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## Developmental Problems of Mild to Moderate Mentally Challenged Children Enrolled At Special Schools

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### ABSTRACT:

**Introduction:** Developmental problems among children, particularly those who are mild to moderately mentally challenged, affect several functional domains, including cognition, motor abilities, vision, hearing, speech, and behavior. This study investigates the specific developmental problems that children confront in special schools in the rural district, utilizing standardized assessment instruments to provide insights into their developmental pathways. The findings are intended to inform targeted interventions and highlight the need for comprehensive public health and educational strategies to support affected children, particularly in resource-constrained situations.

**Method and Material:** The study utilized a descriptive cross-sectional design to evaluate developmental problems in 50 mentally challenged children (ages 6-12) from special schools, using stratified random sampling. Data was collected through structured interviews, direct observations, and standardized tools like DDST and VABS, with descriptive statistics employed for analysis. Ethical considerations, including informed consent and confidentiality, were strictly adhered to, in line with the Declaration of Helsinki. **Result:** The study found that the majority of mentally challenged children were male, with a significant proportion having moderate intellectual disability. Most children face challenges in speech and language development, with a considerable number experiencing behavioral issues. These findings underscore the importance of early intervention and tailored support for this vulnerable population. **Conclusion:** This study highlights demographic characteristics and developmental challenges in mentally challenged children, emphasizing the need for targeted interventions to support their well-being.

**Keywords:** Developmental Problems, Cognitive problems, Speech & communication problems, Behavioral Problems, Health Related Problems, Medication-Related Problems, Mentally Challenged Children, Special School, Motor Control problems

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## 1. Introduction

Developmental issues are functional challenges caused by abnormalities in the growing neurological system. These difficulties emerge in infancy or childhood, either as delays in meeting developmental milestones or as limitations in areas such as thinking ability, motor skills, vision, hearing, speech, and conduct. The following is a breakdown of the basic types of developmental issues and their respective codes in the International Classification of Diseases (ICD)-10. <sup>[1]</sup>

To varying degrees, numerous neurological and psychiatric illnesses that are not traditionally categorized as developmental difficulties can be linked back to early neurodevelopmental processes. <sup>[2]</sup>

The clinical characteristics of developmental disorders differ in both severity and the precise areas of function that are affected. Brief explanations of the clinical characteristics of each broad type of developmental impairment are provided below. <sup>[3]</sup>

It is important to note that children with developmental problems frequently experience limitations across multiple functional domains due to the nature and extent of brain impairment, as well as increased vulnerability to other factors contributing to disability, such as malnutrition, trauma, or infection, even if they only have one disability. <sup>[4]</sup>

Developmental disabilities stem from harm or abnormalities affecting the developing nervous system, which is particularly susceptible during its rapid growth phase spanning from gestation through early childhood. Many developmental disabilities arise from genetic or chromosomal abnormalities, either inherited or occurring sporadically, or from the interplay of genetic factors and environmental influences. Additionally, infections, lack of proper nutrition, and other external factors during crucial stages of neurodevelopment can also contribute to developmental disabilities. The impact of these factors often hinges on when the insult occurs during the development of the nervous system. <sup>[5]</sup>

Cognitive disorders in children include both mental retardation and specific learning problems in children with normal intelligence. Mental retardation is characterized as subnormal intelligence (IQ more than two standard deviations below the population mean) along with difficulties in adaptive behavior. Mental retardation grades are typically characterized by IQ. <sup>[6]</sup>

Specific learning disorders, on the other hand, are caused by impairments in one or more specific "processes of speech, language, reading, spelling, writing, or arithmetic resulting from possible cerebral dysfunction. <sup>[7]</sup>

Children may have a variety of motor dysfunctions, depending on the site of the injury. The motor cortex causes spasticity, whereas the cerebellum causes hypotonic with or without ataxia. The involvement of the basal ganglia causes dyskinesia and dystonia. Individuals with cerebral palsy frequently have additional problems as a result of simultaneous injuries to several parts of the brain. These difficulties include mental retardation, learning challenges, epilepsy, linguistic disorders, and behavioral issues. Similarly, some progressive motor illnesses, such as muscular dystrophy, can be associated with cognitive impairment. <sup>[8]</sup>

On the contrary, paralytic diseases caused by poliomyelitis or spinal cord injury, as well as congenital or acquired limb abnormalities, largely affect motor abilities or mobility without requiring major cognitive involvement. <sup>[9]</sup>

Low vision, blindness, and hearing loss are more common in older people. Nonetheless, numerous key causes of vision and hearing impairment appear early in infancy and might be classified as neurodevelopmental, as explained below. <sup>[10]</sup>

Refractive errors, the most common type of vision impairment, are especially difficult for children in low-income areas since many do not have access to eyeglasses or basic vision care services. <sup>[11]</sup>

Children with mild to moderate intellectual disabilities who attend special schools confront particular developmental problems. These problems can have an impact on their cognitive, social, emotional, and physical development. <sup>[12]</sup> Special schools play an important role in offering personalized educational programs, therapeutic therapies, and supportive environments that address these children's unique requirements. By addressing these developmental barriers, special schools not only improve these children's academic performance but also promote their entire growth and integration into society. Continuous research and adaptive teaching practices are required to improve the developmental outcomes of these students and ensure they realize their full potential. <sup>[13]</sup>

## 2. Methodology

The study used a descriptive cross-sectional research methodology to thoroughly assess the developmental challenges faced by mentally challenged children enrolling in special schools in the Ahmednagar district. A stratified random sample strategy was used to choose 50 youngsters between the ages of 6 and 12 years old. This ensured that the sample reflected a varied range of age groups and severity levels of mental health issues common in the public. Data was collected using a combination of formal interviews with teachers and caregivers, as well as direct observation of the children's behavior and interactions in their educational and social settings. This multifaceted approach offers a comprehensive grasp of the developmental challenges that these youngsters confront. Standardized developmental assessment techniques were used to evaluate several elements of development, such as cognitive, social, emotional, and physical domains. These instruments included the Denver Developmental Screening Test (DDST) <sup>[14]</sup> and the Vineland Adaptive Behavior Scales (VABS), <sup>[14]</sup> both of which are well-known for their accuracy and reliability in monitoring developmental milestones. Statistical analysis was used to assess the data and detect any significant patterns or connections between developmental difficulties and other variables such as age, gender, household income, and family type. Descriptive statistics were largely used to summarize data and show it understandably.

Throughout the study, ethical concerns were prominent. All participants or their legal guardians provided informed consent, and the children's and their families' privacy was protected. The study followed the standards specified in the Declaration of Helsinki, which ensured that all participants were treated ethically.

## 3. Results

Table: 1 Frequency and Percentage distribution of demographic data of the participants  
n-50

Sr. No.	Demographic Data	Frequency (F)	Percentage (%)
1	<b>Gender</b>		
	Male	35	70%
	Female	15	30%
2	<b>Type of family</b>		
	Joint	39	78%
	Nuclear	7	14%
	Extended	4	8%
3	<b>Type of delivery</b>		
	Normal	37	74%

	Instrumental	3	6%
	Caesarean	10	20%
	<b>Nature of birth</b>		
4	Full term	20	40%
	Pre mature	14	28%
	Post mature	16	32%
	<b>Place of delivery</b>		
5	Home	2	4%
	Hospital	48	96%
	<b>What type of feeding was given?</b>		
6	Breast feed	40	80%
	Bottled feed	10	20%
	<b>Mentally challenged child's age</b>		
7	9yrs and below	06	12%
	10 to 14yrs	13	26%
	Above 14 years	31	62%
	<b>Weight in kg</b>		
8	20 kg and below	03	6%
	20.1 to 35kg	13	26%
	35.1 to 50 kg	23	46%
	Above 50 kg	11	22%
	<b>Height in cm</b>		
9	125cm and below	4	8%
	126 to 145cm	11	22%
	146 to 165cm	26	52%
	above 166cm	09	18%
	<b>Income of family per month</b>		
10	15000 and below	01	2%
	15001 to 30000	30	60%
	30001 to 45000	17	34%
	Above 45000	02	4%
	<b>Mother's age</b>		
11	21 to 30yrs	44	88%
	31 to 40yrs	06	12%

The table 1 presents demographic data of mentally challenged children in the study. It includes gender distribution (70% male, 30% female), type of family (78% joint, 14% nuclear, 8% extended), type of delivery (74% normal, 6% instrumental, 20% cesarean), nature of birth (40% full term, 28% preterm, 32% post-term), place of delivery (4% home, 96% hospital), feeding type (80% breastfed, 20% bottle-fed), age distribution (12% below 9 years, 26% 10-14 years, 62% above 14 years), weight distribution (6% below 20 kg, 26% 20.1-35 kg, 46% 35.1-50 kg, 22% above 50 kg), height distribution (8% below 125 cm, 22% 126-145 cm, 52% 146-165 cm, 18% above 166 cm), family income distribution (2% below 15000, 60% 15001-30000, 34% 30001-45000, 4% above 45000), and mother's age distribution (88% 21-30 years, 12% 31-40 years).

Table: 2 Frequency and Percentage distribution of various developmental problems faced by the participants  
n-50

Sr. No.	Various Developmental Problem	Level of developmental problems	Frequency (F)	Percentage (%)
1	Problems faced by the child while performing the daily routine	Good	15	30%
		Average	11	22%
		Poor	24	48%
2	Motor Control problems	Good	35	70%
		Average	9	18%
		Poor	6	12%
3	Cognitive problems	Good	20	40%
		Average	25	50%
		Poor	5	10%
4	Speech & communication problems	Good	36	72%
		Average	5	10%
		Poor	9	18%
5	Behavioral Problems	Good	36	72%
		Average	9	18%
		Poor	5	10%
6	Health-Related Problems	Good	42	84%
		Average	3	6%
		Poor	5	10%
7	Medication-Related Problems	Good	36	72%
		Average	11	22%
		Poor	3	6%

The table 2 displays the frequency and percentage distribution of various developmental problems faced by the participants. It includes problems related to daily routines (30% good, 22% average, 48% poor), motor control (70% good, 18% average, 12% poor), cognitive issues (40% good, 50% average, 10% poor), speech and communication difficulties (72% good, 10% average, 18% poor), behavioral challenges (72% good, 18% average, 10% poor), health-related problems (84% good, 6% average, 10% poor), and medication-related issues (72% good, 22% average, 6% poor).

Table: 3 Central tendency of various developmental problems faced by the participants  
n-50

Sr. No.	Various Developmental Problems	Mean	Standard deviation
1.	Problems faced by the child while performing the daily routine	30.88	15.81
2.	Motor Control problems	4.26	3.095
3.	Cognitive problems	2.94	1.434
4.	Speech & communication problems	1.54	2.296
5.	Behavioral Problems	1.88	1.649
6.	Health Related Problems	2.16	1.345
7.	Medication Related Problems	1.22	1.753

The table 3 presents the central tendency (Mean) and variability (SD) of various developmental problems faced by the participants. It includes problems related to daily routines (Mean = 30.88, SD = 15.81), motor control (Mean = 4.26, SD = 3.095), cognitive issues (Mean = 2.94, SD = 1.434), speech and communication difficulties (Mean = 1.54, SD = 2.296), behavioral challenges (Mean = 1.88, SD = 1.649), health-related problems (Mean = 2.16, SD = 1.345), and medication-related issues (Mean = 1.22, SD = 1.753).

Table: 4 Findings related to the association of the demographic variables with Problems faced by the child in Various Developmental Problems.

n-50

Sr. No.	Demographic Data	F	Performing daily activity			X <sup>2</sup> Value	df	p-value
			Good	Average	Poor			
1	<b>Gender</b>							
	Male	35	13	06	16	3.362	2	0.186
	Female	15	02	05	08			
2	<b>Type of family</b>							
	Joint	39	12	08	19	3.294	4	0.510
	Nuclear	7	03	01	03			
	Extended	4	0	02	02			
3	<b>Type of delivery</b>							
	Normal	37	10	09	18	7.855	4	0.097
	Instrumental	3	03	0	0			
	Caesarean	10	0	2	2			
4	<b>Nature of birth</b>							
	Full term	20	6	4	10	2.234	4	0.693
	Pre mature	14	6	3	5			
	Post mature	16	3	4	9			
5	<b>Place of delivery</b>							
	Home	2	0	0	2	2.257	2	0.324
	Hospital	48	15	11	22			
6	<b>What type of feeding was given?</b>							
	Breast feed	40	10	10	20	2.652	2	0.266
	Bottled feed	10	5	1	4			
7	<b>Mentally challenged child's age</b>							
	9 yrs and below		6	2	2	5.145	4	0.273
	10 to 14 Years		13	1	3			
	Above 14 Years		31	12	6			
8	<b>Weight in kg</b>							
	20 kg and below		3	1	2	5.945	6	0.429
	20.1 to 35kg		13	4	2			

	35.1 to 50 kg	23	8	5	10			
	Above 50 kg	11	2	2	7			
	<b>Height in cm</b>							
9	125cm and below	4	1	2	1	6.225	6	0.398
	126 to 145cm	11	4	2	7			
	146 to 165cm	26	8	7	11			
	above 166cm	9	4	0	5			
	<b>Income of family per month</b>							
10	15000 and below	1	1	0	0	6.544	6	0.365
	15001 to 30000	30	10	7	13			
	30001 to 45000	17	03	3	11			
	Above 45000	02	1	1	0			
	<b>Mother's age</b>							
11	21 to 30 Years	44	12	9	23	2.702	2	0.259
	31 to 40 Years	6	3	2	1			

Table 4 presents the association of demographic variables with the problems faced by children in performing daily activities. The chi-square (X<sup>2</sup>) values indicate that there was no statistically significant association between each demographic variable and the performance levels in daily activities. The p-values (p) are also provided to support this finding, indicating that the associations were not significant. The demographic variables include gender, type of family, type of delivery, nature of birth, place of delivery, type of feeding, age of the mentally challenged child, weight, height, income of the family per month, and mother's age.

Table: 5 Association of the demographic variables with Problems faced by the child in Motor activity  
n-50

Sr. No	Demographic Data	F	Motor problem			X <sup>2</sup> Value	df	p-value
			Good	Average	Poor			
1	<b>Gender</b>							
	Male	35	24	7	4	0.325	2	0.850
	Female	15	11	2	2			
2	<b>Type of family</b>							
	Joint	39	25	9	5	4.026	4	0.403
	Nuclear	7	6	0	1			
Extended	4	4	0	0				
3	<b>Type of delivery</b>							
	Normal	37	28	6	03	10.266	4	0.036
	Instrumental	3	1	0	2			
Caesarean	10	6	3	1				
4	<b>Nature of birth</b>							

	Full Term	20	17	3	0	9.325	4	0.053
	Pre Mature	14	9	1	4			
	Post Mature	16	9	5	2			
5	<b>Place of delivery</b>							
	Home	2	2	0	2	0.893	2	0.640
	Hospital	48	33	9	6			
6	<b>What type of feeding was given?</b>							
	Breast Feed	40	27	9	4	3.095	2	0.213
	Bottled Feed	10	8	0	2			
7	<b>Mentally challenged child's age</b>							
	9 Years and below	6	6	0	0	4.958	4	0.295
	10 to 14 Years	13	10	1	2			
	Above 14 Years	21	19	8	4			
8	<b>Weight in kg</b>							
	20 kg and below	3	3	0	0	3.906	6	0.689
	20.1 To 35kg	13	10	1	2			
	35.1 To 50 Kg	23	16	5	2			
	Above 50 Kg	11	6	3	2			
9	<b>Height in cm</b>							
	125 cm and below	4	3	1	0	5.630	6	0.466
	126 to 145cm	11	10	0	1			
	146 to 165cm	26	15	7	4			
	above 166cm	9	7	1	1			
10	<b>Income of family per month</b>							
	15000 And Below	1	1	0	0	1.447	6	0.963
	15001 to 30000	30	20	6	4			
	30001 to 45000	17	12	3	2			
	Above 45000	02	2	0	01			
11	<b>Mother's age</b>							
	21 to 30 Years	44	38	4	2	2.982	2	0.225
	31 to 40 Years	6	3	1	2			

Table 5 shows the association of demographic variables with motor problems faced by children in Motor activities. The chi-square ( $X^2$ ) values suggest that there was no statistically significant association between each demographic variable and the severity of motor problems. The p-values (p) further support this finding, indicating no significant associations.

Table: 6 Association of the demographic variables with Problems faced by the child in Cognitive activity.

n-50

	Demographic Data	F	Cognitive problem	$X^2$	df	p-
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Sr. No		Good	Average	Poor	Value		value
1	<b>Gender</b>						
	Male	35	24	7	4	0.524	2
	Female	15	11	2	2		
2	<b>Type of family</b>						
	Joint	39	25	9	5	5.542	4
	Nuclear	7	6	0	1		
	Extended	4	4	0	0		
3	<b>Type of delivery</b>						
	Normal	37	28	6	03	2.527	4
	Instrumental	3	1	0	2		
	Caesarean	10	6	3	1		
4	<b>Nature of birth</b>						
	Full Term	20	17	3	0	8.146	4
	Pre Mature	14	9	1	4		
	Post Mature	16	9	5	2		
5	<b>Place of delivery</b>						
	Home	2	2	0	2	0.260	2
	Hospital	48	33	9	6		
6	<b>What type of feeding was given?</b>						
	Breast Feed	40	27	9	4	0.563	2
	Bottled Feed	10	8	0	2		
7	<b>Mentally challenged child's age</b>						
	9 Years and below	6	6	0	0	9.801	4
	10 to 14 Years	13	10	1	2		
	Above 14 Years	21	19	8	4		
8	<b>Weight in kg</b>						
	20 kg and below	3	3	0	0	6.293	6
	20.1 To 35 Kg	13	10	1	2		
	35.1 To 50 Kg	23	16	5	2		
	Above 50 Kg	11	6	3	2		
9	<b>Height in cm</b>						
	125cm and below	4	3	1	0	5.269	6
	126 to 145cm	11	10	0	1		
	146 to 165cm	26	15	7	4		
	above 166cm	9	7	1	1		
10	<b>Income of family per month</b>						
	15000 and below	1	1	0	0	5.600	6
	15001 to 30000	30	20	6	4		

	30001 to 45000	17	12	3	2			
	Above 45000	02	2	0	01			
11	<b>Mother's age</b>							
	21 to 30 Years	44	38	4	2	4.167	2	0.125
	31 to 40 Years	6	3	1	2			

Table 6 shows the association between demographic variables and cognitive problems in children's daily activities. It presents frequencies for each level of cognitive problem across different demographics. The age of the child showed a significant association with cognitive problems ( $X^2 = 9.801$ ,  $df = 4$ ,  $p = 0.044^*$ ), suggesting age affects the severity of cognitive challenges. Other demographic variables did not show significant associations with cognitive problems.

Table: 7 Association of the demographic variables with Problems faced by the child in Speech & Communication Activity.

n-50

Sr. No.	Demographic Data	F	Speech communication & problems			X <sup>2</sup> Value	df	p-value
			Good	Average	Poor			
1	<b>Gender</b>							
	Male	35	24	7	4	3.042	2	0.218
	Female	15	11	2	2			
2	<b>Type of family</b>							
	Joint	39	25	9	5	3.093	4	0.542
	Nuclear	7	6	0	1			
Extended	4	4	0	0				
3	<b>Type of delivery</b>							
	Normal	37	28	6	03	6.499	4	0.165
	Instrumental	3	1	0	2			
Caesarean	10	6	3	1				
4	<b>Nature of birth</b>							
	Full Term	20	17	3	0	8.867	4	0.065
	Pre Mature	14	9	1	4			
Post Mature	16	9	5	2				
5	<b>Place of delivery</b>							
	Home	2	2	0	2	0.810	2	0.667
Hospital	48	33	9	6				
6	<b>What type of feeding was given?</b>							
	Breast Feed	40	27	9	4	1.389	2	0.499
	Bottled Feed	10	8	0	2			
7	<b>Mentally challenged child's age</b>							
	9 Years and below	6	6	0	0	5.301	4	0.258

	10 to 14 Years	13	10	1	2			
	Above 14 Years	21	19	8	4			
8	<b>Weight in kg</b>							
	20 kg and below	3	3	0	0	6.500	6	0.370
	20.1 to 35kg	13	10	1	2			
	35.1 to 50 kg	23	16	5	2			
	Above 50 kg	11	6	3	2			
9	<b>Height in cm</b>							
	125 cm and below	4	3	1	0	4.457	6	0.615
	126 to 145cm	11	10	0	1			
	146 to 165cm	26	15	7	4			
	above 166cm	9	7	1	1			
10	<b>Income of family per month</b>							
	15000 And Below	1	1	0	0	2.128	6	0.908
	15001 to 30000	30	20	6	4			
	30001 to 45000	17	12	3	2			
	Above 45000	02	2	0	01			
11	<b>Mother's age</b>							
	21 to 30 Years	44	38	4	2	1.652	2	0.438
	31 to 40 Years	6	3	1	2			

Table 7 depicts the association between demographic variables and speech and communication problems in children's daily activities. The table displays frequencies for each level of speech and communication problem (Good, Average, Poor) across different demographic categories. Chi-square (X<sup>2</sup>) values and p-values are provided to indicate the strength and significance of the associations. However, none of the demographic variables showed a significant association with speech and communication problems, as all p-values were greater than 0.05.

Table: 8 Association of the demographic variables with Problems faced by the child in Behavioral activity

n-50

Sr. No	Demographic Data	F	Behavioural problem			X <sup>2</sup> Value	df	p-value
			Good	Average	Poor			
1	<b>Gender</b>							
	Male	35	24	7	4	0.503	2	0.778
	Female	15	11	2	2			
2	<b>Type of family</b>							
	Joint	39	25	9	5	3.842	4	0.428
	Nuclear	7	6	0	1			
	Extended	4	4	0	0			
3	<b>Type of delivery</b>							
	Normal	37	28	6	03		4	0.012*

	Instrumental	3	1	0	2	12.86		
	Cesarean	10	6	3	1	9		
4	<b>Nature of birth</b>							
	Full term	20	17	3	0	7.875	4	0.096
	Pre mature	14	9	1	4			
	Post mature	16	9	5	2			
5	<b>Place of delivery</b>							
	Home	2	2	0	2	0.810	2	0.667
	Hospital	48	33	9	6			
6	<b>What type of feeding was given?</b>							
	Breast Feed	40	27	9	4	3.611	2	0.164
	Bottled Feed	10	8	0	2			
7	<b>Mentally challenged child's age</b>							
	9 Years and below	6	6	0	0	4.815	4	0.307
	10 to 14 Years	13	10	1	2			
	Above 14 Years	21	19	8	4			
8	<b>Weight in kg</b>							
	20 kg and below	3	3	0	0	4.946	6	0.551
	20.1 to 35kg	13	10	1	2			
	35.1 to 50 kg	23	16	5	2			
	Above 50 kg	11	6	3	2			
9	<b>Height in cm</b>							
	125cm and below	4	3	1	0	4.946	6	0.551
	126 to 145cm	11	10	0	1			
	146 to 165cm	26	15	7	4			
	above 166cm	9	7	1	1			
10	<b>Income of family per month</b>							
	15000 and below	1	1	0	0	2.128	6	0.908
	15001 to 30000	30	20	6	4			
	30001 to 45000	17	12	3	2			
	Above 45000	02	2	0	01			
11	<b>Mother's age</b>							
	21 to 30 Years	44	38	4	2	4.177	2	0.124
	31 to 40 Years	6	3	1	2			

Table 8 shows the association between demographic variables and behavioral problems in children's daily activities. Significant associations were found between the type of delivery and behavioral problems ( $X^2 = 12.869$ ,  $df = 4$ ,  $p = 0.012^*$ ). However, no other demographic variable showed a significant association with behavioral problems.

Table: 9 Association of the demographic variables with Health-Related Problems faced by the child.

Sr. No	Demographic Data	F	Health problem Related			X <sup>2</sup> Value	df	p-value
			Good	Average	Poor			
1	<b>Gender</b>							
	Male	35	24	7	4	1.542	2	0.463
	Female	15	11	2	2			
2	<b>Type of family</b>							
	Joint	39	25	9	5	2.643	4	0.619
	Nuclear	7	6	0	1			
	Extended	4	4	0	0			
3	<b>Type of delivery</b>							
	Normal	37	28	6	03	7.493	4	0.112
	Instrumental	3	1	0	2			
	Caesarean	10	6	3	1			
4	<b>Nature of birth</b>							
	Full Term	20	17	3	0	9.619	4	0.047*
	Pre Mature	14	9	1	4			
	Post Mature	16	9	5	2			
5	<b>Place of delivery</b>							
	Home	2	2	0	2	0.397	2	0.820
	Hospital	48	33	9	6			
6	<b>What type of feeding was given?</b>							
	Breast Feed	40	27	9	4	0.357	2	0.836
	Bottled Feed	10	8	0	2			
7	<b>Mentally challenged child's age</b>							
	9 yrs and below	6	6	0	0	3.044	4	0.551
	10 to 14 Years	13	10	1	2			
	Above 14 Years	21	19	8	4			
8	<b>Weight in kg</b>							
	20 kg and below	3	3	0	0	3.844	6	0.698
	20.1 to 35kg	13	10	1	2			
	35.1 to 50 kg	23	16	5	2			
	Above 50 kg	11	6	3	2			
9	<b>Height in cm</b>							
	125cm and below	4	3	1	0	3.616	6	0.728
	126 to 145cm	11	10	0	1			
	146 to 165cm	26	15	7	4			
	above 166cm	9	7	1	1			
10	<b>Income of family per month</b>							

	15000 and below	1	1	0	0	2.538	6	0.864
	15001 to 30000	30	20	6	4			
	30001 to 45000	17	12	3	2			
	Above 45000	02	2	0	01			
11	<b>Mother's age</b>							
	21 to 30yrs	44	38	4	2	4.365	2	0.113
	31 to 40yrs	6	3	1	2			

Table 9 illustrates the association between demographic variables and health-related problems in children. A significant association was found between the nature of birth and health-related problems ( $X^2 = 9.619$ ,  $df = 4$ ,  $p = 0.047^*$ ). No other demographic variables showed a significant association with health-related problems.

Table: 10 Association of the demographic variables with Medication Related Problems faced by the child.

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Sr. No	Demographic Data	F	Medication-Related Problems			X <sup>2</sup> Value	df	p-value
			Good	Average	Poor			
1	<b>Gender</b>							
	Male	35	24	7	4	0.060	2	0.970
	Female	15	11	2	2			
2	<b>Type of family</b>							
	Joint	39	25	9	5	2.923	4	0.571
	Nuclear	7	6	0	1			
Extended	4	4	0	0				
3	<b>Type of delivery</b>							
	Normal	37	28	6	03	5.681	4	0.224
	Instrumental	3	1	0	2			
Caesarean	10	6	3	1				
4	<b>Nature of birth</b>							
	Full Term	20	17	3	0	14.409	4	0.006*
	Pre Mature	14	9	1	4			
Post Mature	16	9	5	2				
5	<b>Place of delivery</b>							
	Home	2	2	0	2	0.810	2	0.667
Hospital	48	33	9	6				
6	<b>What type of feeding was given?</b>							
	Breast Feed	40	27	9	4	1.263	2	0.532
Bottled Feed	10	8	0	2				
7	<b>Mentally challenged child's age</b>							
	9 Years and below	6	6	0	0	7.616	4	0.107

	10 to 14 Years	13	10	1	2			
	Above 14 Years	21	19	8	4			
	<b>Weight in kg</b>							
8	20 kg and below	3	3	0	0	8.321	6	0.215
	20.1 to 35kg	13	10	1	2			
	35.1 to 50 kg	23	16	5	2			
	Above 50 kg	11	6	3	2			
	<b>Height in cm</b>							
9	125cm and below	4	3	1	0	5.413	6	0.492
	126 to 145cm	11	10	0	1			
	146 to 165cm	26	15	7	4			
	above 166cm	9	7	1	1			
	<b>Income of family per month</b>							
10	15000 and below	1	1	0	0	1.253	6	0.974
	15001 to 30000	30	20	6	4			
	30001 to 45000	17	12	3	2			
	Above 45000	02	2	0	01			
	<b>Mother's age</b>							
11	21 to 30 Years	44	38	4	2	9.036	2	0.011*
	31 to 40 Years	6	3	1	2			

Table 10 shows the association between demographic variables and medication-related problems in children. Significant associations were found for the nature of birth ( $X^2 = 14.409$ ,  $df = 4$ ,  $p = 0.006^*$ ) and mother's age ( $X^2 = 9.036$ ,  $df = 2$ ,  $p = 0.011^*$ ). Other demographic variables did not show significant associations with medication-related problems.

### Discussion:

Researchers provided the main findings of our study's data, which sought to understand that the majority of the study participants were males, with a maximum of 37 (74%) having a normal vaginal birth history. Ana Paula Magosso Cavaggioni conducted a comparable cross-sectional, exploratory, and descriptive study in 2020, revealing the most extensive developmental history of children born via normal vaginal birth. <sup>[15]</sup>

Additionally, in this descriptive cross-sectional study, the investigator identified various developmental majority problems such as performance in the daily routine, motor control problems, cognitive problems, speech & communication problems, behavioral problems, health-related problems, and medication-related problems present among the study participants. Similar findings are represented in the report published by the Vydehi School of Excellence and Special Education in Bangalore in 2019. <sup>[16]</sup>

The current study found no association between demographic variables and problems faced by children in motor activity and speech & communication activity. The same findings were found in a systematic literature review conducted by Damme TV in 2015. A total of 28 study researchers were included in the examination of the good motor abilities of children with disabilities. <sup>[17]</sup> Cognitive activity difficulties have been linked to the age of a mentally challenged child. The child's health and medication difficulties were shown to be related to the character of the birth population. The identical results have been discovered in the Population-Based Birth Cohort research undertaken by Canova C et al. in 2020, where child health and medication issues were found to be connected to the birth population's characteristics. <sup>[18]</sup>

### Conclusion:

In conclusion, finally, this study provides a thorough examination of the demographic features and developmental obstacles encountered by mentally impaired children. The data show that the majority of the participants were male, came from joint households, and were delivered in hospitals using standard delivery methods. The findings revealed severe developmental impairments across multiple domains, with nearly half of the children having difficulty performing daily tasks and a considerable percentage experiencing motor control and cognitive issues. Notably, cognitive difficulties were significantly associated with the child's age. While other demographic variables did not show statistically significant associations with developmental problems, the study emphasizes the multifaceted nature of the challenges faced by mentally challenged children and the importance of targeted interventions to support their development and well-being.

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**Research Implications:** The findings of this study have implications for the development of tailored therapies and policies to support children with developmental problems in resource-constrained settings. It emphasizes the need for early detection and intervention to address speech and language development as well as behavioral difficulties, to improve these children's overall well-being and quality of life. More research is needed to investigate additional factors impacting the growth trajectories of mentally challenged children in various contexts.

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