLD entails major challenges in learning and applying academic abilities like reading, writing, or math, ADHD is defined by persistent patterns of impulsivity, hyperactivity, and inattention. Due to the frequent co-occurrence of both illnesses, diagnosis and treatments present special difficulties (Barkley, 2014). The prevalence, diagnosis, and treatment of ADHD and SLD can be greatly impacted by sociodemographic characteristics, including family environment, educational background, and socioeconomic level. It is essential to comprehend these sociodemographic factors in order to customize interventions and lessen inequalities in healthcare outcomes and access (Cortese, 2020). The complexity of ADHD and SLD is increased by the prevalence of medical comorbidities in these patients. Obesity, sleep disorders, and long-term illnesses like epilepsy or asthma are common coexisting medical factors that can make behavioral and learning challenges worse (Fletcher et al., 2017). These groups also commonly report mental health conditions like depression and anxiety, which further lowers quality of life. The need for a comprehensive strategy that takes into account both medical and contextual factors in the assessment and treatment of ADHD and SLD is highlighted by the interaction of sociodemographic factors and medical comorbidities (Efron et al., 2016). Thus, the present study was conducted to analyze the sociodemographic features and medical illness among patients with ADHD and SLD.

MATERIAL AND METHODS:

This study included a cohort of 40 patients diagnosed with either Attention-Deficit/Hyperactivity Disorder (ADHD) or Specific Learning Disorder (SLD) based on the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) criteria. A total of 40 participants aged 7 to 15 years, diagnosed with either SLD or ADHD, and recruited from a specialized paediatric neurodevelopmental clinic. Diagnosis of SLD and ADHD was established based on clinical assessments by licensed psychologists and neurodevelopmental specialists. Written informed consent was obtained from parents or guardians, and assent was sought from children, where appropriate. Sociodemographic data, including age, gender, socioeconomic status, and parental education levels, were collected through structured interviews. Clinical assessments and studies of the individuals' medical histories were used to evaluate their medical profiles. The diagnosis was verified and the severity of the symptoms of SLD and ADHD were assessed using standardized psychometric instruments. Descriptive and inferential statistical analysis was used to find trends and connections among medical comorbidities, sociodemographic factors, and the intensity of symptoms of SLD and ADHD. The study received ethical approval from the institutional review board.

RESULTS:

In the present study, a total of 60 patients with ADHD and SLD were recruited, out of which 30 patients each for SLD and ADHD were analyzed. It was observed that out of 60 patients, males (73%) outnumbered the females (28%). In case of socioeconomic status, majority of the patients belongs to MSES (55%), followed by ISES (35%) and LSES (10%). About 55% resides in the urban area while 45% were from rural area. Out of 60 patients, 30% patients were farmers and 25% each were having business and private jobs, respectively. Also, 10% patients run shops and 5% were in teaching and 5% were computer analyst. Very less patients were highly educated as only 10% were post graduate, while 35% each were graduate and 12th pass, respectively. 15% were 10th pass and 5% were only having education till 5th class. Majority of patients did not report any illness (90%), 5% each reported congenital hydrocephalus and head injury, respectively.

Table 1: The Frequency Of Medical Illness Among The Patients

MEDICAL ILLNESS	Number	Percentage
CONGENTIAL HYDROCEPHULUS	4	6.6%
HEAD INJURY	4	6.6%
NONE	52	86.6%

Table 2: Association Of Medical Illness With ADHD And SLD

MEDICAL ILLNESS	ADHD		SLD		P-Value
	Number	Percentage	Number	Percentage	
CONGENTIAL HYDROCEPHULUS	2	3.33%	2	3.33%	0.5
HEAD INJURY	2	3.33%	2	3.33%	0.5
NONE	26	86.6%	26	86.6%	0.5

Table 3A: Association Of Perinatal Conditions With ADHD And SLD

PERINATAL	ADHD		SLD		P-Value
	Number	Percentage	Number	Percentage	
DIFFICULTY IN BREATHING	2	6.66%	2	6.66%	0.5
FAILED IN 3rD	2	6.66%	2	6.66%	0.5
NONE	24	80.0%	24	80.0%	0.5
PROVISIONALLY PROMOTED	2	6.66%	2	6.66%	0.5

Table 3B: Association Of Perinatal Conditions With ADHD And SLD

PERINATAL	ADHD		SLD		P-Value
	Number	Percentage	Number	Percentage	
C-SECTION	5	16.6%	5	16.6%	0.5
C-SECTION, WALKING DELAYED	1	3.33%	1	3.33%	0.5
NONE	22	73.3%	22	73.3%	0.5
SPEECH DELAYED	1	3.33%	1	3.33%	0.5
WALKING DELAYED	1	3.33%	1	3.33%	0.5

DISCUSSION:

In the present study, 60 patients were recruited and analyzed. In the study, male preponderance (73% males vs. 28% females) was seen which was consistent with previous research showing that males were more likely than females to have ADHD and SLD (Willcutt, 2012). A mix of biological, behavioral, and social reasons were frequently blamed for this gender gap, including variations in symptom presentation, where men were more prone to display externalizing behaviors that lead to a diagnosis (Faraone et al., 2015). This research emphasizes how crucial gender-sensitive diagnostic standards and knowledge were to preventing the exclusion of women with less obvious symptoms.

The majority of patients (55%) belonged to the middle socioeconomic strata, followed by higher (35%) and lower (10) socioeconomic status (SES), which was found to be an influencing factor. Although families in middle-income groups frequently have easier access to diagnostic services than those in lower-income groups, this distribution was in line with earlier research showing that neurodevelopmental abnormalities were common across all SES levels (Russell et al., 2016). Additionally, the majority of patients lived in cities (55%), which would indicate that specialized healthcare services were more readily available in cities than in rural areas. But in order to close service delivery disparities, this urban-rural split also emphasizes the necessity of bolstering diagnostic and intervention frameworks in rural areas.

An examination of the patients' professions and educational attainment showed a wide range of backgrounds, with a sizable percentage working in business/private jobs (25%) or farming (30%). The majority of participants had a graduate or intermediate level of education (35% each), with only 10% being postgraduates. The academic difficulties that come with ADHD and SLD, which frequently prevent people from pursuing further education, may be related to this comparatively low level of schooling (Cortiella & Horowitz, 2014). These results highlight the significance of early intervention initiatives meant to enhance academic support and achievement as well as the long-term effects of these illnesses on educational attainment.

According to the study, 6.6% of the patients reported congenital hydrocephalus and brain injuries, whereas 86.6% of the patients did not disclose any serious medical issues. Neurodevelopmental problems like ADHD and SLD are frequently linked to illnesses like seizures, sleep disturbances, and emotional disorders, despite the noteworthy low frequency of comorbidities in this group (Cortese et al., 2020). Selection bias or sample size may be to blame for the study's inadequate coverage of comorbidities.

With 86.6% of patients in both groups reporting no serious medical diseases, the study's review of medical illnesses in individuals with ADHD and SLD showed few comorbid problems. This result is a little surprising because previous research has consistently shown that those with neurodevelopmental abnormalities had a higher prevalence of medical comorbidities. While children with SLD are regularly reported to have linked neurological or physical illnesses, ADHD populations are typically found to have conditions including obesity, sleep disturbances, and seizures (Cortese, 2020; Margari et al., 2013).

The idea that structural brain abnormalities can cause or worsen neurodevelopmental issues is supported by the finding that 5% of patients in both groups had congenital hydrocephalus. Cognitive and executive function problems linked to hydrocephalus may make ADHD and SLD more difficult to diagnose clinically (Kulkarni et al., 2018). Similarly, an additional 6.6% of patients in both groups reported having a head injury. Due to abnormalities in neural networks essential for attention and executive function, traumatic brain injuries are known to raise the likelihood of developing symptoms similar to ADHD (Max et al., 2005).

The uniform distribution of variables and a p-value of 0.5 across categories indicate that there were no significant differences between patients with ADHD and SLD in this study's investigation of perinatal factors. Contrary to previous research that links perinatal adversity, such as preterm birth and low birth weight, to an elevated risk of neurodevelopmental disorders, the majority of patients (86.6%) in both groups reported no significant perinatal issues (Johnson & Marlow, 2011). Five percent of patients in both groups experienced both provisional promotion and breathing difficulties at delivery, indicating isolated situations that may merit additional investigation. Similarly, failure in the third grade was reported by 6.6% of patients in both groups, underscoring the potential long-term impact of early perinatal complications on academic performance (Vohr et al., 2017).

A consistent distribution across groups and a p-value of 0.5 suggest that there were no significant differences between patients with ADHD and SLD based on the perinatal variables examined in this study. Contrary to research that suggests negative perinatal occurrences, including cesarean birth (C-section), may be linked to neurodevelopmental issues, the majority of patients (73.3%) reported no perinatal complications (Curran et al., 2019). 16.6% of patients in both groups reported having a cesarean delivery, and 3.33% of patients in each group also had speech or movement problems. Children with neurodevelopmental disorders frequently exhibit delays in speech and motor development, which can affect early milestones and lead to behavioral and academic difficulties later on (Bishop et al., 2016).

CONCLUSION:

The sociodemographic and medical traits of patients with ADHD and SLD are highlighted in this study, which shows that there are few notable distinctions between the two groups and that some elements overlap. The results highlight how crucial it is to identify and evaluate prenatal, medical, and developmental factors early on in order to better understand how they contribute to neurodevelopmental disorders. This study highlights the need for larger studies to investigate these relationships and enhance targeted therapies, even though the small sample size restricts the generalizability.

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