

**BEHAVIORAL PROFILE OF INTELLECTUALLY DISABLED PATIENTS ATTENDING  
A TERTIARY CARE CENTER IN INDIA**Navneet Kaur Bhatia<sup>1</sup>, Navleen Kaur Bhatia<sup>2</sup> and Dr. M. S. Bhatia<sup>3\*</sup><sup>1</sup>Department of Dental Surgery, Dr. R.M.L. PGIMER & Hospital, New Delhi-110001.<sup>2</sup>Department of Dentistry, AIIMS, Jodhpur, Rajasthan.<sup>3</sup>Department of Psychiatry, UCMS & GTB Hospital, Dilshad Garden, Delhi-110095.**\*Corresponding Author: Dr. M. S. Bhatia**

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**ABSTRACT**

**Background:** Intellectual disability (ID) is a common problem complicated by behavioral and physical comorbidity. The common behavioral problems are related to conduct, ADHD, aggression or agitation and emotion. There data is unique in every continent. Therefore, the present study was undertaken to analyze socio-demographic details, etiological factors and behavioral profile of ID patients. **Material & Methods:** 100 (74 males and 26 females) Intellectually disabled patients between the age 6 – 40 years, attending the disability clinic of, a tertiary care center in Delhi were thoroughly examined. **Results:** 40% of ID patients were in the age - group of 6 – 10 years, 74% were males and 41% belonged to semi urban background. Among etiological factors, most common causes of ID were birth anoxia (44%), family history (15%), Down's Syndrome (9%) and antenatal Drug Exposure (5%). Behavior disorders (47%) were the commonest followed by ADHD (39%) and speech disorders (34%). Physical illnesses were seen in 57%. Maternal drug intake and maternal fever was found to be significantly more among females. The h/o postnatal events such as Trauma was found to be significantly more among females whereas anoxia, jaundice, head injury and infections were found to be significantly more among males. Microcephaly and Down syndrome were found to be significantly more among females. **Conclusion:** Birth anoxia and antenatal exposure to drugs are important factors leading to intellectual disability. They should be prevented. Oral habits are common in ID patients, there is a great need for the strengthening of Oral health promotion/awareness programs.

**KEYWORDS:** Intellectual disability, etiological factors, behavioral disorders, ADHD, Speech disorders, gender.**INTRODUCTION**

About 3% of all children across the world are "special".<sup>[1]</sup> Intellectual disability (ID), also called intellectual development disorder (IDD) or general learning disability, and formerly known as mental retardation (MR), is a generalized neurodevelopmental disorder characterized by significantly impaired intellectual and adaptive functioning. It is defined by an IQ (Intelligence quotient which is measured by an IQ test) score below 70 in addition to deficits in two or more adaptive behaviors that affect every day, general living.<sup>[2]</sup>

On degree of severity,<sup>[3]</sup> reflecting level of intellectual impairment, Intellectual disability is classified into: - Mild: IQ level 50-55 to approximately 70; Moderate: IQ level 35-40 to 50-55; Severe: IQ level 20-25 to 35-40 and Profound: IQ level below 20 or 25.

Irrespective of etiology, behavior disorders are frequent in children with intellectual disability. They can be severe and disabling and can mask an organic or

psychiatric illness. This is further complicated when parents often do not seek help for the problem, perhaps believing that it is due to the child's disability and cannot be treated.<sup>[4]</sup>

The common behavioral indicators of ID are: Rolling over, sitting up, crawling, or walking late; talking late or having trouble with talking; slow to master things like potty training, dressing, and feeding himself or herself; difficulty remembering things; Inability to connect actions with consequences; behavior problems such as explosive tantrums and difficulty with problem-solving or logical thinking. In children with severe or profound intellectual disability, there may be other health problems as well which may include seizures, mood disorders (anxiety, autism, etc.), motor skills impairment etc.

## AIMS AND OBJECTIVES

To analyze socio-demographic details, etiological factors and behavioral profile of ID patients and compare them among males and females.

## MATERIAL AND METHODS

100 (74 males and 26 females) Intellectually disabled patients between the age 6 – 40 years, attending the disability clinic of G.T.B. Hospital & UCMS, a tertiary care center in Delhi were thoroughly examined. The detailed antenatal, natal and post-natal history was taken from a reliable informant. The details related to onset of the behavior disorder, evolution over time, extenuating or aggravating factors (e.g., environmental stressors that could be impacting the child), functional impairment, a

family history of psychiatric problems and the impact of the child's behavioral difficulties on other family members. Information on the individual's level of functioning including cognitive, adaptive, social-functioning, levels of receptive understanding and expressive language was also recorded<sup>[5]</sup>. A thorough physical examination was done in all cases. Investigations were done, wherever required. Data pertaining to behavior was recorded in detail.

## RESULTS

### *Sociodemographic profile*

40% of ID patients were in the age - group of 6 – 10 years, 74% were males and 41% belonged to semi urban background (Table I).

Table-I.

CLINICAL FINDINGS							
Socio-demographic profile of Intellectually Disabled							
AGE (YRS)	FINDINGS (%)	GENDER	FINDINGS (%)	RELIGION	FINDINGS (%)	BACKGROUND	FINDINGS (%)
6-10	40	MALE	74	HINDU	63	URBAN	34
11-15	18	FEMALE	26	MUSLIM	36	SEMI URBAN	41
16-20	20			SIKH	1	RURAL	25
21 onwards	22			OTHERS	0		

### **Etiological factors**

Among etiological factors, most common causes of ID were birth anoxia (44%), family history (15%), Down's syndrome (9%) and antenatal drug exposure (5%) (Table II).

### **Comorbid disorders**

Behavior disorders (47%) were the commonest followed by ADHD (39%) and speech disorders (34%) (Table II & Figure 2). Physical illnesses were seen in 57%.

Table-II.

Etiological factors related to ID	
Etiological Factors	Findings (%)
1. H/O Prenatal Events	
- Maternal Drug Intake	5%
- Maternal Fever	2%
2. H/O Natal and Post Natal events	
- Trauma	1%
- Birth Anoxia	44%
- Head Injury	8%
- Birth Infection	5%
- Jaundice	1%
- Fever	1%
3. Special Condition	
- Microcephaly	1%
- Down Syndrome	9%
4. Family history	
- yes	15%
- no	85%
5. Comorbidity	
a) yes	81% (as following)
i. ADHD	39%
II. Behaviour Disorders	47%
iii. Speech Disorder	34%
iv. Elimination Disorder	8%
v. Autism	1%
b) no	19%
6. physical illness	
a. yes	57%
b. no	43%

#### Comparison of Pre-natal life among males and females

The distribution of the pre-natal events was compared between males and females using chi-square test. Maternal drug intake and maternal fever was found to be significantly more among females. The h/o postnatal events such as Trauma was found to be significantly more among females whereas anoxia, jaundice, head injury and infections were found to be significantly more among males. Microcephaly and Down syndrome were found to be significantly more among females. The distribution of comorbidities was compared between males and females using chi-square test. ADHD was significantly more among males whereas there was no

significant difference in the prevalence of other comorbidities among males and females (Table III).

Table III: The distribution of the pre-natal events was compared between males and females.

Categories	Male Total 74 No of pts in each category	Female Total 26 No. of pts	p-value
1. H/o prenatal events			
a. maternal drug intake	1	3	0.024*
b. maternal fever	3	3	
2. H/o postnatal events			
a. trauma		1	<0.001*
b. birth anoxia	34	9	
c. jaundice	1		
d. head injury	6		
e. infections	5	1	
3. Special condition			
a. microcephaly		1	<0.001*
b. down syndrome	6 (8.11%)	3 (11.53%)	
4. Family history	13	3	0.471
5. Comorbidity			
a. ADHD	34	6	0.041*
b. Behaviour disorder	32	8	0.264
c. Speech disorder	26	10	0.761
d. Elimination disorder	6		0.134
e. autism	1		0.551
6. Physical illness	37	13	1.000

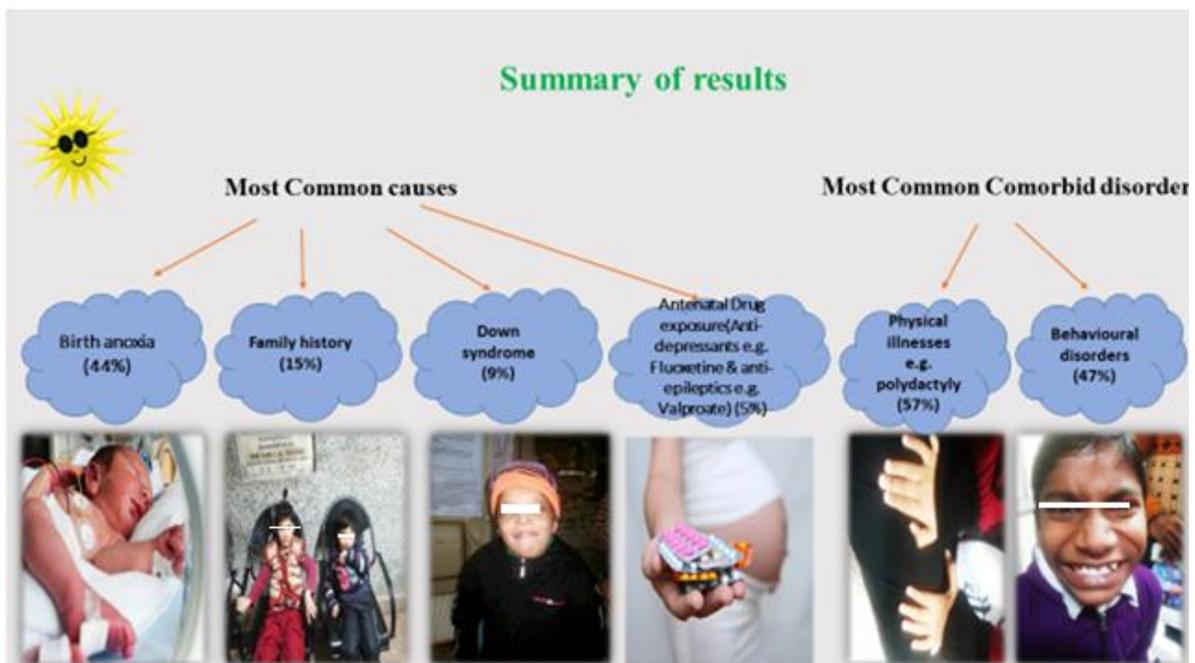


Figure-1.

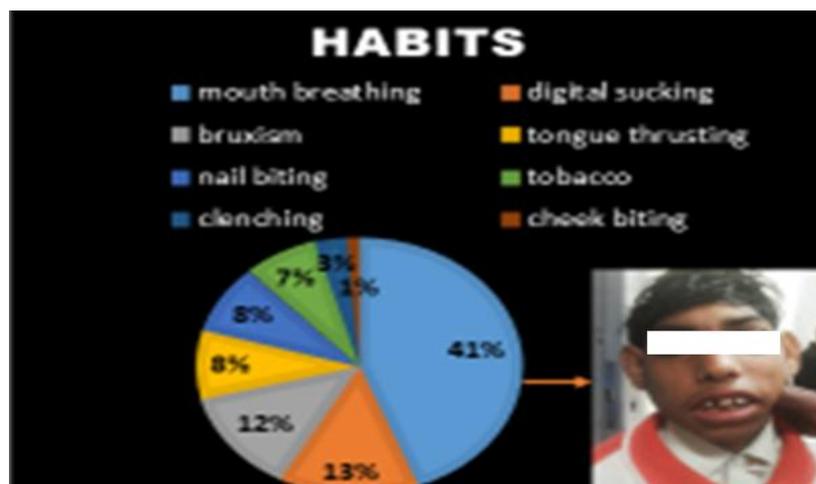


Figure 2: Common Habits.

## DISCUSSION

Behavior disorders are relatively common in intellectually disabled children. The prevalence rate of psychiatric disturbances, in the population of children with an ID, is 20% to 35%, that is, three to five times higher than that for the general population.<sup>[4]</sup> The common problems are ADHD, agitation and aggression, sleep disturbances and self-injury.<sup>[4]</sup>

The prevalence rate of ADHD in the general population is 5%,<sup>[6]</sup> and between 9% to 16% in the pediatric population with an ID.<sup>[7]</sup> In our study, the prevalence was 39% and it was significantly more in males in comparison to females (34% versus 6%).

The different types of aggression in ID children are seen toward others (e.g., hitting, biting, kicking); toward self (e.g., self-injurious behavior including biting, self-hitting, head banging) or destructive/disruptive behaviors (e.g., breaking utensils, screaming, crying etc.).<sup>[4]</sup> Agitation is also common. In our study, these behaviors were noted in 47% ID children. The behavior disorders were significantly more reported in males as compared to females (32% versus 8%). Boys and girls tend to exhibit problem behavior differently, with higher rates of externalizing problems documented for boys and, to some extent, more internalizing problems (withdrawal, depression) for girls.<sup>[8-11]</sup>

Fauth, Platt and Parsons<sup>[12]</sup> reported that disabled children exhibit more behavior problems than non-disabled children at age 3, and their trajectories from ages 3 to 7 do not converge. Rather, disabled children, particularly boys, show increasing gaps in peer problems, hyperactivity, and emotional problems over time.

Another important finding in present study was speech disorder in 34%. Language delay and speech disorders are common with intellectual disability.<sup>[13]</sup>

In our study, 15% has positive family history for the intellectual disability similar to study by Shukla et al<sup>[2]</sup>

that stated 7% of positive family history. The common etiological factors of intellectual disability are – prenatal (genetic, inborn errors etc.), natal (birth anoxia, complicated labor) and postnatal (Hypoxic ischemic injury, head injury, infections, demyelinating disorders, seizure disorders (e.g., infantile spasms) etc.).<sup>[13]</sup> In our study, birth anoxia (44%) and Down's syndrome (9%) were common etiological factors.

In our study mouth breathing was found in 41% followed by digital sucking 13% followed by bruxism 12% whereas other studies.<sup>[14,15]</sup> had reported, mouth breathing, bruxism, nail/pencil biting, lip/cheek biting, nail biting and lip biting are common oral habits.

While conduct, hyperactivity, and peer problems typically decline over the time,<sup>[11,16]</sup> emotional symptoms tend to be stable or increase.<sup>[11,17]</sup> The exception to this general pattern is a small subset of children, comprising more boys than girls, who display high levels of physical aggression that persist.<sup>[18,19]</sup>

The increased levels of parenting stress associated with parenting a young disabled child<sup>[20,21]</sup>, it may be that less favorable family climates exacerbate differences in behavior problems between disabled and non-disabled children.

There were limitations in the present study that it was cross-sectional in nature, socioeconomic strata and the behavioral analysis according to severity of intellectual disability was not done. The impact of intellectual disability on family functioning is also an important area of research.

## CONCLUSION

Birth anoxia and antenatal exposure to drugs are important factors leading to intellectual disability. They should be prevented. Oral habits are common in ID patients, there is a great need for the strengthening of Oral health promotion/ awareness programs that will ensure the availability of comprehensive preventive and

oral health care for these risk groups. Care givers should be educated regarding the benefits of good oral hygiene and orthodontic treatment at an early age that can prevent the developing malocclusion. Special measures which can be taken are team work under the guidance of psychiatrist and medication for hyperactivity and aggressive behavior.

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