



## Original Research Article

## The clinical profile of intellectually disabled children in pediatric OPD at tertiary care center in Jaipur, Rajasthan, West India

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## ABSTRACT

**Background:** Intellectual disability (ID) is a global public health concern. Prevalence of ID and its association with age and other demographic factors is required for planning purpose in India. Psychiatric disorders are ubiquitous and affect not only adults but children and adolescents too. Also the age factor plays an important role in pattern of this psychiatric disorder. The objective of following is to study the clinical profile of intellectually disabled children in the study sample and prevalence of ID and its association with sex, age and other demographic factors.

**Materials and Methods:** A total of 180 patients diagnosed as ID were included in this study from february-2104 to November-2018 record of patients visiting paediatric outdoor. Sex, age and living area were evaluated for each child. IQ was assessed by Seguin form board test (SFBT), Gesell's Drawing Test (GDT), Coloured Progressive Matrices test and Standard Progressive Matrices test and adaptive skills by Vineland Social Maturity Scale. IQ was assessed by the clinical psychologist.

**Results:** The prevalence of ID was 154 of the total disabilities recorded. Prevalence of ID with mild and moderate grade was higher among urban area ( $p=0.001$ ) whereas case diagnosed as severe ID were more in rural area. Out of 154 patients 84% patients had significant co morbidity. The prevalence of mild & moderate grade ID was more with other group of disease ( $p=0.004$ ) as compared to cases with cerebral palsy and ADHD. No notable sex difference was seen.

**Conclusion:** Proper assessment centres for children with ID should be developed. Proper awareness, referral system, resources availability and regular follow up should be included in protocol management of ID. Provision for psycho-education for parents, teachers, society members must be a part of management protocol.

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### 1. Introduction

ID according to WHO has overall prevalence of 1.3% in global scenario.<sup>1</sup> This by itself suggests the magnitude of problem in terms of economy for a developing country like us. ID also produces psychological, social, financial disaster to the whole family particularly parents; as they are usually the only constant caretakers.<sup>2</sup> The prevalence of ID in India is not well known. India has the world's largest children population who are at higher risk of

developmental disability.<sup>3,4</sup> Prevalence of ID in India varies by age, gender and place of residency. These demographic and geographical failures influence awareness of ID, its prevention and health care rehabilitation service. The issue of prevalence is very important for several errors including population prevention in intervention planning & education, rehabilitation planning and health care service.<sup>5</sup> In India, the larger population live in rural setting, with significantly higher rates of poverty, inaccessibility of health care and rehabilitation as compared to urban setting. The difference of prevalence between urban and rural settings with regard to age is needed for planning and development of services.

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## 2. Aim and Objective

To study the clinical profile of intellectual disabilities to children in study sample as per age, sex, location and its prevalence.

## 3. Materials and Methods

Study place was paediatric outdoor patients at tertiary care centre in Jaipur. Study design was retrospective study. Study period from february-2014 to November 2018 record of patients visiting paediatric outdoor. Study population was children and adolescent aged 1-16 yr of both sexes whose parents and guardian gave written consent constitute the study population. Sample size of 180 patients diagnosed as MR was included in study. Sampling method consecutive sampling method was used. Sex, age and living condition were evaluated for each child. The state of mental health and psychiatric morbidity was assessed after a thorough clinical assessment. IQ was assessed by Seguin Form Board Test, Gassell's Drawing Test, Coloured Progressive Matrices Test and Standard Progressive Matrices test and adaptive skills by Vineland Social Maturity Scale According to ICD-10, the level of severity of MR mild (IQ= 50-69), moderate (IQ= 35-49) AND severe (IQ=20-34).<sup>1</sup> Data analysis done by Spearman correlation was computed for prevalence of ID and age among child in urban/rural setting. X2-test was applied to determine difference between ID and prevalence. Socio-demographic and clinical details were noted in semi structured performa.

### 3.1. Sample selection

Paediatric patient diagnoses as ID according to ICD 10 were included in the study. A sample of total 180 patients from february-2014 to November-2018 record of outdoor patient were taken and data was analysed. Objective data regarding the demographic detail and clinical profile of illness was collected.

### 3.2. Inclusion criteria

All children and adolescent aged 1-16 year of both sexes whose parents and guardian gave written consent.

### 3.3. Exclusion criteria

All children aged above 16 years and all those not given consent was not included in study.

## 4. Results

The data obtained about various parameter categorized according to age group, sex, diagnosis and comorbidity were entered in Microsoft excel. All data are tabulated and analysed by Statistical Package for the social science 20.0 version. The information thus generated was presented in

tables as frequencies and percentage.

Table 5 shows pattern of psychiatric morbidity associated with ID in which among 180 cases maximum number of cases about (50 cases, 27.76%) with birth asphyxia, (32 cases, 17.77%) with cerebral palsy, (27 cases, 15%) with seizure disorder and minimum with downs syndrome about 3%.

## 5. Discussion

Out of 180 patient 150 children were diagnosed as ID. According to our literature review, this study appears to be one of the few studies on the prevalence of ID from our part of the world. In a report from the national health survey, the combined prevalence of and/or developmental disabilities from 1994/1995 in the united states was 14.9per 1000.<sup>6</sup> On the other hand Farnell reported prevalence rate of 12.8 per 1000 in school-aged children from a Swedish suburban municipality.<sup>7</sup> According to the reports from developing countries, Durkins et al. estimated the prevalence of ID at 19.0/1000 for serious retardation and at 65.3/1000 children for mild retardation in Pakistan.<sup>8</sup> The prevalence of MR with mild and moderate grade was higher among urban(P =0.001) where as severe ID in rural areas. This is in contrast to the results of the study by Chadda and Maan et al., which found that children from urban background predominate.<sup>9</sup> Most of the patients were diagnosed as having ID by age between 6 to 10 years(47%) and by 5 year of age (26%) and by age more than 10 years (26%). Distribution of prevalence among age group indicates that range with highest level ID was among urban areas (67%) whereas severe cases of ID more in rural areas (p-0.001). The percentage of case of mild grade and moderate grade MR were common with other group disease as compare to cases with seizure disorder and cerebral palsy. Malhotra and Chaturvedi, in their studies on pattern of childhood psychiatric disorders in India, found that the largest diagnostic category was ID that accounted for 28%-33% of all cases.<sup>10</sup> No notable sex difference between male and female was seen. The rehabilitation institute should provide their services by increasing awareness of health maintenance in rural areas. All these services should preferably start from birth of ID child to help parents in coping with their emotions. Counselling services, treatment, occupational therapy and physiotherapy if required should be included in protocol management of ID. Proper referral system should develop in rural setting for early diagnosis and proper referral management. Regular follow up, parental counselling should be part of management protocol.

## 6. Conclusion

Case of ID with mild and moderate grade were more in urban areas where as severe cases of ID were more in rural areas due to lack of awareness and resources

**Table 1:** Distributions of children with MR by sex

Sex	Normal	Mild	IQ		X <sup>2</sup> (df)	P value
			Moderate	Severe		
Male	13(50)	67(69.79)	32(65.23)	7(77.77)	4.15(3)	0.245
Female	13(50)	29(30.20)	17(34.29)	2(22.22)		

The chi square statistics is 4.15; p-value 0.245; This result is not significant at p>0.05

**Table 2:** Distribution of children with MR by location

Location	Normal	Mild	IQ		X <sup>2</sup> (df)	P value
			Moderate	Severe		
Urban	22(84.61)	64(66.66)	35(71.42)	1(11.11)	17(3)	0.001
Rural	4(15.38)	32(33.33)	14(28.57)	8(88.88)		

The chi-square statistic is 17; P-value is 0.001; This result is significant at p<0.05

**Table 3:** Distribution of children with MR by age

Age	Normal	Mild	IQ		X <sup>2</sup> (df)	P value
			Moderate	Severe		
0-5	3(11.53)	29(30.20)	13(26.53)	2(22.22)	6.64(6)	0.365
6-10	13(50)	45(46.87)	25(51.02)	3(33.33)		
>10	10(58.46)	22(22.91)	11(22.44)	4(44.44)		

The chi-square statistic is 6.64; p-value is 0.365; This result is not significant at p<0.05

**Table 4:** Distribution of children with MR by severity

Comorbidity	Normal	Mild	IQ		X <sup>2</sup> (df)	P value
			Moderate	Severe		
CP	2(7.69)	26(27.8)	16 (32.65)	1(11.11)	18.9(6)	0.004
SEIZURE / ADHD	3(11.53)	21(21.87)	5(10.20)	1(11.11)		
Other	21(80.76) 26(100)	49(51.04) 96(100)	28(57.14) 49(100)	7(77.77) 9(100)		

Other -> severe anaemia, RTA, Down Syndrome, Post Traumatic, neurological, genetic metabolic, and psychiatric disorders

The chi-square statistic is 18.9; p-value is 0.004; This result is significant at p<0.05

**Table 5:** Pattern of psychiatric morbidity

Diagnosis	Number of Patients (%)
CP	32(17.77)
Seizure disorder	27(15)
ADHD	12(6)
Borderline Intellectual Functioning	10(5)
Birth asphyxia	50(27.76)
Severe Anaemia	25(13.88)
Down Syndrome	6(3)
RTA/Post Traumatic	18(10)

CP- cerebral palsy, ADHD – Attention-Deficit/Hyper Activity

and proper referral system. Cases of mild/moderate grade ID with other co morbidities like severe anaemia, birth asphyxia, Down syndrome, traumatic history were more as compare to associated morbidities like CP & ADHD. The rehabilitation institute should provide their services by increasing awareness of health maintenance in rural areas. All these services should preferably start from birth of ID child to help parents in coping with their emotions. Counselling services, treatment, occupational

therapy and physiotherapy if required should be included in protocol management of ID. Proper referral system should develop in rural setting for early diagnosis and proper referral management. Regular follow up, parental counselling should be part of management protocol.

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## 8. Conflict of Interest

None.

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