

Autistic Disorder: Implication for Early Childhood Education in Nigeria

Nlem, Alwell Okechukwu

Department of Linguistics

National Institute for Nigerian Languages

Aba, Abia State

08136310961 alnlewel@yahoo.com

&

Mmaduka Obianuju Anthonia

Department of Science Education

National Institute for Nigerian Languages

Aba, Abia State

08068886324 lovedioha@yahoo.com

Abstract

The study investigates the impact of Autism and its implication in early child education. The disorder happens to be one of the disturbing problems to a child's learning and wellbeing. The study was carried out in four primary schools; two in Aba, Abia state and the other two in Port Harcourt, Rivers state. The research population includes 407 pupils randomly selected from the selected schools. The survey design method was adopted; the children were observed and assessed through questionnaires administered to them through their teachers. Our findings show that autistic disorder is prevalent among girls; and among the autistic symptoms identified, the social functioning deficit, perceptual and motor deficits are more prevalent than language deficit and repetitive and motor movement. The result of our investigation also shows that these symptoms are at variance with Cognitive developmental stages. The purpose of these findings is to enlightening parents, caregivers, educators and policy makers in Nigeria on how best to handle the education of children with Autistic disorder. This will reduce the rate at which Autistic children are denied access to effective and functional education that meets their peculiar needs in Nigeria. This is notwithstanding the fact that education as observed by the United Nations Children Fund (UNICEF) is fundamental human right and key to reducing poverty and child labor as well as promoting sustainable development. Consequent upon this, every child irrespective of his/her health condition has the right to access effective and functional education.

Key words: Autism, Early Childhood Education, Cognitive developmental stages, symptoms

1.1 Introduction

Though the prevalence of Autism is no longer new in Nigeria, attitudes and available information/awareness about it remain negative and low. Autism has come to be one of the major challenges to its victims in education, basically children of primary school age. It has been

described as a brain-based type of learning disability that specifically impairs the ability of its victim to learn (National Institute of Neurological Disorders and stroke).

Although Autism varies from child to child, it has some common characteristic symptoms. It is a disorder that causes disruption in families and unfulfilled lives for many of the children (National Institute of Mental Health [NIMH], 2004).

Most developed countries have made educational reforms that are geared towards incorporating children with disabilities. They recognize Autism as a disability in its right and make efforts to provide welfare and educational services to support affected children (Aenabe, 2011).

In Nigeria, the story is different. Despite the fact that Autism is listed in the special education section of the Nigerian policy on Education 2004 as a disability there is no legal framework in place to support welfare services for individuals with Autism. Most of the centres/schools that provide services for people with Autism are non-governmental organizations (NGOs), especially in Lagos state and few others in Abuja, Aba and Port Harcourt in Rivers State. Bakare, et al (2009) observed that knowledge and awareness about childhood autism is low among health workers and the general community in Nigeria, as well as other sub-Saharan African countries. Autism is still being viewed as 'OyiboWahala' and sufferers classified as schizophrenic and mentally retarded. Many of these children are treated with exorcism as they are thought to be possessed by the devil (Nwokolo 2007) This is an issue in Nigerian education today that demands immediate attention.

2. Autism Disorder: An overview

Autistic Disorder (AD) is a developmental challenge found in children which adversely affects their social development and ability to communicate. Autism involves a wide range of problematic behaviours, including repetitive motor movement, deficits in language, perceptual and motor development and defective social functioning (Carson, et al., 2007 and Kirk, et al., 2006).

Autism is classified as a pervasive developmental disorder (PDD) in the Diagnostic and Statistical Manual of Mental Disorders (DSM IV -TR, 2000). In this terminology developmental implies that it is a condition that occurs at the time children are still growing up, while pervasive implies that they are hard to track down or pin-point. According to Carson, et al., (2007: 289), "Pervasive developmental disorders (PDD) are a group of severely disability conditions considered to be among the most difficult to understand and treat"

Presentation of autism varies from child to child. Because of this wide variety in its presentation, it is referred to as 'spectrum disorders. Included in the spectrum are Pervasive Developmental Disorders not otherwise specified (PDD-NOS), Asperger's Syndrome, Childhood Disintegrative Disorders and Autistic Disorders (autism).

Although the focus of this writing is autism, we shall take a brief look at these other disorders that are included in the spectrum, to be able to give a better picture.

2.1 Pervasive Development Disorders of Autism Not Otherwise Specified (PDD-NOS)

Children with atypical autism' as it is called are included in this group. They have symptoms that do not exactly fit those of autistic disorder or any other autism spectrum disorders (ASD). For example, the symptoms may have developed after the age of 3, or the symptoms may not be severe enough to be considered autistic disorder.

2.2 Asperger's Syndrome

Children with Asperger's syndrome may display many of the same symptoms as children with autistic disorder. However, they often want to socialize with others but do not know how to go about it. They may not be able to understand the emotions of others. They may not read facial expressions or body language well. Their symptoms may not become apparent until they enter school. They are noticed when interaction and communication with their peers become imperative.

2.3 Autistic Disorder (Autism)

Children with autistic disorder cannot use verbal or nonverbal communication to interact effectively with others. Usually, children with autistic disorder have severe delays in learning language. They may have obsessive interest in certain objects or information. They may perform certain acts repeatedly. Autistic disorder symptoms manifests before age of 3.

Indeed, the Individuals with Disabilities Education Act Amendment [IDEA] (1997) distinguished this particular disorder from the others by the age of its occurrence. It defines autism as "a developmental disability significantly affecting verbal and nonverbal communication and social interaction, usually evident before age 3...

"(IDEA in Kirk, et al., 2006: 296).

Other characteristics often associated with autism are engagement in repetitive activities and stereotyped movement, resistance to environmental change or change in daily routines and unusual sensory experiences.

2.4 Prevalence of Autism Spectrum Disorders

Estimates of the prevalence of autism vary widely depending on diagnostic criteria, age of children screened and geographical location. In the United State of America, it is reported that the number of those diagnosed of autism grew dramatically in the 1990s and early 2000s. In 2000, for example, the Centres for Disease Control and Prevention organized the Autism and Developmental Disabilities Monitoring Network, multi-site records-based surveillance program, to study the prevalence of ASDs.

The network used systematic screening of developmental evaluation records for autistic behaviors rather than depending on a medical or educational diagnostic label of an ASD. In 2007, the network reported ASD rates for 8-year-old children ranging from 1 in 303 to 1 in 94 for 2-time periods (2000- 2002). For the 2006 surveillance year, identified ASD cases were an estimated 9.0 per 1000

children aged 8 years (Autism and Developmental Disabilities Monitory Network, United States, 2007).

Fombonne (2005) reviewed data in 14 countries and estimated a prevalence of 13 per 10,000 for autism, and 3 per 10,000, for Asperger's disorder. There is a diverse set of views on true prevalence. Kirk, et al, (2006) suggest that over 50,000 children in the United States under the age of 5 are affected.

Awareness and understanding of autism in Nigeria, as indeed in many African countries is still limited. The prevalence of autism in Nigeria is not known. However, Abenabe (2011) observed that over one million people live with autism in Nigeria. There are no reliable statistics yet. Nwokolo (2007), one of the experts that have helped in creating awareness for autism disorder in Nigeria, observed that autism has become the fastest growing developmental disability not only in the world but also in Nigeria. He suspects that there may be more cases of autism in Nigeria than in Britain, and even in the United States. He puts the number at about one hundred and ninety thousand (190,000) children in Nigeria who are living with autism (Nwokolo, 2007).

2.5 Causal Factors in Autism Disorders

Autism is a complex neuro-developmental disorder. The precise cause or causes of autism are yet unknown (Carson, et al., 2007:592). Researchers are inclined to attribute the cause to defective genes, damage from radiation or other conditions during prenatal development as being the cause. (Abramson, et al., 1992; Rutter, 1991 b; Waterhouse& Fein, 1997).

Evidence collected from siblings of autistic children showed that families with one autistic child have a 3 to 5 percent risk of another sibling being autistic as well. Studies of twins also show high concordance rates among monozygotic than among dizygotic twins (Bailey et al, 1995). The conclusion from family and twin studies is that 80 to 90 percent of the variance in risk for autism is based on genetic factors, making it probably the most inheritable of the various forms of psychopathology (Rutter, 1991b; Le Couture et al, 1996). The exact mode of genetic transmission is not yet known. Smalley (1991), however, observed that it is likely that relatives may also show an increased risk for other cognitive and social deficits that are milder in form than true autism.

Studies implicating environmental factors are not confirmed and, therefore, said to be unreliable (Rutter, 2005). Environmental factors that have been claimed to contribute to or exacerbate autism, or may be important in future research, include certain foods, infectious diseases, solvents, diesel exhaust, phenols used in plastic products, pesticides, alcohol, smoking, illicit drugs and pre-natal stress (cf. Buxbaum, 2009). However, Duff (2005) observed that autism may be caused when a child with a genetic susceptibility is exposed to one or more of a number of environmental conditions resulting in a series of dysfunctional interactions between Genes and Nutrients (Nutri-genomic interactions). These can happen at pregnancy or after birth. Eventually these

dysfunctional interactions can affect body systems, most obviously the gastrointestinal, endocrine, immune system and the central nervous system.

3. Methodology

This study employed the survey design involving two primary schools of Autism in Port Harcourt metropolis in Rivers State and two others in Aba, Abia state Nigeria. It examined the educational implication of Autism in children of primary school age from class I to 6 randomly selected from these schools to form a sample size of 407 pupils for the study.

3.1 Instrument

After a review of related literature, a set of questionnaires was used to gather the pertinent data for the study. The questionnaire was structured based on Piaget (1958) Cognitive Theories of child's development which posted four stages of cognitive development which include:

Sensory motor stage - 0 to 2 years

Preoperational stage - 2 to 7 years

Concrete Operational stage - 7 to 11 years

Formal Operational stage - 12 and above

Since Autism is viewed as a brain-based learning disorder (Cardigan, et al.2007), the questionnaire was directly administered by the researchers to class teachers after permission have been granted by the school authority. The teachers responded to questionnaires based on the autistic disorder identified among pupils in their classes, and they were collected after completion. The questionnaire was certified by the psychiatrist and the school counselor before it was administered. Teachers helped rate questions in the questionnaire on a 4-point scale of 'not all', 'just a little', 'pretty much' or very much' where necessary according to the symptoms found in the child.

3.2 Data Analysis

Cognitive Theories of child's development stages were employed to aid the researchers to critically evaluate cognitive stages that are impaired or totally absent in the autistic child. This is because it is acknowledged that cognitive abilities provide insights into how a child's mental processes underlie many aspects of his development especially learning. To analyze the results, descriptive statistics was used with the distribution of simple percentage frequencies.

4. Findings

This study investigated the implication of childhood education of an Autistic child. Based on the problem of the study, the following questions were formulated:

Question 1:

What is the gender distribution of Autism among the pupils in the class?

Table 1. Distribution of gender among classes in the sample

Class	GIRLS			BOYS		
	Sample size	Autism symptoms present	Prevalence %	Sample size	Autism symptoms present	Prevalence %
1	53	12	22.64	23	7	30.43
2	20	5	25.00	14	3	21.43
3	44	11	25.00	43	4	9.30
4	25	5	20.00	18	4	22.22
5	52	10	19.23	44	8	18.18
6	42	15	35.71	28	10	35.71
Total	236	58	58.12	170	36	23.15

The result shows that the prevalence of Autism is more among girls in the school in all the classes from 1-6. While the boys were 170, the girls were 236. The age range was 5 to 12 years with a mean age of 9.13 years

Question 2

Indicate the symptoms that manifest in Autistic pupils in the classes.

Girls

Boys

Symptoms	Class	Girls			Boys		
		Sample size	Those with symptoms	Prevalence %	Sample size	Those with symptoms	Prevalence %
1. Repetitive motor movement	3	107	22	11.36	80	30	44.86
2. language deficit	4	25	25	50	18	11	41.55

3.Perceptual and motor deficits	5	52	10	23.84	44	28	36.64
4. Social functioning deficit	6	42	15	12.67	28	20	19.60
Total		226,00	75	156.81	170.00	79	142.63

The result shows that the Autistic symptoms manifest among the pupils in all the selected classes. Note that we merged classes 1 to 3 since Piaget cognitive development stages starts from 0-2 years and this category are not admitted into the primary school. This of course did not affect our result. We discover that all the children did not manifest the same type of symptoms.

Question 3

Are the autistic symptoms at variance with Piaget's (1958) Cognitive developmental stages?

Table 3 shows that autistic symptoms at variance with Cognitive developmental stages

Piaget stages	Autism
Sensory motor stage	Very much
Preoperational stage	Pretty much
Concrete operational stage	Pretty much
Formal operational stage	Very much

The result shows that symptoms of the Autistic pupils are at variance with Piaget's (1958) Cognitive development stages. This means what is expected of the Autism victims is not what is being observed. Above results confirm that autism symptoms resulted in the impairment of cognitive abilities in children with autism.

5. Discussion of the findings

Our findings show that 170 out of 406 pupils who participated in the study were boys while 236 were girls. This result confirms that the prevalence of Autism is high among the girls than boys.

The comparison of age groups across gender was not necessary considering the fact that Piaget (1958) cognitive development stages accommodate all the age groups in all the classes from (0- 2) years. Autism symptoms interestingly, manifest early in children from 0-3 years (Glory, et al.

2012). However, we discovered that apart from gender distribution, we have highest autism prevalence in primary one which is 53 followed by primary five which is 52 for girls, and 43 in primary 3 and 44 in primary five.

In response to Autistic symptoms that manifest among the pupils in the class, it was discovered that the Piaget's cognitive development stages are at variance with that of pupils on bases of the symptoms found. For repetitive and motor movement symptoms, 25 out of 107 girls in classes 1-3 manifested it, while 30 boys out of 80 in the same classes manifested the symptoms.

In class four, all the 25 girls manifested language deficit symptom, while 13 out of 18 boys in the same class manifested the symptom. For perpetual and motor deficits, 38 out of 44 boys in class five manifested the symptoms, while 10 girls out of 52 manifested the same symptoms. For social functioning deficit, 20 out of 28 boys in class six manifested the symptoms, while 15 out of 42 girls manifested the same symptoms.

The disparity in the distribution of symptoms of Autism among the pupils confirms the fact that autism disorder varies from one child to another (Kirk, et al. 2006). It also confirms the claim that Autism is a developmental disorder (Abramson, et al. 1992). The implication of the manifest symptoms in the education of these pupils is Obvious. This is especially the case since the manifest symptoms are at variance with Piaget's cognitive developmental stages. Piaget's cognitive theory was chosen because it deals with stages in intellectual development in children from 0-15 years.

According to the Piaget's cognitive theory, between 0-2 years of age, children demonstrate intelligence through motor activities using the senses. This is not the case with children with Autism with repetitive motor activities. Hence, they do not have knowledge of the world around them; hence they cannot develop some symbolic (language) activities. We discovered from our result that those children with the repetitive motor movement do not recognize objects. This is very imperative in early childhood education since children learn and develop intellectually through the use of symbolic teaching aids.

Piaget's stage 2 intellectual developments were discovered to be impaired among the autistic children that manifested the symptoms of language deficit. Stage 2 of cognitive development shows that between the ages of 2-7 intelligence is demonstrated through the use of symbols and language. Memory and imagination are also developed but thinking is done in a non-logical, non-reversible manner. Among the boys 38 and girls 10 manifested the language deficit in our findings, the demonstration of intelligence through language and symbols is impaired. Most of them are dumb while other few who are not dumb cannot speak. Yet, Autistic disorder is not deaf and dumb disorder. The educational implication here is the fact that, teachers go extra mile in developing a symbolic language method and a wide range of behavioural interventions (Glory, et al. 2012).

The third stage in Piaget's cognitive development is the concrete operational stage (7-11 years). At this stage intelligence is demonstrated through logical and systematic manipulation of symbols. Our findings revealed that 19.25% of the boys and 66.64% of the have problem with perceptual and motor deficits. With these impairments, operational thinking disappears with their mental

actions irreversible: The educational implication is that a typical school day for autistic child will begin with a physical activity to help develop coordination and body awareness. This is very important since intelligence is demonstrated through logical and systematic manipulation of symbols relating to concrete objects.

The last stage in Piaget's cognitive development is the formal operational stage (12 years to adulthood). It is the highest of reasoning of abstract thought. At this stage, the adolescents are capable of inductive, deductive and abstract reasoning. Also, their social functioning begins to improve rapidly. On the other hand, our findings show that adolescent autistic children in primary six who manifested the social functioning deficit cannot engage in deductive and abstract reasoning, or improve on their social functioning. Unfortunately, it was discovered that some of the autistic children with this symptom were not enrolled to school early enough. Kirk, et al. (2006) suggested that educational programming for children with autistic disorder should begin as early as 2 years. The essence of starting early to train autistic children is to help them acquire the basic skills needed for the foundation of future education. However, some of the pupils are older than their classes and this has a lot of implications on early childhood education of an autistic child.

6. Conclusion

Our study revealed the prevalence of autistic symptoms in Port Harcourt Rivers state and Aba, in Abia State. The results of the study revealed that more girls suffer autistic disorder than boys. The prevalence among girls is 58.12% while that of the boys is 23.15%. The findings of this study have implication for parents, teachers, curriculum planners and government. It was recommended that parents and teachers should be adequately educated and enlightened about the nature and symptoms of autistic disorder so that there will be early detection/diagnosis of the children with the disorder and motivate them to start school early. Curriculum planners should come up with new provisions for possible curriculum adaptations for children with autism in the classroom. All The schools used in our study are owned by non-governmental organizations (NGOs) indicating a failure on the part of government to step in and play her role towards children with autism.

Overall findings indicated that the prevalence of autism and methodology used for assessment are not affected by cultural, ethnical or religious variables. Hence, our estimate for prevalence of autism in this study is consistent with those found in literature.

7. Recommendation

Based on the findings of this study, it is recommended that there should be an update on the knowledge of teachers and parents about autism disorder through workshops on how to detect, and manage autism in children.

This will enable teachers to be trained and equipped to handle the teaching of autistic child in the classroom. Studies as this should be sponsored to actually know what the implications are in educating children with autism in primary schools. The government should encourage and supports NGOs and private autism schools so that they can provide the needed services to this set of children in our midst. There should be a shift from diagnosis, management and prevalence of autism to research on its implications in education. To this end, faculty of education in universities and colleges of education should organize programs with emphasis on how to accommodate the victims in our educational curriculum. Counseling units should be established in primary schools in line with the provisions in the NPE. Government at all levels should build more schools for autism children across the country as the few in Lagos, Abuja, Port Harcourt and Aba are not enough given the prevalence of the disorder. The study will be most useful to parents and teachers, educators, and stakeholders to establish the importance of the knowledge of autism, its identification, making referral for treatment, management and education of pupils with this disorder. It is hoped that this study will bring about programs with which government agencies and reputable health organizations will educate parents and education stakeholders on autistic disorder. Finally, it is hoped that this study will provide counselors, psychologists, psychiatrists and other health providers enough information to assist children with autistic disorder.

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