




Inclusive Education for Children with Special Needs and Autism: Status in the Schools of Puducherry, India

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Abstract

Autism spectrum disorder (ASD) is a neurodevelopmental disorder affecting social interaction and communication. Children with autism are at risk of school exclusion because of the inherent problems in behavior and communication. This study was performed in Puducherry to determine whether inclusive education is practiced for children with ASD and to ascertain the difficulties faced by educators in the schools that enroll children with ASD. This study was performed in the mainstream (regular) and special schools of Puducherry between November 2018 and February 2019. The mainstream schools were contacted over the telephone, by e-mail, and by regular post, and the investigator contacted the special schools in person. Data were collected using a semistructured proforma. A total of 66 schools participated in the survey (60 mainstream and 6 special schools). Among 60 mainstream schools comprising 3,967 children, 18 (0.45%) were children with special needs (CWSN) and 2 (0.05%) had ASD. In the six special schools comprising 2,167 children, 1,844 (85%) were CWSN and 323 (15%) were those with ASD. Among the 60 mainstream schools, only 14 (23.3%) schools had provision for special educators, accounting for 42 teachers. Behavioral problems were commonly reported in special schools. Enrollment of children with ASD is negligible in mainstream schools compared with special schools in Puducherry. More studies are needed to explore the reason for the same and to explore the feasibility of providing access to disabled children in mainstream schools.

Keywords

- autism
- children with special needs
- inclusive education

Introduction

Autism spectrum disorder (ASD) is a neurodevelopmental disorder that affects social interaction and communication.¹ A growing number of children with ASD are now being diagnosed even before their third birthday, highlighting the need for appropriate and effective community intervention programs for children within the age group of 1 to

3 years. Researchers and educators alike typically agree that children with ASD benefit from early intervention services, with data that indicate that inclusion can lead to excellent outcomes for preschoolers with ASD.² Children with special needs (CWSN) in general and ASD, in particular, are at risk of being excluded from mainstream schools. Behavioral abnormalities like poor attention span, poor social interaction,

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restrictive and repetitive behavior, and aggression can hinder their inclusion in mainstream schools.

The Government of India's plan of Universal Elementary Education (Sarva Shiksha Abhiyan program) for all children up to 14 years of age cannot materialize without including CWSN in the school education system. The system should have mechanisms to provide educational interventions to help children with disabilities to cope up and optimize their capabilities, so that they are able to lead a constructive and productive life. Education is a fundamental right of every child, and children with special educational needs and ASD are no exceptions to it.³

Inclusive education is a term used to indicate that children with disabilities are included in a regular classroom that has been designed for children without disabilities. Inclusive education refers to an educational system that accommodates all children regardless of their physical, intellectual, social, emotional, linguistic, or other limitations. For the development of social skills and better social interaction, CWSN and especially those with ASD should also be included in the educational system of any country.⁴ Apart from social skills, it is also known that children with ASD who are educated in mainstream schools have higher academic achievement compared with those placed in special education classrooms.⁵

The international convention on child rights and the rights of people with disabilities recommend inclusive education for children with disabilities.⁶ Many countries in the developed world have mechanisms in place for inclusive education which differ in their approaches and policies toward children with ASD.⁷ The Indian government's Sarva Shiksha Abhiyan program calls for compulsory and free elementary education for all children from the ages of 6 to 14 years, including CWSN. There is a scarcity of information in the community about educational difficulties and opportunities for such children in our country. The objectives of this study were to determine whether children with ASD have the opportunity for inclusive education in the mainstream schools of Puducherry and to assess the difficulties faced by the educators in schools enrolling such children.

Methodology

For this study, we defined CWSN as children who have disabilities that make learning and communication difficulties. It can mean anything from a slight learning disability to profound retardation. A mainstream school is defined as a school or institution created to cater to the educational needs of normal children by teachers as per the norms of pedagogy and curricular demands. On the other hand, a "special school" is defined as a school for children who cannot benefit from mainstream schooling because they have learning or physical disabilities, considerable intellectual disability, etc.

We have surveyed mainstream (regular) schools and special schools located in Puducherry with the objectives mentioned above. We have approached the Directorate of School Education and the Directorate of Social Welfare,

Government of Puducherry, and obtained a list of mainstream schools and special schools located in Puducherry. A self-administered open-ended questionnaire (► **Appendix A**) was used to collect data on the techniques followed by the school educators and the difficulties encountered by them. This survey was performed as a part of a PhD dissertation on developing a school readiness module for children with ASD which has been approved by our Institute Ethics Committee for Human Studies.

Puducherry District has been divided into five geographical zones comprising a total of 474 mainstream primary education schools (333 government schools and 141 private schools). In addition, there are six special schools located in Puducherry which cater to children with special educational needs. For this study, 99 schools with preprimary sections (93 mainstream schools and 6 special schools representing all the educational zones) were selected according to convenience and were contacted. Responses were obtained from 66 (60 mainstream schools and 6 special schools) schools. We have sent the survey questions to the schools via regular post and followed-up through telephone and e-mail. Out of these 60 mainstream schools which responded, 41 schools responded through telephone, 16 schools responded through e-mail, and 3 schools through regular post. We have not received any response from 33 schools. All six special schools were contacted in person by the researcher, and the survey was undertaken. Informed consent was obtained from the responders of the schools which participated in the study.

Statistical Analysis

Descriptive statistics were used to analyze the data. Frequencies were expressed in percentage, and the differences were tested for significance using the Chi-square test. A value of $p < 0.05$ was considered statistically significant.

Results

The survey results indicate that among the 60 mainstream schools that participated in the study, 31 were private and 29 were government schools (► **Fig. 1**). The total number of children studying in these schools was 3,967, 18 (0.45%) among which were CWSN and 2 (0.05%) were children with ASD. In contrast to the mainstream schools, in the six special schools (► **Table 1**), the number of children enrolled was 2,167; 1,844 (85%) among which were CWSN, and 323 (15%) were children with ASD indicating that the mainstream schools enrolled a significantly fewer number of CWSN, as well as children with ASD (20 out of 3,967 vs. 2,167 out of 2,167) which was statistically significant with a p -value of 0.0001. Among the 60 mainstream schools, only 14 (23.3%) schools had provision for special educators. Forty-two special educators were trained with bachelor's degrees to teach CWSN and autism. The mean age for enrollment of students with CWSN and ASD was 3 years and above. Special techniques like classroom modification, individual attention, visual training, auditory and sensory integration, proprioceptive techniques, and behavior modification were used in the special schools.

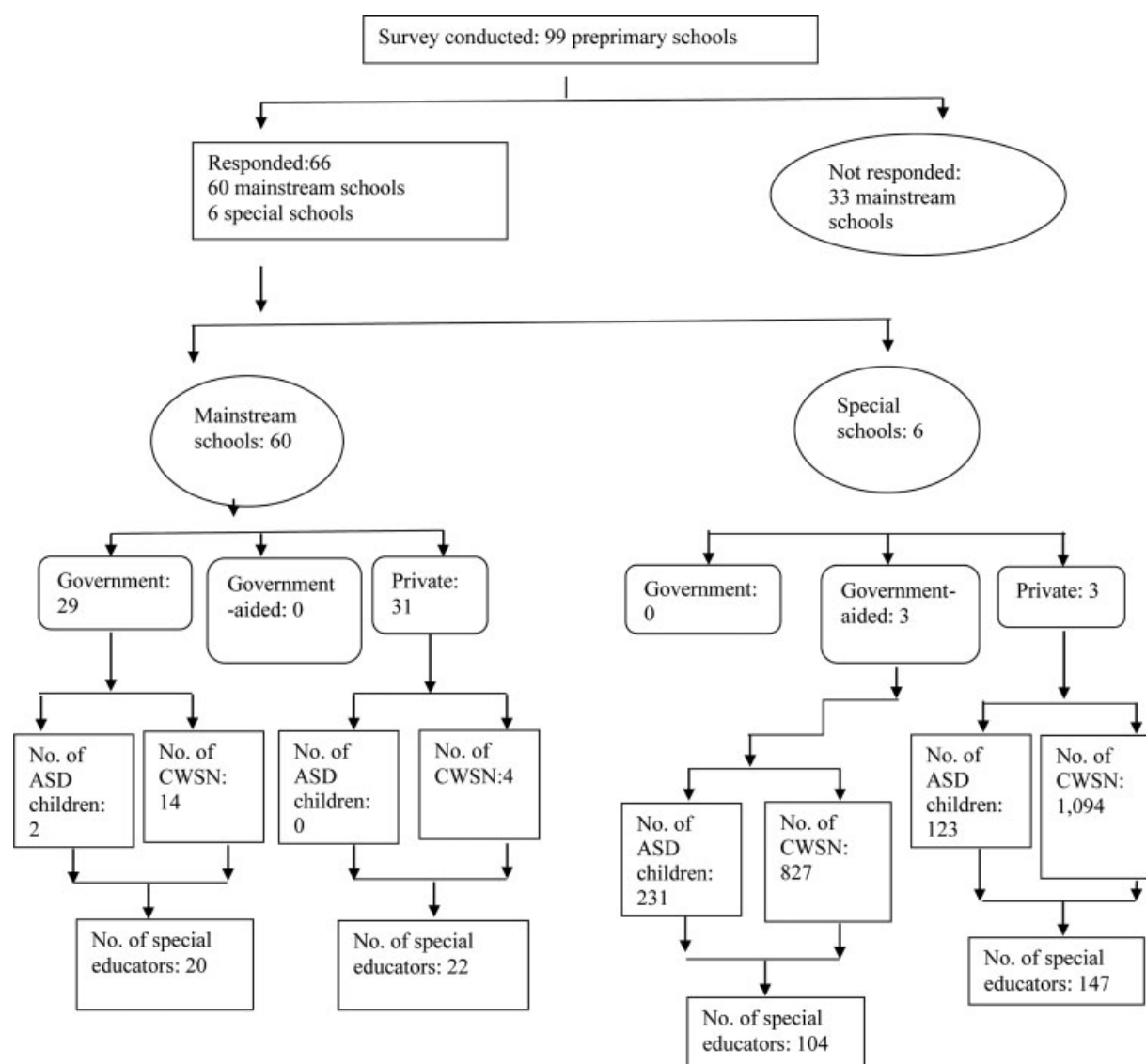


Fig. 1 Flow chart of survey involvement.

In contrast, only a few of these were followed in mainstream schools (► **Table 2**). The difficulties encountered in teaching CWSN and those with autism included behavioral problems, temper tantrums, attention deficit, and lack of environmental awareness. These were reported more often by the special schools than mainstream schools (► **Table 3**). No problems were reported

among the 31 (100%) private schools and 25 (86%) government schools.

Discussion

Our study results show that the ratio of children with autism attending regular schools to special schools is a dismal

Table 1 List of special schools situated in Puducherry

Sl. no	Name of the special school	Location
1.	Jwala Home for Mentally Challenged	Murungapakkam, Puducherry
2.	Corunna Home for the Intellectually Disabled	Reddiyarpalayam, Puducherry
3.	Sathya Special School	Karuvadikuppam, Puducherry
4.	Anagram Special School for Mentally challenged	Periyar Nagar, Puducherry
5.	Sharon Special School	Lawspet, Puducherry
6.	Shri Patcheappane Society for Education	Venkatanagar, Puducherry

Table 2 Techniques employed in teaching CWSN and those with ASD

Sl. no.	Techniques employed	Normal schools		Special schools
		Government schools	Private schools	
1.	Classroom modification	X	X	√
2.	Individual attention	X	X	√
3.	Visual training	X	√	√
4.	Auditory integration	X	X	√
5.	Tactile stimulation	X	X	√
6.	Sensory integration	X	X	√
7.	Proprioceptive facilitation	X	X	√
8.	Assertive techniques	√	X	√
9.	Alternative therapies	X	X	√
10.	Behavior modification	√	√	√

Abbreviations: ASD, autism spectrum disorder; CWSN, children with special needs.

Table 3 Difficulties encountered in teaching CWSN and those with ASD

Sl. no.	Difficulties encountered	Normal schools		Special schools
		Government schools (n = 29)	Private schools (n = 31)	
1.	Behavior problems	√	x	√
2.	Personal hygiene	x	x	√
3.	Tantrums	√	x	√
4.	Attention deficit	√	x	√
5.	Lack of trained manpower	x	x	√
6.	Lack of awareness in parents regarding ASD	x	x	√
7.	Disciplinary issues	√	x	√

Abbreviations: ASD, autism spectrum disorder; CWSN, children with special needs.

1:161.5. Compared with the data from the West,⁷ most children with ASD in India receive education through either home-based training or from special schools and only one-fifth of them receive it through inclusive schools.⁸ Although we find in our study that mainstream schools have special educators in place, the number of children with autism or other disabilities enrolled in such schools is far less than that of private schools that enroll CWSN.

The low enrollment of children with CWSN and ASD in mainstream schools could be due to a lack of awareness from the parents and the lack of proactive policy implementation by the concerned authorities. Resistance from parents of typically developing children attending mainstream schools or absence of infrastructural support to help CWSN in regular government schools as reported by more than 70% of parents of children with ASD, and intellectual disability could also be responsible for the low enrollment.⁸ Certain states in India, like Kerala, have implemented policies of including CWSN in regular schools. The presence of parent support groups and economic incentives to take care of CWSN to the tune of 3,000 Indian rupees per child enrolled

per year to mainstream schools is implemented as part of that policy.⁹

Lack of a definite curriculum for CWSN and children with ASD also puts the mainstream teachers and the school in a fix regarding their measurable academic outputs. These children need to be educated to improve their social and communication skills to a greater extent when compared with normal children. The temperamental characteristics of these children could also be a reason for exclusion from mainstream schools, and it could be incredibly challenging to the already overburdened teacher at mainstream schools with the grossly inadequate teacher to pupil ratio. Even in special schools, teachers find behavioral problems, temper tantrums, and attention deficit among these children quite challenging to manage and can considerably take up the entire teaching hours. According to Charman et al, emotional, conduct and hyperactivity problems were found to be higher in children with language impairment and ASD recruited from mainstream schools.¹⁰ The classroom atmosphere should be conducive to children with sensory sensitivities, and their peers should be supportive and compassionate

toward them. CWSN have impairments that may hinder their success in inclusive school settings and require individualized supports to improve outcomes. In one study, a close supportive relationship of the children with their teacher was associated with well-developed social skills and increased acceptance by their peers.^{11,12} The mainstream schools too should follow interventions that help children with disabilities to learn effectively. Some interventions like classroom modification, individual attention, visual training, and auditory attention practiced in special schools have been used in other places to improve learning.¹³ The teachers at mainstream schools should also undergo special training in dealing with CWSN and those with ASD.

For successful inclusion, CWSN and children with ASD would require an early intervention program before integrating into mainstream schools. According to one study employing such a program on 102 toddlers with ASD, almost one-third were found to be eligible for enrollment into mainstream school at the end of the program which was of 3 years.⁴ The predictors of success in those children included the length of time they spent on the intervention program, level of words and gesture use before enrollment, higher externalizing, and lower internalizing behavior. In another study targeting children with ASD ($n = 85$) between ages 1 and 3 years, 76.5% of the children were integrated into regular schools 2 to 7 years after completion of the program.¹⁴

Strengths and Limitations

This study provided critical data regarding the number of CWSN, and ASD enrolled in mainstream schools and special schools in Puducherry. Also, it provides information about special educators in the mainstream, as well as special schools and the teaching practices adopted in special schools.

The major limitation of our study is that the diagnosis of CWSN and ASD were based on reports from school educators.

Conclusion

Children with autism and special needs are enrolled in special schools more often than in regular schools. Further studies might be needed to look at the reasons for this trend and to address them effectively, so that inclusive education becomes a reality rather than an enigma. Special schools employed various techniques to facilitate learning in CWSN and those with autism compared with mainstream schools. Behavioral problems and attention deficit were some of the common problems faced by educators in special schools and addressing them is essential to prevent adverse learning outcomes. The Sarva Shiksha Abhiyan program advocates enrolment of such children in mainstream schools; however, parental attitude, lack of adequate resource personnel, and curriculum tailored to their needs are likely impediments for effective inclusion. There is also a need to universalize early intervention programs for CWSN and those with ASD to help their transition to mainstream schools.

Authors' Contributions

S.M., P.K., and M.S. were involved in the initial planning of the PhD work. P.K. and V.C. conceptualized the survey. S.M. performed the survey with guidance from P.K., V.C., and S.K. P.K., V.C., and S.K. analyzed the results. The first draft was written by S.M. and revised by inputs from P.K., V.C., and S.K. All authors have reviewed the draft for intellectual content and approved the final draft.

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Conflict of Interest

None declared.

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Appendix A Survey questionnaire

1. Name of the school/institution.
.....
2. School contact number.
.....
3. Is this a private school or a government school.
.....
4. Number of special children attending the school.
.....
5. Number of autistic children.
.....
6. Total number of teachers working in the school.
.....
7. Age of enrollment for autistic children.
.....
8. Are the teachers trained specially to teach the autistic children?
.....
9. What are the techniques employed in teaching autistic children?
.....
10. Are there any difficulties faced in teaching autistic children?
.....
11. In which context do you find it difficult in teaching autistic children?
.....