

Identifying Children with Autism in Regular Schools in Resource Limited Settings: A Systematic and Comprehensive Method

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ABSTRACT: Autism is the most diagnosed among the autism spectrum disorders. Thus, many educators now are faced with the demands to teach children with autism in their classes. It is imperative that teachers be able to recognize the symptom presentations of children with autism and be aware of a comprehensive and systematic method of identifying them in their classrooms. The aim of this study was to bring out a reliable and systematic method of identifying children with autism in a regular classroom setting. To attain this, different strategies such as review of school records, discussions with teachers and the administration of an anecdotal case history check list to parents of these children were employed to identify those with autism in nursery schools in Buea. The data was collected using questionnaires and was analyzed using simple percentages and arithmetic mean. Results of the study revealed that 15 children out of 288 in the age range 3-5 years had autism. There were more male than female children.

KEYWORDS: Autism, Children, Identify, Resource Limited Settings

I. INTRODUCTION

Autism or autism spectrum disorder (ASD) is a developmental disability significantly affecting verbal and nonverbal communication, social interaction which is generally evident before the age of three years, and adversely affects a child's educational performance [1]. It represents the most severe and phenotypically distinct end of the spectrum [2], hence, the most reliably and validly diagnosed [3]. In other words, autism is the most severe and frequently diagnosed among other autism spectrum disorders (ASDs) and approximately 30-50% of children with autism remain minimally verbal throughout their lives, with little or no functional speech [4].

Most children diagnosed with autism have severe language impairments or delays, and researchers had estimated that as many as half of all children with autism are non-verbal. Lim [5] opines that a delay in the development of speech and language is one of the most identifiable deficits in children with autism, compared with typically developing children. The core set of defining features of autism are deficits in verbal and nonverbal communication and restricted and repetitive patterns of behavior in children younger than 3 years [6]. According to Tager-Flusberg *et al.* 50% of children with autism do not develop spoken language [7]. It is worth noting that the ability to communicate may essentially determine the level to which children with autism can develop relationships with others and get involve in daily activities at school, home and in the community. Bakare and Munir maintain that lack of verbal communication is a common symptom presented by over 50% of children with autism [8]. That is, children with autism are unable to communicate as their peers do since they may have difficulties to develop language skills and understand what others say to them. As a result, they may not use words to communicate. Hence, many educators may be faced with the demands to teach children with autism in their classes. Therefore, it is important that teachers be able to know the symptom presentations of children with autism and be able to identify such children in their classrooms in order to give them individual attention.

Autism can affect a child from any race or background. Globally, the prevalence of autism is on the rise. The Centers for Disease Control and Prevention (CDC) released new data on the prevalence of autism in the United States. This surveillance study identified 1 in 68 children (1 in 42 boys and 1 in 189 girls) as having ASD [9]. In Cameroon, there has been a steady rise in the number of children with autism; overall, it was estimated that 100,000 children were affected by autism in 2011 [10] and at least 130,000 in 2013[11]. One child out of 50 in

Cameroon has autism [12]. However, many children with autism are not being identified early enough [10]. Diagnosing autism appears to be one of the most important steps in supporting children with autism [12]. It is worth mentioning that earlier diagnosis is mandatory in order to allow for earlier intervention [13].

Research indicates that many children with autism can be identified as young as 18 months [14], but a large number of these children are not identified until they are of school age [14]. It is usually prior to the third year of the child's life that autism is evident [15]. Autism is often diagnosed in pre-school at about the age of four years; however, it can be reliably diagnosed much earlier, often by the age of two years if symptoms are clear and professionals are knowledgeable [16]. More than 75% of children with autism were identified through the school system [17]. It is therefore, necessary to identify this special group of children early so that appropriate education programs and services may be provided at an early age to support learning and development.

A variety of general developmental screening tools are available to practitioners. Also, there are a variety of measures available for use in diagnosing autism. However, one major criticism of these measures is that most are unable to differentially diagnose among the ASDs [15]. General developmental screening tools are appropriate for use with unselected primary care populations and are likely to detect ASDs in many young children because of associated language and cognitive delays, but they do not differentiate children with autism from those with other developmental disorders, and data are not available on sensitivity for detection of ASDs. Similar to other developmental screening measures, ASD-specific screening tools may rely entirely on parent report, or they may require direct observation and engagement by the clinician. Parent-report tools often have the advantage of being brief, inexpensive, and practical in the office setting [18]. Explaining further, these authors state that the people who know the child best are surveyed and can describe the child's behavior over time in a variety of settings rather than being constrained to sampling behavior in one setting at one point in time.

Despite the fact that the prevalence of autism is on the rise due to awareness and that teachers are better placed to identify children with autism in pre-school, some children in Cameroon are not identified. Currently, in Cameroon there is no documented screening technique or procedure that has been fully validated and shown to be effective in identifying children with autism in our nursery schools. As a result, these children are rejected by regular schools and hence, they end up on the streets as "foolish" persons or "morons" [10]. An effective diagnostic method for autism would be invaluable for the early identification and prompt institution of special education support or services. Given that the number of children with autism in Cameroon is increasing early identification is paramount as teachers may be faced with the challenge of teaching these children. Hence, teachers need to be trained on how to identify children with autism in order to provide them with appropriate support early enough. It is of the utmost importance to identify and assist children with autism to learn and live independent lives like typically developing children. Therefore, this study was carried out to establish a comprehensive method for the identification of children with autism in regular classrooms in resource limited nations.

II. MATERIALS AND METHODS

2.1 Research Design and Study Population

A quantitative study which was exploratory, descriptive and contextual was conducted to explore and describe ways to identify children with autism in regular classrooms. The study population was made up of all pupils aged 3 to 5 years in all the private and government nursery schools in Buea in Fako Division of the South West Region of Cameroon, their parents and teachers. Buea Sub-Division has an estimated population of 200,000 people. Buea has the highest number of nursery schools in Fako Division which made it suitable for the study. The target population comprised all pupils in nursery schools with at least one of the symptoms of an ASD. That is, speech and language difficulties, deficits in social interaction and/or restricted, repetitive, and stereotyped patterns of behavior, interests, and activities and whose parents gave their consent to participate. Children in nursery schools were chosen because they were at the beginning level of school, a period during which early diagnosis and intervention is paramount for better prognosis. Also, these children were in the age range 3 to 5 years during which autism is usually evident and could be accurately diagnosed. Two nursery schools (one private and one government) out of the 79 in Buea Sub-division were randomly selected as study sites. Fourteen teachers who were purposefully selected from the two schools also participated in the study.

2.2 Sampling Techniques

2.2.1 Sampling technique used in the selection of schools

The nursery schools used in this study were selected through the purposive sampling technique. That is, any school which had at least five children presenting with any of the symptoms of autism, with all of them in the age range 3-5 years was purposefully selected for the study. Out of the total number of 79 nursery schools in the Buea Sub-Division only two schools met these criteria and were selected.

2.2.2 Sampling technique used in the selection of participants

To identify children with autism, the multistage sampling technique was used. It involved the use of different strategies such as review of school records, discussions with teachers and the administration of an anecdotal case history checklist to parents of these children. Also, the DSM-IV-TR checklist and a questionnaire to determine the communicative behaviors of the pupils were used to confirm autism diagnosis. That is, children were identified through a reduction process by applying the different determining variables such as speech and language difficulties or restricted, repetitive, behaviors and interests, and/or impairments in social interaction, and developmental history and communicative behaviors as explained in the subsequent sections below.

With the permission of the school authorities, the researcher went through the first and second end of term reports of all pupils enrolled for the academic year 2014/2015 in the two nursery schools selected as study sites. This helped the researcher to select children who had difficulties in speech and language as evident in their language activities; pre-reading, expression by gestures, oral expression, rhyme and storytelling. Next, the researcher had discussion sessions with the teachers of the nursery pupils in the two schools involved in the study. The teachers were asked to give their individual perspectives regarding communicative behaviors, social interaction and restrictive, repetitive and stereotyped behaviors and interests of children who were earlier identified through the pupils' records as observed on the playground and other activities that involved free play. The developmental history checklist was then used to get parents' opinion about their children's speech and language developmental milestones. Indicators in the checklist were made up of speech and language behaviors which typically developing children are expected to display during various stages of development (that is, at one, two, three and four or five years). The modified version of the DSM-IV-TR definition of Autism Spectrum Disorders (ASDs) and diagnostic criteria was used to diagnose pupils with autism. Teachers were instructed to rate each of these symptoms as either "yes" or "no" with regards to whether or not the item applies to the child. A total of at least four symptoms must be evident for the diagnosis of autism to be made. Children who had impairments in all three areas with a total of at least four symptoms that is, at least two symptoms in qualitative impairment in social interaction, one in qualitative impairment in communication, and one in restricted, repetitive and stereotyped patterns of behavior, interests, and activities were noted as having autism.

To confirm the diagnosis of autism a teacher questionnaire designed by the researcher was used to categorize the speech/language and communicative abilities of pupils diagnosed with autism. The teacher questionnaire (with a five point Likert-Scale) was made up of eighteen items presenting a list of communication skills that are vital in assessing the normal development of speech and language skills in children. These included speech production, expressive/receptive and verbal/nonverbal language skills. Teachers of the pupils in each school were asked to tick the answer which best described their opinion of the child's communicative behaviours with others.

The questionnaires used to collect data were made up of closed ended questions. The indicators in the questionnaires were weighted for each child by calculating the mean scores of the children regarding their speech/language developmental and communicative behaviors. This helped to categorize them into below average (0-49), average (50-65) and above average (66-100). The validity and reliability of the instruments used in this study were determined by a pilot study, Content validity and Alpha reliability coefficient test were performed to ensure that the instruments were of good quality. Reliability of the research instruments used for the present study was tested using the coefficient alpha (Cronbach's alpha). Reliability of the instruments was checked by measuring the internal consistency of the responses during the pilot test and main study.

Before administering them they were pre-tested to validate study questions. This was done by administering five copies of the developmental history questionnaire to five parents and five copies each of the DSM-IV diagnostic checklist and the communicative behaviors questionnaire to five teachers who were not part of the study population. Their responses confirmed the clarity and validity of the questions. Copies of the questionnaire were then administered to the parents and teachers of pupils who presented with speech and language difficulties. Each respondent completed the various sections of the questionnaire. Data collected were entered into an electronic dataset. Data were analyzed using simple percentages, the arithmetic mean, tables and figures.

The study was reviewed and authorized by the Department of Educational Psychology, Faculty of Education, University of Buea. In addition, before commencing the study an ethical approval was obtained from the Institutional Review Board of the Faculty of Health Sciences in the same institution. All respondents provided written consent before responding to the questionnaire(s).

III. RESULTS

School records: A total of 288 children's records from the two schools were studied. The number of pupils' records consulted and those selected per school is presented in TABLE 1 below.

Table 1: Number of Pupils' Records Consulted and Number Selected

School	Number of Records Consulted	Number of Pupils Selected	%
PNS Molyko	122	15	12.3
GNS Bomaka	166	29	17.5
Total	288	44	15.3

KEY

GNS Bomaka = Government Nursery School Bomaka

PNS Molyko = Private Nursery School Molyko

TABLE 1 shows that a total of 288(100%) pupils' records were studied and 44(15.3%) pupils were selected because their performance was 50% and below in language activities that is, pre-reading, expression by gestures, oral expression, rhyme and storytelling.

Discussions with Teachers: Teachers were asked to give their individual perspectives regarding communicative behaviors, social interaction and restrictive, repetitive and stereotyped behaviors and interests (symptoms of autism) of the 44 children (earlier identified through the pupils' records) as observed on the playground and other activities that involved free play (TABLE 2).

Table 2: Summary of Discussion Process

School	Number of Pupils Selected via Records	Number Confirmed	%
PNS Molyko	15	11	73.3
GNS Bomaka	29	23	79.3
Total	44	34	77.3

From TABLE 2 above, it can be seen that discussions with the teachers confirmed most (34, 77.3%) of the children identified through records as manifesting with symptoms of autism.

Anecdotal Case History: An anecdotal case history checklist completed by parents gave their opinions about their children's speech and language developmental milestones (TABLE 3).

Table 3: Summary of Parents' opinions on Developmental Milestones of Pupils

School	Number of Pupils Confirmed	Number of Pupils Confirmed by Parents	%
GNS Molyko	11	8	72.7
PNS Bomaka	23	18	78.3
Total	34	26	76.5

Twenty-six (76.5%) out of thirty-four children confirmed earlier by teachers' discussions as having symptoms of autism were retained after parents' opinions. Eight children were eliminated because they were considered to have Asperger's syndrome.

DSM-IV-TR Criteria: The modified version of the DSM-IV-TR definition of Autism Spectrum Disorders (ASDs) diagnostic criteria was used to diagnose eighteen (69.2%) pupils out of the 26 children who were selected through informal methods (TABLE 4).

Table 4: Total Number of Pupils diagnosed as having Autism

School	Number of Pupils Confirmed by parents	Pupils with autism	%
GNS Molyko	8	8	100.0
PNS Bomaka	18	10	55.6
Total	26	18	69.2

Teacher Rating: To make sure that the children with Asperger's syndrome or pervasive developmental disorder-not otherwise specified are not included in the sample. This method (teacher rating) was used to confirm the diagnosis of autism (TABLE 5).

Table 5: Total Number of Pupils confirmed as having Autism

School	Number of Pupils Confirmed by Parents	Pupils with Autism	%
GNS Molyko	8	6	75.0
PNS Bomaka	10	9	90.0
Total	18	15	83.3

From TABLE 5 above it can be seen that 15 out of 18 children were confirmed as having autism because they had below average scores in their speech/language and communicative behaviors, while the three children with average scores were considered as having Pervasive developmental disorder not-otherwise specified, as such were dropped.

Gender: Only two girls were identified in each of the schools given a total of four girls and eleven boys diagnosed as having autism (TABLE 6)

Table 6: Distribution of pupils by Level and Gender

School	Level	Number of Boys	Number of Girls	Total
GNS Bomaka	Nursery I	04	02	06
PNS Molyko	Nursery I	05	01	06
	Nursery II	02	01	03
Total		11	04	15

TABLE 6 above shows that more boys are diagnosed with autism than girls.

IV. DISCUSSION

There is little or no information on identifying children with autism in regular classrooms in Cameroon. This is perhaps due to little awareness about autism and lack of resources [10]. In their large-scale prevalence study of ASDs, Yeargin-Allsopp and colleagues found that more than 75% of children with ASDs were identified through the school system [13]. This study which was aimed at eliciting a comprehensive and systematic method of identifying children with autism in a regular classroom serves as a first step in understanding autism and how to reliably diagnose it in a regular classroom in a resource constrained setting like Cameroon. This study was keen in bringing out an eclectic method of diagnosing autism since early diagnosis and treatment is paramount for better outlook as language acquisition before the age of five is crucial for speech and language development [5]. Identifying children with autism in regular classrooms will reduce the distress both parents and teachers of these children face as they can be assisted to study and achieve their maximum potentials.

In order to identify pupils with autism from the two nursery schools selected for the study, the researcher first of all used informal methods of identification. This is in line with research findings which stipulate that in order to diagnose someone with autism the specialist needs to do some testing which includes physical examinations, interviews, questionnaires, observations, and sometimes blood tests [19]. This is why methods such as schools records, discussions with class teachers and the use of questionnaires were adopted to identify pupils with autism.

Results of this study showed that based on school records about one sixth of the total number of children who presented with at least one of the characteristics of ASDs were selected after scrutinizing their first and second end of term reports in the Head Teachers' Offices. The aim was to check the performances of each child in language activities. This is in accordance with Min and Wah who hold that over half of the population of children with autism is affected by some sort of language impairments [20]. During this process pupils who had average (50%) and below average (00-49%) scores were retained and those who had above average (50%) were dropped as shown in TABLE 1. This is because they were considered as not having difficulties in communication which is typical of children with autism.

The study also revealed that discussions between the researcher and the teachers of the children selected through school records confirmed most of them as having characteristics of autism (i.e. speech/language difficulties, impairment in social interaction and restrictive, repetitive and stereotyped behaviors and interests) as shown in TABLE 2. Discussions with the teachers was carried out based on the premise that teachers are very important adults in learners' lives, and the fact that teachers are well placed to spot possible autism in school-age children because they are experienced with the range of skills children present at a given age and can watch children interacting together [16]. Also, Min and Wah concur that speech and language assessment for children with autism typically comprises several elements, including behavioral observation of the child's communication skills in free play [20]. The teachers testified that most of the children presented with deficits in communicative behaviors and social interaction, and restrictive, repetitive and stereotyped behaviors and interests.

Furthermore, it was found that parents' reports gotten through the administration of the developmental history checklist confirmed that most of the children who were selected through school records and discussions with their teachers manifested with symptoms of autism. This is in line with research findings that the use of multiple assessment methods, which incorporate formal assessment, observation and parent's report, could generate a more valid language profile for a child with autism as compared to the use of a single assessment technique. This is supported by Min and Wah who maintain that this strategy is an alternative assessment protocol in a setting with limited resources [20].

Again, it was discovered that most of the children were diagnosed as having autism after the administration of the diagnostic test to their teachers (Diagnostic and Statistical Manual of Mental Health Disorders, Fourth Edition, Revised-Text [DSM-IV-TR]). This test was important because it provided a differential diagnosis of the three most frequent ASDs (i.e. autism, Asperger's syndrome and Pervasive Developmental Disorder Not-Otherwise Specified) and the researcher's intention was to diagnose children with autism. The DSM-IV-TR is the most current version of the official diagnostic guide for diagnosing Mental Health Disorders such as autism spectrum disorders (ASDs) and is being used as a diagnostic reference [21]. However, it has been revealed by literature that no one assessment method or diagnostic criteria can reliably differentiate among the three core

ASDs (that is, autism, Asperger's syndrome and pervasive developmental disorder-not otherwise specified), not even the DSM-IV-TR. It is in line with this view that the researcher decided to design a questionnaire which was completed by the teachers of the children to confirm the diagnosis of autism. Also, parent-report instruments that characterize pragmatic difficulties on the autism spectrum can be complemented by teachers' reports in order to evaluate reliability [22]. Furthermore, this method (teacher rating) is useful because more emphasis is placed on behavioral outcomes than on broad perceptions about a child's status [23].

It was realized that after administering the questionnaire to determine the pupils' communicative competence with regards to speech production, expressive/receptive and verbal/nonverbal language skills to their teachers, children identified as not having autism were dropped as shown on TABLE 5. This is because they presented with less severe symptoms of autism with respect to their speech/language and communication behaviors. That is, they had average scores, hence, were considered as having pervasive developmental disorder not-otherwise specified. This supports the fact that the DSM-IV-TR has been criticized for not being able to reliably differentiate between the three core ASDs. The indicators used were considered to be the most frequently used to determine speech/language and communication problems and were appropriate for the pupils' level. The purpose of using this instrument was to separate pupils with severe symptoms presentation in speech and language from those with less severe symptoms. Fifteen children had below average scores in their communicative behaviors and they were confirmed to have autism. This is confirmed by the fact that children with autism do not use full words by age two nor meaningful phrases or sentences by age three [22]. Clearly, schools play an important role in identifying children with developmental disorders such as autism [17].

Interestingly, it was found out that out of the total number of children diagnosed with autism most of them were males. This finding conforms with CDC report which states that the prevalence of autism continues to differ tremendously by gender, with boys about 4.5 times more likely to be affected than girls [9].

V. CONCLUSION

Based on the results of the study, this procedure has systematically and reliably identified children with autism. Therefore, it is recommended that this method be employed in identifying children with autism and the other ASDs in regular classrooms in Cameroon and other resource constrained countries in Africa. This will ensure that children with autism are diagnosed early and given individual attention during the teaching-learning process. This will go a long way to reduce the challenge they face and also reduce the frustration their parents and teachers go through.

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REFERENCES

- [1] Individuals with Disabilities Education Act [IDEA] (2004). A comprehensive guide to your rights and responsibilities. <https://www.nclد.org/wp-content/uploads/2014/11/IDEA-Parent-Guide1.pdf>
- [2] Text Revision. 4th ed. Washington: American Psychiatric Association; 2000. American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders. [Google Scholar]
- [3] Raymond F. Palmer, Stephen Blanchard, Carlos R. Jean, and David S. Mandell, School district resources and identification of children with autistic disorder, *American Journal of Public Health*, 95(1), 2005, 125–130.
- [4] National Institutes of Health and National Institute on Deafness and Other Communication Disorders (2010). NIH workshop on nonverbal school aged children with autism, available from: <http://www.nidcd.nih.gov/funding/programs/10autism/pages/detail.aspx>.
- [5] H. A. Lim, The effect of developmental speech-language training through music on speech production in children with autism spectrum disorders. *Open Access Dissertations, Paper 63*, 2007
- [6] Filipek P, Accardo P, Ashwal S, et al. Practice parameter: screening and diagnosis of autism. *Neurology*. 2000;55:468–479. [PubMed] [Google Scholar]
- [7] Tager-Flusberg, H., Paul, R. and Lord, C. E. (2005). Language and communication in autism. In F. Volkmar, R. Paul, A. Klin, and D.J.Cohen (Eds.). *Handbook of autism and pervasive developmental disorders. Diagnosis, development, neurobiology, and behaviour 1*, 335–364(3rd Ed.). Hoboken, New Jersey: John Wiley & Sons, Inc.
- [8] Bakare, M. O. and Munir, K. M. (2011). Autism spectrum disorders (ASD) in Africa: a perspective. *African Journal of Psychiatry*, 14, 208-210.
- [9] Centres for Disease Control and Prevention (CDC) (2014). Prevalence of autism spectrum disorder (ASD), <http://www.cdc.gov/media/releases/2014/p0327-autism-spectrum-disorder.html>
- [10] Fabo, R. (2012). Autism in Cameroon: Autism around the globe. <http://www.autismaroundtheglobe.org/countries/Cameroon.asp>
- [11] Ntaryike, D. (2013). Autism victims population on the increase in Cameroon. <http://www.cameroonpostline.com/autism-victims- population-on the-increase-in-cameroon/>

- [12] Nzie, F. (2014).The thin line between autism and witchcraft in Cameroon, <http://www.africaontheblog.com/the-thin-line-between-autism-and-witchcraft-in-cameroon/>
- [13] Yeargin-Allsopp M, Rice C, Karapurkar T, Doernberg N, Boyle C, Murphy C. Prevalence of autism in a US metropolitan area. *JAMA*. 2003;289(1):49–55. [[PubMed](#)] [[Google Scholar](#)]
- [14] Baron-Cohen S, Wheelwright S, Cox A, et al. Early identification of autism by the Checklist for Autism in Toddlers (CHAT). *J R Soc Med*. 2000;93(10): 521–525. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)]
- [15] Atkins, W. (2011).The history and significance of the autism spectrum.Theses and Dissertations.Paper 513.
- [16] Baron-Cohen S, Wheelwright S, Cox A, et al. Early identification of autism by the Checklist for Autism in Toddlers (CHAT). *J R Soc Med*. 2000;93(10): 521–525. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)]
- [17] Yeargin-Allsopp M, Rice C, Karapurkar T, Doernberg N, Boyle C, Murphy C. Prevalence of autism in a US metropolitan area. *JAMA*. 2003;289(1):49–55. [[PubMed](#)] [[Google Scholar](#)]
- [18] Johnson, C.P, Early clinical characteristics of children with autism, in V.B. Gupta (Ed.), *Autistic spectrum disorders in children* (New York: Marcel Dekker, 2004) 85-123.
- [19] Glascoe F. Evidence-based approach to developmental and behavioural surveillance using parents' concerns. *Child Care Health Dev*. 2000;26(2):137–149. [[PubMed](#)] [[Google Scholar](#)]
- [20] Min, L. H. and Wah, L. L. (2011).Teaching of speech, language and communication skills for young children with severe autism spectrum disorders: What do educators need to know, available from: <http://files.eric.ed.gov/fulltext/EJ955538.pdf>
- [21] American Psychiatric Association. Lieberman, Insel Issue Joint Statement About DSM-5 and RDoC” APA Psychiatric News Alert May 15, 2013, available from: <https://bay170.mail.live.com/default.aspx>
- [22] D. Skuse, And W. and Mandy, Defining language deficits across autism spectrum, available from: <https://sfari.org/news-and-opinion/viewpoint/2012/defining-language-deficits-across-autism-spectrum>.
- [23] P.F. Shey, Effect of social skills training on the social competence of students with learning disabilities, doctoral thesis, University of Buea, Ph.D, 2011.