

**ADDIS ABABA UNIVERSITY**

**COLLEGE OF EDUCATION AND BEHAVIORAL STUDY**

**DEPARTMENT OF SPECIAL NEEDS EDUCATION**

**ASSESSMENT OF AUTISTIC BEHAVIOR AMONG SCHOOL AGE  
CHILDREN IN SELECTED ELEMENTARY SCHOOLS IN JIMMA,  
OROMIA, REGIONAL STATE SOUTH WEST ETHIOPIA**

**BY: OLANI WAKJIRA**

**JUNE 2014**

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# Table of Contents

Acknowledgement .....	i
Table of Contents .....	ii
Acronyms .....	v
List of Tables .....	vii
Abstract .....	viii
Chapter One .....	1
Introduction.....	1
1.1 Background .....	<b>1</b>
1.2 Statement of the Problem.....	<b>3</b>
1.3. Objective .....	<b>4</b>
1.3.1 General Objective: .....	4
1.3.2 Specific Objective:.....	4
1.4 Significance of the Study.....	<b>4</b>
1.5 Limitation.....	<b>5</b>
CHAPTER TWO .....	6
2. Review of Related Literature .....	6
2.1 Description of Autism .....	<b>6</b>
2.1.1 Definition and Classification.....	6
2.1.1.1 Definition .....	6
2.1.2. Descriptive Characteristics.....	7
2.1.2.1 Intellectual Functioning.....	8
2.1.2.2. Play Skills.....	9
2.1.2.3. Physical Conditions .....	9
2.1.2.4. Extreme Autistic Aloneness .....	9
2.1.2.5. Communication Problems .....	11
2.1.2.5.1. Verbal Abilities.....	11
2.1.2.5.2 Quality of Speech (Autistic Speech).....	11
2.1.2.6. Compulsive and Ritualistic Acts .....	13
2.2 Classification .....	<b>13</b>
2.2.1 Autism Spectrum Disorders .....	13
2.2.2. Autistic Disorder .....	14

2.2.3. Rett’s Disorder .....	14
2.2.4. Childhood Disintegrative Disorder (CDD) .....	14
2.2.5. Asperger’s Disorder (AD).....	15
2.2.6 .PDD-Not Otherwise Specified.....	15
2.3 Theories of Autism.....	<b>16</b>
2.3.1. Refrigerator Parenting Hypothesis (RPH) .....	16
2.3.2. Genetic Theories (GT) .....	16
2.3.3. Theories of Mind (TOM) and Mind-Blindness.....	16
2.3.4. Empathizing Systemizing (E-S) Theory .....	17
2.4. Criteria for Diagnosing Autism (CFDA).....	<b>17</b>
2.4.1. DSM-5 Criteria for Social Communication Disorder, 315.39 (F80.89) .....	17
2.4.2. DSM-5 Criteria for Autism Spectrum Disorder, 299.00 (F84.0).....	18
2.4.3. Qualitative Impairment in Social Interaction (QISI).....	19
2.4.4. Qualitative Impairment in Communication (QIC).....	19
2.4.5. Repetitive and Stereotyped Patterns of Behavior (RSPB):.....	20
2.5. Etiology of Autism Spectrum Disorders .....	<b>20</b>
2.5.1. Psychological Bases of Autism (PBA) .....	20
2.5.2 Physiological Bases of Autism.....	22
2.5.2.1. Genetic Factors (GF).....	22
2.5.2.2 Neurological Factors (NF) .....	23
2.6. Treatment of Autistic Disorder.....	<b>24</b>
2.6.1. Behavioral Treatments .....	25
2.6.2. Psychodynamic Treatment.....	26
2.6.3. Drug Treatment .....	26
2.7 Prevalence .....	<b>26</b>
2.7.1. Best Current Estimates of Prevalence .....	27
2.7.1.1. Autism Spectrum Disorders .....	27
2.7.2 Controversies over the Incidence and Prevalence of ASDs.....	27
2.7.3. The Importance to State Population Estimate.....	29
2.7.4. Demographic Factors, Race, and Gender.....	30
2.7.5. Empirically Supported Practices .....	30
2.7.5.1 Early Identification, Assessment, and Diagnosis .....	30

2.8. Autism as Brain Abnormality/Mind Blindness .....	<b>31</b>
2.8.1. Core Knowledge Perspective .....	32
2.8.2. The Science of Mind and Behavior.....	33
2.9. Factors Associated with Age at Diagnoses .....	<b>33</b>
2.10. Medical Expenditures .....	<b>34</b>
CHAPTER THREE .....	35
3. Methods of the Study .....	35
3.1. Research Design .....	<b>35</b>
3.2. Description of the Study Area .....	<b>35</b>
3.3 The Study Population .....	<b>36</b>
3.3.1 Sampling Method.....	36
3.3.1.1 Sampling the Study Area.....	36
3.3.1.2 Sampling Target Group.....	37
3.4. Method of Data Collection.....	<b>37</b>
3.4.1. Data Collection Tools .....	38
3.4.1.1. Interview.....	38
3.4.1.2 Observation .....	39
3.4.1.3 Document Analysis .....	39
3.4.2. Procedures .....	<b>39</b>
3.5. Method of Data Analysis .....	<b>42</b>
Chapter Four .....	43
4. Findings.....	43
4.1 Characteristics of Participants .....	<b>43</b>
Chapter Five.....	64
5.1. Summary of Findings, Conclusions and Recommendations .....	<b>64</b>
5.1.1. Summary of the Findings .....	64
5.1.2. Conclusion .....	69
5.1.3. Recommendation .....	70
References.....	73
Appendixes .....	82

## **Acronyms**

AD: Asperger's Disorder

ADHD: attention deficit/hyperactivity disorder

ASD: Autism Spectrum Disorders

CDC: center for disease control

CDC: center for disease control

CDD: Childhood Disintegrative Disorder

CFDA: Criteria for diagnosing autism

CWD: children with disabilities

EIBI: Early intensive Behavioral Intervention

E-S T: Empathizing systemizing theory

GF: Genetic Factors

GT: Genetic theories

ID- Intellectual disabilities

MoE: Ministry of education

MR: mental Retardation

NF: Neurological factors

NHIS: National Health Interview Survey

NSCH: National Survey of Children's Health Survey

PBA: Psychological bases of Autism

PDD NOS: pervasive developmental disorder Not Otherwise Specified

PWD: Person with disabilities

QIC: Qualitative impairment in communication,

QISI: Qualitative impairment in social interaction

RPH: Refrigerator parenting hypothesis

RSPB: Repetitive and stereotyped patterns of behavior

SNE: Special needs education

TOA: Theories of autism

Tom: Theories of mind



## **List of Tables**

Table 1- Demographic information of parent participants .....	43
Table 2- Demographic data of teacher participants .....	44
Table 3: Number of student in selected schools .....	45
Table 4: Totally No of students in selected special needs classes from which participants were selected.....	46
Table 5- Number of students selected for the study in level one screening .....	46
Table 6: Total No of students selected for screening level two (level two screening) .....	47
Table 7: Total Number of characteristics behavioral domains involved in assessment from during the checklist process of data collection.....	48
Table 8: Interviews with parent (part-1) .....	49
Table 9: interview with parent (Part two) .....	50
Table 10: Interview with Parents (Part Three) .....	51
Table 11: indicates interview with parents to record the repetitive behavior children .....	52

## **Abstract**

*Autism as developmental disorder did not receive due attention it deserves, from schools especially elementary schools. Autistic children are not clearly known in school for this particular developmental disorder “Autism”. The purpose of this research is to investigate the dominant autistic behavior among the school children in Jimma Town. To investigate these different developmental traits of five (5) children selected for the study were considered against DSM-5 diagnostic criterion and checked for 1) presence of symptom at early developmental period 2) developmental impairment in three areas, including impairment in social, communication & repetitive behaviors. In process of investigation two levels of screening methods were used to select the target groups from 160 students. From this 128 students were identified for not having any disability or special needs in the school. From the remaining 32 students, only (five) students (3 male and 2 females) showed symptoms of autistic spectrum disorder (ASD). When this was computed from the total population of this study (i.e. 1515 students), these five children constitute the prevalence of ASD to be 33 out of 10,000 school age children. Results were discussed and recommendations were forwarded.*

# Chapter One

## Introduction

### 1.1 Background

Autism is defined as neuro-developmental disorder characterized by impaired social interaction, communication & repetitive behaviors. According to Gross (2010) autism was first identified by Kanner in the USA (1943) and Asperger in Austria (1944), quite independently of each other. “Kanner used the term ‘early infantile autism’ autos’ the Greek word for ‘self’ to describe, individuals who had on ‘a loneness, which involved the ignoring and shutting out of the world and living in an isolated social state” (P. 630).

Autistic children are found in all socioeconomic classes, and in all ethnic and racial groups (Davison, 1990). Similarly, Literature indicates that the number of autistic children in general population increases from time to time. According to Nwokolo (2007) the prevalence and other facts about autism all over the world are frightening. Current projections indicate a risk that the prevalence may be moving towards 1 in 50 in 20. The increased prevalence of autistic children in general population implies the need for assessment of autistic behavior among the population. This is important to overcome unknowingly breeding of ignorance, marginalization and deprivation of children with autism from public services. The deprivation of the autistic children from public services costs children with the spectrum from likelihood of getting education. It is also the annoyance for the community, when it cannot teach or support its citizen. This also implies, the assessment and identification of children with autism benefits the entire population & parent of these children in particular. Therefore the educational intervention and

rehabilitation, after proper assessment of the autistic behavior especially benefits the entire population of this particular area, which is the core issue of this research.

According to Maureen (2010) legislative mandates such as No Child Left Behind and the Individuals with Disabilities Education Act require that students with disabilities not only be exposed to the general education curriculum, but demonstrate progress in it as well. This includes students with autism spectrum disorders (ASD). The Centers for Disease Control and Prevention estimate that one in 110 children is diagnosed with ASD. As a result, more students with ASD are being included in the general education setting, and teachers are faced with the task of determining strategies that will help students with ASD succeed in the classroom. Although the task may seem daunting to teachers, students with ASD can and do learn. The first critical step in this process is to understand the unique characteristics of ASD.

On the other hand the concept of assessment of autistic behavior emanates from availability of program over laps in special needs education delivery system in our special needs schools. This means that children with autism given the impression, misidentified as intellectually disabled. There is an existence of autistic children in special classes for children with intellectual disability, assumed as they are having intellectual disability (ID) or as the deaf, and be seated for the education of children with intellectual disability or for the sign language respectively. In some cases however, according to the literature there is an occurrence of autism on a children with intellectual disability or on deaf children. From the experience many school children faces challenge educationally due to unaddressed special needs they have. Many of them repeat classes, some dropped out the school others are known as under achievers. Those under achievers are given nickname by their peers, and subjected to stop education. In general, assessment of autistic behavior among school children helps teachers and parents to design

specific support system that focuses on specific needs/problems of the child with autism at school, home and at the community levels.

## **1.2 Statement of the Problem**

The government of Ethiopia opened special education program for children with special needs since 1994(MoE 2006). Many special classes were opened in regular elementary school particularly in urban areas. However even though this opportunity is for all children with special needs, autism, do not get due attention it deserves from elementary school education in Jimma Town. There are lots of gaps in understanding of autism and its management in primary schools, compared to other children with special needs like deaf blind etc. The lack of assessment and identification of autistic children brings about unknowingly breeding of ignorance, marginalization and deprivation of children with autism from public services, such as education. It also results in, miss-categorizing autistic children, for intellectual disability or deaf. In this case, autistic children take the education designed for children with intellectual disability in a class, spending life time without proper support or without any type of support. This is wastage in education. If the entire population aware of the presence of autism among the school age children, they could have opened school for autistic children. There-by autistic children could have learned in inclusive setting with appropriate support given from teachers.

Autistic children are found in all socioeconomic classes, and in all ethnic and racial groups (Davison, 1990). Some students from the general school especially elementary schools accidentally labeled as disruptive/negligent were questioned for not acting like typical students. They sometimes have given nicknames which are stereotyped especially negative for their identities. Some of these children dropout the schools or repeat classes, due to their unique

characteristics or behaviors. This research required to assess the dominant autistic behavior of autistic children that interferes within their education at schools.

Research question

The current research is aimed to answer the following basic questions,

1. How prevalent is autistic children among school children in Jimma?
2. What are the dominant behaviors of autistic children?

### **1.3. Objective**

#### **1.3.1 General Objective:**

- To insure the prevalent of autistic children among school children.

#### **1.3.2 Specific Objective:**

- To investigate the autistic behavior among school children in selected schools for this research.
- To provide profile of a child's strengths, skills impairment and needs to inform future needs based management at school.

### **1.4 Significance of the Study**

The result of this assessment is important for 1/ teachers Identify autistic children from a typical student in the schools. 2/ for research purposes, if teachers understand autistic behavior, it easy for them to conduct research on autism in the future.

## **1.5 Limitation**

Literature pointed out that autism is a neuro-developmental disorder, and different types of autism may exist. For example Asperger's syndrome, and pervasive developmental disorders not otherwise specified (PDD-NOS) each of which are forms of autism. Since there is common behavior among members of the spectrum this assessment focuses only on the common autistic behavior known, believed all children with autism manifested based on DSM-5 criteria for diagnosis of autistic Spectrum Disorder (ASD).

## **CHAPTER TWO**

### **2. Review of Related Literature**

The review of literature begins with a general overview of autism spectrum disorders. Classification, current controversies surrounding incidence and prevalence are then considered and a best estimate of national prevalence provided, then treatment and services related literatures are reviewed.

### **2.1 Description of Autism**

#### **2.1.1 Definition and Classification**

##### **2.1.1.1 Definition**

Autism is diagnosed on the basis of abnormalities or impaired development in three areas expected development milestones. Social interaction, communication, and a severely restricted repertoire of activity and interests, present before the age of 3 (American Psychiatric Association, 2013). Under IDEA, autism is defined as...”a developmental disability significantly affecting verbal and nonverbal communication and social interaction, generally evident before age three, that adversely affects a child’s educational performance. Autism is a neurodevelopment disorder defined by impairments in social and communication development, accompanied by stereotyped patterns of behavior and interest (Landa, 2007). Autism as is pervasive developmental disorder characterized by lack of normal sociability, impaired communication and repetitive obsessive behavior (Papalia, 2001)



Autism is a biological disorder of brain functioning (Rapin, 1997). It seems to have a strong genetic basis, concordance between, and monozygotic twins are more than 90% among same sex dizygotic twins, Bailey LeCouteur, Gottesman, and Botton, et.,al. (1995). A gene that regulates serotonin, a brain chemical, seems to be related to autism (Cook et al, 1997). Autism is a neuron-developmental disorder of unknown etiology, but with strong genetic bases. It developed and diagnosed before 36 months (Anne Nilson 2007)

### **2.1.2. Descriptive Characteristics**

The core feature of autism spectrum disorder includes impairment in reciprocal social interaction, impairment in verbal and non verbal communication, and restricted range of interest and activities, which are due to neurobiological factors (ASHA, 2006). However, at the beginning autism was seen spiritually. According to Morgan (1986) from the time when autism was first distinguished, autistic disorder has seemed to have a mystical aura or spiritual about it. The syndrome was first identified in 1943 by a psychiatrist Leo Kanner (Gross 2010). He named the syndrome early infantile autism because he observed that from the start an extreme autistic aloneness that, whenever possible, disregards, ignores, shuts out anything that comes to the child from the outside” (Kanner, 1943). Kanner considered autistic aloneness the most fundamental symptom, but he also found that the autistic children unable from the beginning of life to relate to people in the ordinary way, were severely limited in language, and had a great obsessive desire that everything about them remain exactly the same. Despite its early description by Kanner and others (e.g., Rimland, 1964), “the disorder was not accepted into official diagnostic nomenclature until 1980 (Gross, 2010).

Rutter (1967) identified, in addition to a failure to develop social relations and to learn language, the ritualistic and compulsive activities of autistic children. “Autism begins in early childhood, and indeed can be evident in the first weeks of life. Infants do not seem to care whether they are held and do not smile or look at their caretakers. They could be characterized as seeming not to need affection (Rutter, 1967).

According to APA (2013), autism is characterized by lack of normal sociability, impaired communication and restricted narrow range of repetitive, often observance behaviors such as, spinning, rocking, hand-flopping and head-hanging. The symptom developing within the first 2½ years mostly in boys and it continues to varying degrees through lifetime (American Psychiatric Association (APA), 2013). An autistic baby may fail to notice the emotional signals of others and may refuse to cuddle or make eye contact, (Sigman, 1992) About 3 out of 4 autistic children are mentally retarded (APA, 2013), but they often do well on tests of manipulative or visual skills and may perform unusual mental feats, such as memorizing entertain schedules (Papalia 2001). Some children with autism may make no eye contact & seem totally aloof. Others may show intermittent engagement with their environment and may make in constant eye contact, smile and hug (Shan, Dalton, & Boris 2007).

#### **2.1.2.1 Intellectual Functioning**

According to, Shan, Dalton, and Boris (2007) intellectual functioning of children with autism, can vary from mental retardation to superior intellectual functioning in selected areas, such as puzzles, arts, and music. For (Folstein and Rutter 1978) autism is apparently linked genetically to a broader deficit in cognitive ability (August, Stewart, & Tsai, 1981).

#### **2.1.2.2. Play Skills**

According to Boris (2007), play skill in children with autism are typically aberrant, characterized by little symbolic play, ritualistic rigidity, and preoccupation with parts of objects “stereotypical body movements, a marked need for sameness and a very narrow range of interest are common. They often withdrawn and spend hours in solitary play, (p.134).

#### **2.1.2.3. Physical Conditions**

According to Shan, Dalton, and Boris (2007), the neuro-anatomic findings showed, “the head circumference, of the child with autism is normal or smaller than normal at birth until two months of age and abnormally rapid increase in head circumference from 6-14 months of age concluded at age of 2 years. Farther more they indicated that, the period of early accelerated brain growth appear to stop in childhood, and is followed by abnormally slow or arrested growth, (Shan, Dalton, and Boris 2007). Several literatures, suggest that autistic children may have abnormal high or low level of physiological arousal (Morgan, 1986). Several studies point to a left cerebral hemisphere deficit in autistic children, others do not (Fein et al, 1984).

#### **2.1.2.4. Extreme Autistic Aloneness**

According to Gross (2010), Impaired attachment to parents is not the only way in which the autistic child’s social development is poor. The child never approaches others and may look through or past people or turn his back on them, when play is initiated by someone else. However, the autistic child may be compliant and engage in selected activity for a period of time. Physical play such as tickling and wrestling may actually appear to be enjoyable to the child.

Few autistic children may be said to have friends (Gross, 2010). Not only do they seldom initiate play with other children, but potential friends. Like parents, usually receive little

responsiveness from the autistic child. Autistic infants may avert their gaze if parents try to communicate with them, and they are described as engaging in less eye contact than their peers. The sheer amount of eye gaze may sometimes be relatively normal, but not the way in which it is used, normal children eye-gaze to gain someone's attention or to direct the other person's attention to an object. The autistic child generally does not do this (Mirenda, Donnellan, & Yoder, 1983).

Some autistic children appear not to recognize or distinguish one person from another, (Yoder, 1983). There are conflicting views of whether social withdrawal is a primary or secondary characteristic of autism. Kanner (1943) believed it was primary, and that other feature was a result of the child's emotional withdrawal and failure to interact with the world around him. Fein and et al (1986) presented evidence in favor of viewing social withdrawal as the primary feature of autism, noting that even children with Down's syndrome, severe retardation, brain damage, or environmental deprivation do not show that the kinds of social aloofness present even in high-functioning autistic children. However, it is also possible that the core deficit is an inability to process certain kinds of sensory input, which leaves the child helpless to understand and respond to the world around him (Remland, 1964, & Gross 2010)

Autistic children are also given to stereotypical behavior, peculiar ritualistic (Ceremonial) hand movements, and other rhythmic movements such as endless body rocking, hand flapping, and walking on tiptoe. They spin and twirl string, crayons, sticks, and plates, twiddle their fingers in front of their eyes, and stare, at fans and spinning things. They may also become preoccupied with manipulating a mechanical object and be very up-set when interrupted. Often toys are used in a compulsive and ritualistic manner rather than for their intended purpose (Gross 2010).

Stereotyped behavior is especially counterproductive and interferes with attempt to teach autistic children. While engaged in self-stimulatory behavior, they are totally preoccupied and unresponsive to the environment (Lovaas, Litrownik, & Mann, 1971). This behavior may serve as a powerful form of reinforcement that autistic children can administer to themselves, seriously restricting their responsiveness to other reinforcers(Lovaas, Newsom, &Hickman, 1987).

#### **2.1.2.5. Communication Problems**

Although communication deficits are part of the diagnostic criteria for autism, children with autism vary widely in their communication skills, with some nonverbal and others having adequate skills to participate in conversation. Previous studies have suggested that up to 50% of children with autism were nonverbal (Lord &Rutter, 1994),

##### **2.1.2.5.1. Verbal Abilities**

Children with autism also present with varying verbal abilities, ranging from being non verbal to advance speech, capable of imitating songs, rhymes, or television commensals (Shan, Dalton, & Boris, 2007)

##### **2.1.2.5.2 Quality of Speech (Autistic Speech)**

The most notable in children with autism according to Shan, Dalton, & Boris (2007), is the quality of their speech and language .they may have an odd prosody or intonation and characterized by echolalia, pronoun reversal, nonsense rhyming and other idiosyncratic language form, (Shan, Dalton, & Boris 2007)

According to Gross (2010) They cannot yet distinguish between the two functions and as their speech is egocentric .... can neither think privately nor communicate publically to others.

Instead, they are caught somewhere between the two and cannot distinguish between ‘speech for self’ what Piaget calls “autistic speech.

Even before the period when language is usually acquired, autistic children have deficits in communication. Babbling, a descriptive term for the utterances of infants before they actually begin to use words less frequent in autistics and conveys less information than does that of other infants. Ricks (1972), for example, played tape recordings of the babbling of both autistic and mentally retarded infants to their own mothers and to other mothers. Although all mothers understood best the babbling of their own infants, the babbling of the autistic children was less meaningful to other mothers than was the babbling of the mentally retarded children.

According to (Rutter,1966) by two years of age, most normally developing children use words to represent objects in their surroundings and construct one-and two-word sentences to express more complex thoughts(p.342).Rutter(1966)farther indicates that most educators and researchers believed echolalia served no functional purpose. But Prizant (1983) have suggested that echolalia may actually be an attempt to communicate. Children refer to themselves as “he,” or “you,” or by their own proper names. Pronoun reversal is closely linked to echolalia (cookie & Gross, (2010). Another abnormality common in the speech of autistic children is pronoun reversal. If normal speech is built up this pronoun reversal might be expected to disappear. It has been reported, however, to be highly resistant to change (Tramontana&Stimbert, 1970). One of category of impairments, Pragmatic Language Disorders (PLDs), affects all autistic children, (Young et al., 2005). According to Aarons &Gittens, (1999) these Pragmatic Language Disorders are characterized by deficits in comprehension, in particular (i) a low understanding of non-literal sequences such as metaphors, jokes or irony; (ii) a poor command of indirect speech acts such as questions and (iii) difficulties with presuppositions and other conversational conventions

such as politeness, turn-taking (Young et al., 2005). Linked to PLDs are further impairments in the production of speech. Among these are (i) personal pronouns reversal for instance the use of “I” instead of “you” and vice-versa, (ii) the misuse of such prepositions as “in”, “on”, “under”, “next to” (...), and (iii) the prevalence, in speech, of echolalia formal repetition of other’s utterances (Fay, 1988; Aarons & Gittens, 1999).

Children with autism are varying literally in their use of words, (Rutter, 1966). Communication deficiencies may leave a lasting mark of social retardation on the child. The link, between social skills and language is made evident by the often spontaneous appearance of affectionate and dependent behavior in these children after they have been trained to speak (Churchill, 1966 & Hewett, 1965).

#### **2.1.2.6. Compulsive and Ritualistic Acts**

According to Damond, Baldwin, & Diamond, (1963), autistic children become extremely upset over changes in daily routine and their surroundings. Even common greetings must not vary. If seen one of the word is omitted, or another added she would start to scream wildly, (Damond, Baldwin, & Diamond, 1963),

## **2.2 Classification**

### **2.2.1 Autism Spectrum Disorders**

Originally described by psychiatrist Leo Kanner in 1943, autism did not appear as discrete diagnostic entity until in 1980, (Stephanie, Corrigan & Cheryl 2006). Diagnostic and Statistical Manual of Mental Disorders (DSM-5) defined the disorder as condition marked by lack of responsiveness to other human beings, gross impairments in communication and language, and bizarre responses to the environment (Stephanie, Corrigan & Cheryl, 2006 )

### **2.2.2. Autistic Disorder**

Autistic disorder, or autism, is a neuro-developmental disorder characterized by impairments in verbal and/or nonverbal communication; social interaction; and repetitive, unusual, or circumscribed behaviors. While autism may encompass a broader range of functionality than previously thought, and while children may present quite differently, Tidmarsh&Volkmar (2003) provide a heuristic illustration of a child with autism:

### **2.2.3. Rett's Disorder**

This is a rare disorder (1/20,000) with a clear genetic etiology (Stephanie et al 2006). According to these authors, Rett's disorder occurs almost exclusively in girls. It is marked by head circumference decelerate between 5 and 48 months, followed by loss of previously acquired fine motor skills, the onset of hand wringing, the eventual loss of motor function, and significant lack of coordination in trunk and gait movement. Affected girls lose communication skills and interest in their environment (Stephanie et al 2006). According to (Susan & Corrigan 2006) at this stage, Rett's symptoms appear similar to symptoms of autism. However, between two and ten years of age, some girls regain the ability to make eye contact and to interact socially, surpassing the social aptitude of many children with autism. Rett's disorder is associated with severe, or profound, mental retardation (Holmes, 2006).

### **2.2.4. Childhood Disintegrative Disorder (CDD)**

Uncommonly than Rett's disorder, childhood disintegrative disorder has a prevalence rate of only 1.7/100,000. According to (Holmes, et al 2006) authors it affects males more than females and marked by loss of previously acquired skills after a period of normal development, (Holmes, et al 2006). To meet DSM-5 criteria, a child must demonstrate marked deterioration



in two of the following areas of development: social skills or adaptive behavior, language, bowel or bladder control, play, or motor skills. CDD appears to have a poorer outcome than autism (Volkmar, 1997).

### **2.2.5. Asperger's Disorder (AD)**

Asperger's disorder is usually detected at a later developmental stage than autism Holmes.,et.al (2006). Language development may appear normal or even precocious at three years old. However, children with Asperger's disorder eventually display problems in communicating with others because their speech is often one-sided, oblivious to cues of social reciprocity, and preoccupied with specific circumscribed interests (like washing machines, time, or the solar system, (Tidmarsh&Volkmar 2003). According to Tidmarsh&Volkmar(2003), children with AD may make inappropriate statements in public or, sounding like little professors, use unusual and sophisticated words. Their prosody is affected, and they may speak in a boring monotone. The literature indicates that, Children with AD have normal cognitive ability, but they often have learning disabilities (Tidmarsh&Volkmar 2003).

### **2.2.6 .PDD-Not Otherwise Specified**

Pervasive Developmental Disorder Not Otherwise Specified (PDD NOS) is a category used when clinicians cannot satisfy full criteria for other categories. Children with less severe presentations of any other ASD may be given a PDD NOS diagnosis. Despite, or perhaps because of its clinical imprecision, PDD NOS is now the most widely used ASD diagnosis (Fombonne, 2003). Some researchers feel that the category contributes little to our understanding of ASDs and creates too many false positives, with ramifications not only for research but also for service providers and schools (Volkmar, 2003).

## **2.3 Theories of Autism**

### **2.3.1. Refrigerator Parenting Hypothesis (RPH)**

Kanner had originally suggested that autism was partly the result of 'cold', unemotional parenting, specifically by the mother. However, the prevailing current view is that parents behavior doesn't initiate or in any way provoke autism (Powell, 1999). Indeed, any difference in parents' behavior towards their autistic child is more likely to be caused by the autism than vice versa (Powell, 1999). Also, autism seems to strike indiscriminately. It's no respecter of social class or family environment it can affect a child with extremely warm and loving parents and where there one no autistic siblings (Mitchell, 1997).

### **2.3.2. Genetic Theories (GT)**

Kanner suggested that autism has a genetic component. According to (Rutter et al 1999), finding from several independent studies provide compelling evidence for a strong genetic component underlying autism (Richard 2010). If one member of a twin pair is autistic, the probability that the other will also be autistic depends to a significant degree on whether they share all their genes or only half their genes (the same as ordinary siblings) Rutter et al, 1999) autism is the most strongly genetically influenced of all multi factorial child psychiatric disorder(Gross, 2010).

### **2.3.3. Theories of Mind (TOM) and Mind-Blindness**

The most influential theory of autism in recent years maintains that what all autistic people have in common (the core deficit) is mind- blindness (Boron-Coher, 1990). A sever impairment in their understanding of mental states and in their appreciation of how mental states

govern behavior (eg. Baron-cohen, 1993, 1995 a and b) Autistic individuals fail to develop the ability to attribute mental states to other people and this has fundamental implications for communication, where making sense of others' intentions enables the listener to understand what's being said (Baron-Cohen, 1995 a). The strongest evidence for autistic children's lack of a theory of mind (ToM) and mind-blindness is their consistent failure on false belief tasks by comparison; Down syndrome normal children reliably pass them (Richard, 2010).Autism individuals may become distressed by changes in their immediate ritualized behaviors: they don't plan to anticipate the consequence of their actions (Richard, 2010). executive function deficit isn't a sufficient explanation of the specific nature of autism (Lewis, 2003). It can potentially explain several features not tackled by ToM (Fith, 1996).

#### **2.3.4. Empathizing Systemizing (E-S) Theory**

The theory was developed by, Baron and Cohen (1993). According to the E-S theory, Female brain is hard-wired for empathy (E-type), while male brains are hard-wired for constricting system (S-type). These differences are reflected in male /female difference from birth until the adult skills and occupations, according to which the autistic individuals have an extreme male brain (Richard, 2010).

### **2.4. Criteriafor Diagnosing Autism (CFDA)**

#### **2.4.1. DSM-5 Criteria for Social Communication Disorder, 315.39(F80.89)**

According tonew (2013) DSM-5 criteria for communication disorder the following points must be met.

A. Persistent difficulties in the social use of verbal and nonverbal communication as manifest by deficits in the following: 1) Using communication for social purposes, such as greeting and

sharing information, in a manner that is appropriate for the social context; 2) Changing communication to match context or the needs of the listener, such as speaking differently in a classroom than on a playground, communicating differently to a child than to an adult, and avoiding use of overly formal language. ; 3) Following rules for conversation and storytelling, such as taking turns in conversation, rephrasing when misunderstood, and knowing how to use verbal and nonverbal signals to regulate interaction; 4) Understanding what is not explicitly stated (e.g. inferencing) and nonliteral or ambiguous meanings of language, for example, idioms, jokes, metaphors and multiple meanings that depend on the context for interpretation.

B. Deficits result in functional limitations in effective communication, social participation, social relationships, academic achievement, or occupational performance.

C. Onset in the early developmental period (but deficits may not become fully manifest until social communication demands exceed limited capacities).

D. Deficits are not better explained by low abilities in the domains of word structure and grammar, or by intellectual disability, global developmental delay, Autism Spectrum Disorder, or another mental or neurologic disorder.

#### **2.4.2. DSM-5 Criteria for Autism Spectrum Disorder, 299.00 (F84.0)**

Currently, or by history, must meet criteria A, B, C, and D, Walter E. Kaufmann (2013).

A. Persistent deficits in social communication and social interaction across contexts, not accounted for by general developmental delays, and manifest by all 3 of the following:

1. Deficits in social-emotional reciprocity
2. Deficits in nonverbal communicative behaviors used for social interaction
3. Deficits in developing and maintaining relationships

B. Restricted, repetitive patterns of behavior, interests, or activities as manifested by at least two of the following:

1. Stereotyped or repetitive speech, motor movements, or use of objects
2. Excessive adherence to routines, ritualized patterns of verbal or nonverbal behavior, or excessive resistance to change
3. Highly restricted, fixated interests that are abnormal in intensity or focus
4. Hyper-or hypo-reactivity to sensory input or unusual interest in sensory aspects of environment;

C. Symptoms must be present in early childhood (but may not become fully manifest until social demands exceed limited capacities

D. Symptoms together limit and impair everyday functioning.

#### **2.4.3. Qualitative Impairment in Social Interaction (QISI)**

Impaired non-verbal behaviors (especially eye contact), failure to engage in genuinely social games (such as turn taking, no attempt to share increases through joint attention behaviors and failure to develop any friendship beyond the most superficial a acquaintance. A lack of empathy is often seemed as the central future of the social deficit, (Baron, 1988, Kanner, 1973, and Richard, 2010).

#### **2.4.4. Qualitative Impairment in Communication (QIC)**

Fail to developed language and communication in a normal way like others. Such restricted language development, stereotyped and repetitive or idiosyncratic use of language and failure to use gesture properly. Also, a lack of varied spontaneous make- believe /symbolic play

(Lestie, 1987) and engaging in play that is often lacking in creativity and imagination (Borncohen, 1987 and Richard, 2010)

#### **2.4.5. Repetitive and Stereotyped Patterns of Behavior (RSPB):**

According to (Richard,2010) an inflexible adherence to specific routines, becoming distressed if prevented from performing repetitive rituals stereotyped and repetitive motor mannerisms and persistent preoccupation with parts of objects. Autistic children become extremely upset over changes in daily routine and their surroundings (Damond, Baldwin, & Diamond, 1963).

### **2.5. Etiology of Autism Spectrum Disorders**

The etiology of autism and ASDs is unknown (Perry &Condillac, 2003). However literature releases the following factors as a base that causes autism. These are in areas of the following bases. Psychological bases genetics bases, neurology bases, and metabolic disorders. “A genetic component is increasingly accepted among scientists, with family heritability demonstrated. At present, it appears that there may be multiple neurological and developmental pathways to ASDs (Perry &Condillac, 2003).

#### **2.5.1. Psychological Bases of Autism (PBA)**

Since Kanner first described autism, researchers have been seeking its cause, (Richard, 2010). Some of the same reasons that led Kanner to consider autistic children to be average in intelligence, their normal appearance and apparently normal physiological functioning, led others to regard autism as environmentally caused. One of the best-known of the psychological theories was formulated by Bruno ( Bettelheim 1967). The basic supposition of his theory is that autism

closely resembles the apathy and hopelessness found among inmates of German concentration camps during World War II. Bettelheim hypothesizes that the young infant has rejecting parents and is able to perceive their negative feelings. Bethelhem finds that his own actions have little impact on their unresponsiveness. The child comes to believe that (his) own efforts have no power to influence the world, because of the earlier conviction that the world is insensitive to (his) reactions (Richard, 2010).

Ferster (1961), explanation indicates that, in an extremely influential article, suggested that the inattention of the parents, especially of the mother, prevents establishment of the associations that make human beings reinforces. And because the parents have not become reinforces, they cannot control the child's behavior, the end result being autistic disorder. (Bettelheim and Ferster, 1961) have stated that parents play the crucial role I the etiology of autism. In his early papers, Kanner described that parents of autistic children as cold, insensitive, meticulous, introverted, distant, and highly intellectual" (Kanner and Eisenberg, 1955). Others (e.g., Singer and Wynne, 1963; Rimland, 1964) have also noted the detachment of parents of autistic children, although Rimland has used less negative adjectives. Singer and Wynne have described several means by which these parents "disaffiliate" themselves from their children. Some are cynical about all interpersonal relations and are emotionally cold; others are passive and apathetic; and still others maintain an obsessive, intellectual distance from people, (Kanner and Eisenberg, 1955).

According to (Cox et al 1975), systematic investigations, for example, (Cox et al., 1975) compared the parents of autistic children to those of children with receptive aphasia (a disorder in understanding speech); the two groups did not differ in warmth, emotional demonstrativeness, responsiveness, and sociability. The direction of a possible correlation between parental

characteristics and autism is not easily determined. Any deviant behavior could be a reaction to the child's abnormality rather than the other way around. Moreover, there is no evidence that any kind of emotional maltreatment, deprivation, or neglect can produce behavior that resembles the syndrome of autism (Ornitz, 1973, Wing, 1976). Indeed, the very early onset of autism and an accumulation of neurological and genetic evidence imply physiological basis for this puzzling disorder,(Rutter 1978).

## **2.5.2 Physiological Bases of Autism**

### **2.5.2.1. Genetic Factors (GF)**

There is a growing evidence that hereditary transmission plays a role as causative agent of autism.(Folstein&Rutter,1977; Minton et al.,1982;Ritvo et al.,1985; Morgan 1986). Genetic studies of autism are difficult to conduct because the disorder is so rare (Davison 1990). The rate of autism in brothers and sisters is about 2 percent (Rutter, 1967). Although this is a small percentage, it represents a fifty fold increase in risk as compared to the morbidity risk in the general population (Davison 1958). Evidence of the importance of genetic factors in autism is provided by a methodologically sound study conducted by (Folstein and Rutter 1978). Folstein and Rutter(1978) also looked for cognitive disabilities, such as delayed speech, problems in saying words properly, and low IQ, in the co-twins.

Autism is apparently linked genetically to a broader deficit in cognitive ability, (Davison,1958). Further support for this position comes from finding a higher incidence of a spectrum of learning disabilities in the families of autistic children (August, Stewart, and Tsai, 1981): Taken together, the evidence from family and twin studies supports a genetic basis for autistic disorder, (Davison 1958)



### **2.5.2.2 Neurological Factors (NF)**

Early studies of autistic children indicated that many had abnormal brain wave patterns (e.g., Hutt et al., 1964). Other types of neurological examination have also revealed signs of damage in a large percentage of autistic children (Bosch, 1970; DeMyer et al., 1973; Gubbay, Lobascher, and Kinnerlee, 1970). Further evidence supporting the possibility of neurological dysfunction includes a recent study using magnetic resonance scans of the brain, which found that portions of the cerebellum were underdeveloped in autistic children (Courchesne et al., 1988). This abnormality was present in fourteen out of eighteen autistic subjects. The degree of neurological abnormality or central nervous system dysfunction seems to be related to the severity of the autistic symptom, In adolescence 30 percent of those who had severe autistic symptoms as children begin having epileptic seizures. Furthermore, the prevalence of autism in children whose mothers had rubella during the prenatal period is approximately ten times higher than that in the general population of children. A syndrome similar to autism may follow in the aftermath of meningitis, encephalitis, and tuberous sclerosis and develop through PKU, all of which may affect central nervous system functioning. These findings, plus the degree of mental retardation, would seem to link autism and brain damage (Davison, 1990).

According to (Davison, 1990), Autism cannot, however be attributed exclusively to general brain damage for two reasons First, not all autistic children show signs of brain damage. Second, children may have brain damage but no symptoms of autism. In fact, most children who are brain-damaged are not autistic. With increasing sophistication in our knowledge of brain function and the instruments used to assess it, clearer evidence of the links between autism and brain dysfunction is likely to emerge in the future (Davison, 1990)

## **2.6. Treatment of Autistic Disorder**

Educational programs for autistic children usually try to relieve their symptoms and improve their communication, social skills, and adaptive behavior, so that they can become more independent. Autistic children have several problems that make teaching them difficult, however. First, they do not adjust normally to changes in routines, including special events and substitute teachers. Second, their behavior problems and self stimulatory movements may interfere with effective teaching. Although the similar behavior of children with other disabilities may interrupt on the teacher's efforts. Third, it is particularly difficult to find reinforcers that motivate autistic children. 'Normal' children (who are not autistic) like to explore and control their surroundings, but not children with autism. for reinforcers to be effective with autistic children, they must be explicit, concrete, or highly salient. A widely used method of increasing the range of reinforcers that autistic children respond to is to pair social reinforcement with primary reinforcers such as food.

From the literature, further problem that often interferes with the learning of autistic children is their over selectivity of attention. When the child's attention becomes focused on one particular aspect of a task or situation, other properties,, including relevant ones, may not even be noticed. For example, in sign language training, the teacher often says a word while making its sign in the presence of the referent object or its image. Students, it is assumed, will learn to associate the sign with the spoken word and the object. Children with autism are more likely to attend to only one of the cues, however (Lovaas et Al., 1971).

### **2.6.1. Behavioral Treatments**

Mental health professionals agree that autistic children have been helped through modeling and operant conditioning. Behavior therapists have helped autistic children talk, (Hewett, 1965) modified their echolalic speech Carr, Schreibman Lovaas(1975) encouraged them to play with other children (Romanczyk et al., 1975) and helped them become more generally responsive to adults (Davison, 1964). Work by Donnellan et al.,(1984) extends applied behavior analysis to the communicative aspects of some autistic children's aggressive behavior. similar treatment for less than ten hours per week. All children were rewarded for being less aggressive, more compliant, and more socially appropriate, including talking and playing with other children. The goal of the program was to mainstream the children the assumption being that autistic children, as they improve, benefit more from being with normal peers rather than remaining by themselves or with other seriously disturbed children. .

Autism, like mental retardation, places considerable stress on a family. Because autistic children have few or no physical handicaps and some isolated normal and even superior abilities, their parents may even hope that the diagnosis is erroneous. One way to ease the parents' burden is to instruct them about the nature of autistic disorder, especially the virtual certainty that it does not have a psychogenic cause. Relieved of the guilt associated with his pernicious belief, some parents will want to become involved in the education of their child. There is reason to expect that the education provided by parents is more beneficial to the child than clinic-or hospital-based treatment(Lovaas et al., 1982).

### **2.6.2. Psychodynamic Treatment**

A very different treatment of autism was developed over many years by Bruno, Bettelheim 1967, (1974). Bettelheim argued that a warm, loving atmosphere must be created to encourage the child to enter the world(Davison1986). According to (Davison1986) Bethlehem's treatment may contain more direct instruction, systematic reinforcement, and extinction. By the same token, of course, reports of behavior therapists usually underplay the rapport building that undoubtedly provides the context for their programs (Davison, 1986).

### **2.6.3. Drug Treatment**

There is evidence that some autistic children have elevated blood levels of serotonin (Ritvoet. Al., 1970). In hopes of reducing their serotonin levels and there by improve behavior and cognitive functioning, investigators administered fenflur amine to autistic children(Davison, 2009)

## **2.7 Prevalence**

According to Edo Journal of Counseling (2010) autism occurs relatively infrequently in the general population, in approximately three or four infants out of 10,000. Studies indicate that about four times more boys have autism than girls. Autistic children are found in all socioeconomic classes and in all ethnic and racial groups. Autism was once a rare disorder but had become so common that it is supposed as one of the fastest growing childhood disorders and the third most common developmental brain disorder,(Edo Journal of Counseling 3(2) pp.261, 2010).

## **2.7.1. Best Current Estimates of Prevalence**

### **2.7.1.1. Autism Spectrum Disorders**

In the interest of providing the accurate estimate of the population of children with ASDs, according to Yeargin-Allsopp, & Decoufle, (2001) multiple epidemiological sources were reviewed and evaluated. Recently, the Centers for Disease Control conducted two large population-based studies in two U.S. cities (Yeargin et al., 2003; Bertrand et al., 2001). This report indicates ASD prevalence of 34 and 67 per 10,000 children respectively.

Fombonne(2002) states; that Increasing and consistent evidence from recent surveys show that the prevalence rate for ASDs is approximately 60 per 10,000. Farther more they stated, Translated, this estimate means that at present, there are approximately 425,000 children under 18 in the United States with an autism spectrum disorder. Of those, 114,000 children are under five years old. Very recently, the prevalence of autism and ASD is 5.7 per 1,000 children in NHIS and 5.5 per 1,000 children in NSCH” (CDC, 2006). This report will use the currently accepted rate of 60 in 10,000, or 6 in 1,000 children. The report will use the more conservative CDC rate of 5.5 per 1,000 to estimate the prevalence of autism (Stephanie et al., 2006). The community report (March 27, 2014) indicates the prevalence of autism is 1 in 68 children (1 in 42 boys and 1 in 189 girls) Center for Disease control and prevention (CDC) (2014).

## **2.7.2 Controversies over the Incidence and Prevalence of ASDs**

There is little consensus in the scientific community—and considerable controversy in the media—about the incidence and prevalence of autism and autism spectrum disorders (Corrigan, 2006). What is clear is that the prevalence rate of autism and ASDs has increased in the past ten years; there simply are now more children with ASDs than in the 1960s, when the

accepted prevalence rate was 4/10,000. What remains controversial is the cause of the increased prevalence. High prevalence rates from recent studies have sparked an incendiary debate in the media and among public policy makers. Do the higher numbers mean that we now have an epidemic of autism? Many in the scientific community—including the most established autism researchers—maintain that higher prevalence rates are due to changes in diagnostic criteria and to improved awareness of symptoms among diagnosing professionals (Tidmarsh&Volkmar, 2003).

According to Fombonne, (2003), a significant variability in the design of large studies over the years, which confounds accurate predictions of trends in ASD prevalence over time.Fombonne notes, “Surveys conducted in the 1960s and 1970s only dealt with autism (as opposed to ASD) and with a rather narrow definition of autism, as per Kanner’s description, and not accounting for autism occurring in subjects who are not mentally retarded, (p. 87). A conclusive causal association between ASDs and the measles-mumps-rubella immunization has not been found in recent epidemiological studies (Fombonne&Chakrabarti, 2001; Madsen, Hviid, &Vestergaard, 2003; Taylor, Miller, Lingam, et al., 2002). To date, evidence that mercury-containing vaccines are causal in the incidence of ASDs is also inconclusive (Stratton, Gable, & McCormick, 2001; Pichichero, Cernichiari, Lopreiato, &Treanor, 2002). Despite the lack of scientific proof that mercury-containing vaccines cause autism, some scientists have suggested that children with autism are unable to metabolize mercury and that they continue to receive doses of methyl mercury from vaccines in excess of government safety guidelines,(Haley, 2005; Geier&Geier, 2003).

According to Eric Fombonne(1960) prevalence has thus increased. Researchers attribute this, in large part, to changes in diagnostic criteria and to increased awareness among

professionals giving ASD diagnoses. Researchers do not agree that increased prevalence is due to an actual increase in incidence that is, the number of newly emerging cases. To prove increased incidence, researchers would have to demonstrate a causal connection between an environmental agent like mercury in vaccines and autism. At present, such evidence is inconclusive. But while an epidemic of autism has not yet been wholly scientifically substantiated, it cannot be completely ruled out either. Eric Fombonne(1960) states, Whereas evidence exists that a substantial part of the increase in prevalence is due to methodological factors, the additional possibility of a secular increase in the incidence of autism cannot be ruled out, (Geier,2003).

### **2.7.3.The Importance to State Population Estimate**

According to Individuals with Disabilities Education Improvement Act (IDEA, 2004) accurate estimates of this population are increasingly important to policy makers and public service agencies. Federal legislation mandates that two programs serve children with disabilities: The Individuals with Disabilities Education Improvement Act of 2004 (IDEA, Public Law 108-446; U.S. Department of Education, 2004) and Medicaid (Title XIX of the Social Security Act). IDEA requires two things: that schools provide a free and appropriate public education to children with disabilities, including autism, and that an accurate number of eligible children be counted. Between 2000 and 2001, the United States Department of Education (US DOE) reported a 21% increase in the number of children between the ages of 6 and 21 years who had autism (US DOE, 2001). In 1999, the Department of Education called autism the “largest growing low incidence disability in the U.S.” (US DOE, 1999). Moreover, the California Department of Health and Human Services (Department of Developmental Services, 1999) reported that between 1987 and 1998, the number of children seeking services for autism rose by

273%. Some prominent researchers (Shattuck, 2006; Fombonne, 2003) have criticized these numbers, citing the phenomenon of “diagnostic substitution.” In order to draw down early intervention funding, an incentive may exist to re-classify some children’s diagnoses so they will qualify for services. For example, in the widely publicized University of California MIND Institute study (2002), the prevalence of autism increased from 5.8 per 10,000 children in 1987 to 14.9 per 10,000 in 1994. Upon reanalysis of the data, however, it appeared that the prevalence of mental retardation during this period decreased concomitantly—from 28.8 to 19.5 per 10,000. The best explanation for this sudden decline in mental retardation was the substitution of autism for mental retardation in order to qualify children for early intervention services (Croen, Grether, Hoogstrate, & Selvin in Fombonne, 2003).

#### **2.7.4. Demographic Factors, Race, and Gender**

“Recent epidemiological studies have found no association between autism spectrum disorders and social class or race/ethnicity. While some studies have found somewhat higher rates of autism among families with higher incomes, this has been attributed to these families’ greater access to diagnoses (CDC, 2006).” Autism spectrum disorders affect boys more than girls. Reported ratios average around 3.5 or 4 to 1 (Fombonne, 2003; Lord, Schopler, & Revicki, 1982; Volkmar, Szatmari, & Sparrow, 1993 in Volkmar, Lord, Bailey, Schultz, & Klin, 2004).

#### **2.7.5. Empirically Supported Practices**

##### **2.7.5.1 Early Identification, Assessment, and Diagnosis**

Early diagnosis and intervention lead to improvements in functional level (American Academy of Pediatrics, 2001). Evidence suggests that interventions designed to improve functioning in children with ASDs are likely to be more effective with younger children



(Committee on Children with Disabilities, 2001; Campbell, Schopler&Hallin, 1996; Rapin, 1997; Volkmar, Cook, Pomeroy, Realmuto&Tanguay, 1999). Moreover, early treatment results in a better long-term prognosis (Lord, 1995), whereas treatments delivered at older ages appear to have somewhat diminished returns (Mars, Maulk&Dowrick, 1998). Despite evidence that children can be reliably diagnosed at increasingly earlier ages (Charman& Baird, 2002), on average, children do not receive a diagnosis until reaching school age (Yeargin-Allsopp, et al., 2003). Significant opportunities for gains in functioning may be lost by delaying diagnosis, with costly effects for children, families, and states.

## **2.8. Autism as Brain Abnormality/Mind Blindness**

Research agrees that autism stems from abnormal brain function in, usually due to genetic or prenatal environmental causes. ‘From the first year on, children with autistic the disorder have larger-than average brain, perhaps due to massive over growth of synaptic pruning, which accompanies normal development of cognitive and language skills’ (Curper, and Akshoomoff, 2003). Autism is associated with reduced activities in areas of the cerebral cortex known to mediate emotional and social responsiveness and thinking about mental activities, in including mirror neurons, (Mundy, 2003; Thenet et al 2005,Laura 2010 ).

According to Laura (2010), growing evidence reveals that children with autism have a deficient theory of mind, long after they reach the intellectual level of an average 4-years-old; they have great difficulties with false belief tasks. Most find it hard to attributed mental state to themselves or others, (steele, Joseph, andTagerFlusberg, 2003).

They rarely use mental state words such as believe, think, know, feel, and pretend” Papalia(2010). As early as the second year, children with autism show deficits in capacities

believed to contribute to an understanding of mental life, Compared with other children, they less often establish joint attention, engage in social referencing or imitate an adults novel behaviors (Munday and Stalla 2000; Vivanti et al.. 2006) Furthermore, they are relatively insensitive to eye gaze as a cue to what a speaker is talking about instead, they often assume that another person's language refers to what they themselves are looking at a possible reason for their frequent non-sensical expressions" (Born-chren, Baldwin and Crowson, 1997).

Do these finding indicate that autism is due to impairment of an innate, core brain function which leaves the child "mindblind" and therefore deficient in human sociability? Some researchers think so (Boron-chuen and Bolmote, 2005; Scholl and Leslie, 2000). Core knowledge theorists ... claim that children with autism... are deficient in the brain mechanism that enables human to defect mental states (Laura and Berk, 2001).

### **2.8.1. Core Knowledge Perspective**

According to core knowledge perspectives Babies one born with a set of innate knowledge system or core domain of thought. Each of these précis understandings permits a ready grasp of new, related information and therefore supports early, rapid development, laura et al.,(2001.) According to Laura, (2001) knowledge theorists argue that, infants could not make sense of the complex stimulation ground them without, having been genetically set up in the course of evolution to comprehend its crucial aspect, page 159). Genetic cases have been identified for autism (Beckett 2002: p. 14), Much closer to home parents of children with autism, complain about nature' theories of the 1960s and 1970s that blamed them for their child's problems (Bekett 2002, P.19).

### **2.8.2. The Science of Mind and Behavior**

Even under optimal condition, autistic children never achieve the creative use of language and broad range of social skill of normal children. (Thomas, 1985) Lovaas (1977) believe that “therapeutic gains can be retained at home if parent trained in shaping techniques. (Lovaas 1977, Richard (2010). (Lovaas et. al (1967) pioneered operant conditioning with normally had little or no normal speech. They used a shaping techniques some times, hundreds or even thousands of reinforcements were necessary before the child began to legally responsible objects appropriately or imitate simple phrase. Even when the child have received extensive training they are likely to regress if returned to a non-supportive institutional setting (Lovaas et al., 1967, Richard, 2010).

### **2.9. Factors Associated with Age at Diagnoses**

In a Pennsylvania survey of 969 caregivers of children with ASDs Mandell and colleagues (2005) found that the average age of diagnosis for children with autism was 3.1 years, 3.9 years for PDD NOS, and 7.2 years for Asperger’s disorder. Children who lived in a rural area or came from a “near poor” family were diagnosed later than other children. Children displaying severe language deficits, hand flapping, toe walking, and sustained odd play were likely to receive an earlier diagnosis than children not displaying these symptoms. Conversely, oversensitivity to pain and hearing impairment slowed the diagnostic process. Children with four or more primary care physicians received a diagnosis 0.5 years later than other children. Conversely, children who were sent by their pediatrician to a specialist received diagnoses 0.3 years sooner. Continuity in pediatric care and access to specialists are major implications of the study. Importantly, the study also found that (at least in Pennsylvania) children were diagnosed, on average, earlier than reported in past studies. In another study of factors affecting age at which autistic disorder is

diagnosed among Medicaid-eligible children, (Mandell et al., 2002) found that white children, on average, received an autism diagnosis at 6.3 years compared to 7.9 years for black children. The authors theorized that observed discrepancies in time to diagnosis are the result of differences in help-seeking, advocacy, and support in white versus African American communities.

## **2.10. Medical Expenditures**

According to (Mandell, et al., 2006) children diagnosed with autism spectrum disorders had expenditures 10 times those of other Medicaid-eligible children, (Bekett, 2002). Bekett 2002, continued explanation: “Authors attributed this considerable discrepancy in expenditures to the cost of inpatient hospitalization for children with ASDs. They were unable to determine if those children who were hospitalized could have been treated in a less restrictive and less costly setting. When the costs of inpatient utilization were controlled, children with ASDs still had more than two times the expenditures of children with mental retardation (MR) and children in a comparison group, primarily because children with ASD had greater utilization of outpatient psychiatric services. Ambulatory care expenditures (routine visits to primary care physicians) among children with ASDs were only slightly higher than the general Medicaid-eligible sample, and lower than children with in the sample with mental retardation. This finding suggests a need for greater coordination of care by primary care physicians. Appropriate primary care visits would likely reduce inpatient and outpatient hospitalization and save Medicaid monies (Bekett, 2002).

## **CHAPTER THREE**

### **3. Methods of the Study**

#### **3.1. Research Design**

The basic method for this research involves mixed type of research, i.e. it involved qualitative research types. The reason for using mixed research approach was that data that are difficult for qualitative analysis will be best managed quantitatively.

#### **3.2. Description of the Study Area**

This research was conducted in Jima town, in two special classes and five elementary schools composed of grade one and two. In Jima like other cities in Ethiopia, education is open for all children including children with special needs. Therefore two special classes for children with special needs were opened to meet the needs of deaf, blind and children with intellectual disabilities. However there is no school for children with autism in the history of special needs education in Jimma. The following schools were selected for the study namely: Hermata special class, Mendera special class, Hermata elementary school, Mendera elementary school, Hibret elementary school, GinjoGuduru elementary school, and Hamle 19 elementary school. Each of these school were established at different location from the center/city municipality. For example: Hermata elementary school is located in west, Mendera elementary school north east, Hibret elementary school east, GinjoGuduru elementary school east- south, and Hamle 19 elementary schoolsouth western of the city municipality. All are about equivalent distance from the center or from each other, except GinjoGuduruschool which is relatively situated in remote area in town.

### **3.3The Study Population**

The study population was school children in selected schools in Jimma town. Based on information from teacher's of the two special classes, there are a total of 41 children in special classes, and a total 1556 children in five elementary schools of grade one and two of morning and afternoon shifts. In addition to this, there are about 40 sections having an average of 37.87 students in one section in the two shifts in the five regular elementary schools.

The study population included both genders, male and female of age 8 or less. The reason for considering this age group is that, the early age is convenient for the school to plan service developed as early as possible after the child's diagnosis. There are about 144 teachers teaching grade one and two, as well as 4 special class teachers in the schools. Participants of the study were school children who are suspected to have behavior problems and their respective parents and class teachers.

#### **3.3.1 Sampling Method**

##### **3.3.1.1 Sampling the Study Area**

Five regular elementary schools were randomly sampled from 20 elementary schools in Jima town by using simple random sampling (lottery method). This was simply to broaden the probability of getting targeted children from the regular schools. From five randomly sampled elementary schools found in Jimma town, grade one and two was purposively sampled for this study. The reason for considering grade one and two (of age less than 8) for this study, was due to the fact that, the early age composed of critical developmental period, Early intervention programs minimize and in some cases prevent delays in development of younger children with disabilities. They can decrease the need for special education and related services when a child

develop in school, and increase independence. Children whose special needs are identified and addressed during these crucial early years have a greater chance of reaching their full potential. Children born with any type of developmental delay are at risk for falling behind in their educational potential. When autistic behavior is detected it is very important for the school begin the planning process for the student's educational future. All students with suspected autism was included in this study. Similarly, parents and home room teachers of the students, with this behavioral problem were purposively selected for the study.

Furthermore, two special classes were purposively selected for the study. Because first people of that area accustomed the tradition of sending their child who has behavioral problem or disorder to special schools, which were, opened for children with intellectual disability. Secondly, regular class teachers, make referral to special classes, their students who they identified as performing poor in regular classes, or exhibited unusual behavior.

### **3.3.1.2 Sampling Target Group**

160 children were purposively selected from the total 1556 general population during the first level of screening. These were deliberately done to get children with special needs from the general population which also help to increase the likelihood of getting the target groups for the study.

## **3.4. Method of Data Collection**

To reach at the important out come from the research, the following methods of data collection were employed. These are interview, observation and document analysis.

### **3.4.1. Data Collection Tools**

In order to obtain relevant information from parents and teachers, Interview guides and observation checklists were distributed to teachers of these children.

#### **3.4.1.1. Interview**

Interview was conducted on the consent and interest of all participants in order to get an in-depth understanding of the problem. Semi-structured interview were conducted with the parent and teachers of the respective children selected for the study. The interviewee was conducted in person with the parents. This was done one on one with parents of targeted children. As data collection tool using interview was conducted for generating information on a number of relevant issues for the assessment. It helps to assess knowledge, needs and attitudes and also to exploring multiple perspectives and reflecting the precise information from the parent about their children with autism. Set-up and materials required including: selecting appropriate classes for the administration of interview, the arrangement of chairs for the interview, fixing time and scheduling the time table for administrating the interview was done. The process of the interview was interactive. During the interview process the interviewer introduces the content topic and the purposes of the interview for the interviewees using oral speech. During the session the interviewer takes the relevant issues about the child from the responses of the interviewees. Answers to the interview-questions were recorded by writing them down immediately after the interview by the researcher. And checklists were also used by the researcher to connect the response of the interviewees with the characteristics in the checklist.



### **3.4.1.2 Observation**

Observations and check list: the observation was used together with the checklist in data collection. The checklist was developed by Krug, D. A., Arick, J., & Almond, P. (1980) and adopted by the researcher for the purpose of data collection during assessment process. The researcher also developed the observation checklist for the teacher observant. The researcher was making sure that characteristics in the checklist were constructed in such a way that the observable behavior demonstrating those characteristics clearly. There were established criteria to develop confidence. The indicators were created to make sure that they describe the observable behavior in the checklist. In general the observation was done during site visits to after-class but in the school to document the interaction between the child and the peers.

### **3.4.1.3 Document Analysis**

The analysis of status of children/students from, homeroom teachers, parent-teacher association records were carried out. The important reliable documents compiled records on the behavior, achievements, and skill deficits, and improvements were recorded.

## **3.4.2. Procedures**

To reach at target group for assessment, two levels of screening process were taken place. These are level one screening and level two screening. This measure of screening was aimed to identify children at risk from the general population, i.e from the whole grade one and two in selected schools for the study. This stage focuses on language, motor and other observable & none observable conditions. This level of screening is easy, and depends on teachers, parents and peers reports. On this stage the researcher collected information about the general performance /behavior of the students with special needs from peers & respective teachers. Children with

various disabilities such as those who have impairment (example, physical, sensory-motor & learning difficulties) were reported to the researcher as student having the special needs. To do this first the check list was distributed for Teachers of the respective schools after they were expressing their permission to participate in research. & they were asked whether they have a student with special needs in their class rooms, then asked to address the name (if necessary) of these children. Teachers were informed to select from the checklist the behavior that most describe the child's behavior. This checklist was employed to check the behavior of the autistic children both on level one and level two assessments. More than one teacher was assigned to observe independently about one student having special needs/behavioral problem in a class. This was done for the accuracy & consistency of the assessment. The autistic behavior checklist was developed to measure what behavior students exhibited in class room, Gesture, flapping hands, closing eye, knocking head or others etc. Secondly, the researcher analyzed, student's files, records in the school. The student's file provided the researcher, data from where the child came, the family background. Thirdly, the researcher then went to the family home and asks parent interest for participation in research. The researcher developed semi structured interview guide for parents. Based on the willingness of the parents the researcher conducted interview with parents about their child special needs/behaviors. The core concept of this interview was directly related to the check list. The researcher then recorded/attained carefully the response of the parent about their child.

This level of screening was aimed to differentiate children with autism from others developmental disorders/disabilities screened on level one screening. The screening result was focused for assessment purposes. The screening tools were used at this level to determine the behavior of the children participants. Children at this screening level were involved in particular

until the assessment process completed. On this level the researcher & teachers participant were used the autistic behavior comparison checklist to screen the target behavior from other forms of developmental disabilities, from level one selection.

Finally, based on the information from parents and teachers of the respective schools assessment of children by the researcher and their respective teachers was conducted as follow. The researcher & teacher participants were involved in screening children who were suspected to have autistic behavior from children who were reported to the researcher as having special needs. Teachers were used the autistic behaviorcomparison checklist to describe the behaviors of children who were suspected for autistic behavior assessment. The researcher was observed children's activities or behaviors in the class or outside the class room. Primarily the criterion for assessment of autistic children developed by DSM-5 was adopted for use by the researcher and secondly the researcher adapted autistic behavior checklist developed by Krug, D. A., Arick, J., & Almond, P. (1980) to describe the behavior of the child. The checklist assesses behavior in five different areas. These are sensory, relating/repetitive, body/object use, language and social/self-help. When more than two students are eligible for the assessment, individual cases was managed in such a way that only one client assesses at a time, so one client was observed/assessed independently at a time. The researcher & participant teachers were conducted observation while selecting carefully the characteristic best describing children's behavior/activities from the checklist. This was continued for two days a week and for three months March-may2014.

### **3.5. Method of Data Analysis**

The raw data collected from the field mainly through observation, interview and document analysis were organized and structured systematically depending on the nature of basic questions and the data collected were counted and frequency were used for data analysis and interpretation.

## Chapter Four

### 4. Findings

#### 4.1 Characteristics of Participants

To maintain credibility of the different data collection tools has been employed during data collection, teachers and a researcher were involved in collection of data from beginning to the end .The following tables indicated the demographic data of parent participants who were involved in the study.

**Table 1- Demographic information of parent participants**

No	Parent code	Age group	Marital status		Income /month	No children			Source of income	
			Both live together			M	F	T	father	mother
			yes	no						
1	P1	40-65	✓		3000	4	3	7	✓	✓
2	P2	40-65	✓		5856	6	3	9	✓	GE
3	P3	40-65	✓		12000	4	4	8	PVE	✓
4	P4	40-65	✓		3000	3	2	5	PVE	✓
5	P5	40-65	✓		3656	2	6	8	✓	PVE

Table 1: Indicates the demographic data of parents who were participated in the reseach. All of them were participant involved in interview with a researcher.They live with their children and

none of them give “no” for question, whether they have children with impaired social and communication skills except the one that they are currently interviewed for.

The number of children in the family for all parents indicated large. Some member of the families are government employee (both mother and father), in others either of them are private workers and the rest are private workers. The monthly income varies, two of them earn medium range salary Br.3656- 4000 per month, three of the family respondents earn in extreme low monthly income range Br.3000. Only one house hold earns relatively higher income Br 12000 per month. These imply that children with special needs belong to all member of the community, regardless of employment, and monthly income of the parents.

**Table 2- Demographic data of teacher participants**

No	School	No of teachers participating			Age groups	education	Service year
		M	F	T			
1	HermateSNe	-	2	2	30-40	Dep	14-16
2	Mendera SNE	-	2	2	30-40	Dep	14-17
3	Hermate elementary	6	26	32	25-58	Dep	10-26
4	Mendera elementary	10	22	32	30-56	Dep	12-28
5	Hibret elementary school	8	18	26	30-55	Dep	8-28
6	Ginjo elementary school	9	13	22	24-55	Dep	4-26
7	Hamile 19 elementary	12	16	28	30-55	Dep	12-29
	total	45	99	144			

Table 2, summarizes, the demographic data of teacher participants. Table 2: indicates that 45 male and 99 female teachers were participated in data collection. That means a total of 144 teachers were involved in level one screening. From these 10(ten) teachers were actively participate in collection of data, for three months.

As indicated on the table all teachers are in a middle and late adult hood age groups with long year service in teaching except few teachers who were served 8 and 4 years in teaching. The implication is that, both age groups (middle and late) have positive effect for attainment of assessment goals, the young contributes its active potential and the late age group, contributes a lot from the experience they developed in school.

Similarly both service years (Long and short) contributed positive effect for accuracy of the assessment process. Majority of teacher participants were diploma (two years in college) holder. Few of them are taking in-service training to update their level education from diploma to degree and some from certificate to diploma as well.

**Table 3: Number of student in selected schools**

No	School name	Grade								
		Grade one			Grade 2			1-8 grade		
		M	F	T	M	F	T	M	F	T
	Hermata	82	75	157	65	70	135	1004	1130	2134
	Mendera	70	86	156	63	79	132	963	1121	2084
	Hibret	78	84	162	84	86	160	1084	1028	2112
	Ginjo	83	74	157	66	82	148	674	958	1632
	Hamlel-19	86	92	178	72	68	130	939	989	1928
	Total	399	411	810	350	385	705	4664	5226	9890

**Table 4: Totally No of students in selected special needs classes from which participants were selected**

No	School name	Grade one			Grade two		
		M	F	T	M	F	T
1	Hermata	4	6	10	10	14	24
2	Mendera	2	6	8	7	10	17
3	Total	6	12	18	17	24	41

The table is simply to indicate the special classes included in the study, and the total number of students in the special classes.

**Table 5- Number of students selected for the study in level one screening**

No	School name	No sample population from selected schools						Number of students selected for assessment level two screening					
		Grade						Grade					
		One			Two			One			Two		
		M	F	T	M	F	T	M	F	T	M	F	F
1	Hermata	12	4	16	17	9	26	2	1	3	1	-	1
2	Mendera	10	2	12	12	8	20	2	2	4	-	-	-
3	Hibret	11	7	18	7	3	10	2	3	5	2	-	2
4	Ginjo	5	4	9	9	6	15	4	-	4	1	2	3
5	Hamle 19	7	3	10	8	6	14	2	-	2	-	2	2
6	Hermata SNE	3	1	4	1	1	2	2	-	2	2	-	2
7	Mendera SNE	2	2	4	-	-	-	-	1	1	-	1	1
	Total	50	23	73	54	33	87			21			11

Table 5: indicates the number of students selected for the assessment on level one and level two screening.



Table 5, indicated that 73 student from grade one and 87 students from grade two were screened from the general population on screening level one that is a total 160 students were selected for the second level screening, for assessment of the risk of having autistic behavior. 21 students from grade one and 11 students from grade two were, focused for level two screening, that is 32 students were assessed to identify autistic behavior from other forms of impairments. The following table 6 summarizes autistic students that are selected for detail assessment.

**Table 6: Total No of students selected for screening level two (level two screening)**

No	School Name	Grade	M	F	T	Remark
1	Hermata	One	2	1	3	
		Two	1	-	1	
2	Mendera	One	2	2	4	
		Two	-	-	-	
3	Hibreat	One	2	3	5	
		Two	2	-	2	
4	Ginjo	One	4	-	4	
		Two	1	2	3	
5	Hamle 19	One	2	-	2	
		Two	-	2	2	
6	Hermata SNE	One	2	-	2	
		Two	2	-	2	
7	Mendera SNE	One	-	1	1	
		Two	-	1	1	
	Total		21	11	32	

Table 6- indicated that, 21 male and 11 female grade one and two students were, selected for level two screening and assessment. All these students were identified as special needs children in a regular class room in seven schools selected for the study. From these, 17 male and 10

female grade one and two learners were identified for other forms of impairment, like, physical (motor) sensory and unknown mental defects. From this, one can clearly state that children with special needs attends regular class rooms in schools near to their home family. This implies that regular schools need to address the special need of their students with special needs, so as to help them function at optimum level educationally, with in barrier free school environment. From the table 6: 3 male and 2 female learners, from mendera, and Hermata special classes were focused on screening level two for having autistic behavior. Four (4) teachers of the respective schools/special classes/ together with researcher were, actively working and assess the dominant behaviors of these children, once, a week four times per month for three months. Finally the observation check list and information from parents was assembled for the final result. The following tables summarize the data on the assessment processes.

**Table 7: Total Number of characteristics behavioral domains involved in assessment from during the checklist process of data collection**

No	Characteristic domain	Frequency of the characteristic domains	assessed e +v	Number of negative assessment
1	Social impairment	23	20	-2
2	Communication impairment	31	26	-5
3	Body or object use	22	16	-6

The observation checklist consists of 23 characters that measures social behaviors 31 characters for communication, and 22 characters to measure body or object use. On the level two screening, each client's behavior checked against those characteristic domains on the checklist, once a week for three months. If the measures of behavior on the check list concede the actual

behaviors of the client, the observer record's positive for that particular behavior. However, if the client exhibits, the behavior that is different from the character on the check list, the observer record, and negative assessment for that particular behavioral measurement.

**Table 8: Interviews with parent (part-1)**

Child's code	Type of school in which the child learn	unique behavior	Symptom observed At	Onset of the unique behavior (rough )	Similar behavior among family members (yes/no)	Deference To member of the family (yes/no)	Cause
C1	SNE	Shyness, unresponsiveness	Early age	one-two years	No	yes	Long labor
C2	SNE	unresponsiveness	Early age	two- three years	No	yes	unknown
C3	SNE	unresponsiveness	Early age	Two years	No	yes	unknown
C4	SNE	unresponsiveness	Early age	Two	No	yes	unknown
C5	SNE	unresponsiveness	Early age	two- three years	No	yes	unknown

The above table indicates, all children participated in assessment were learning in the special classes, this implies that the probability of gating autistic children in special class is high. Parent's response to the interview regarding symptom indicates that all symptoms were observed at earlier age level. This implies that the symptom of autism is observed at the early age when children are young. For the some families the time of onset indicated above was from one –three years of age. There is no member of the family with autistic behavior according to response from the parents. Parents assume the cause of the problems was unknown.

**Table 9: interview with parent (Part two)**

characteristics	C1			C2			C3			C4			C5		
	high	Intermediate	low	high	Intermediate	low	high	Intermediate	low	high	Intermediate	low	high	Intermediate	low
Ability to communicate			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>
Repeat words/phrases	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		
Response to social smile			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>
Language development			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>
Ability to listen and follow conversation			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>
Fail in eye contact/fear/shyness	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		
Ability to express own needs verbally`			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>
Interest & Ability to follow social play			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>

Table above indicates: Interview with parents regarding children language development indicates that child's ability to communicate is low, all children selected for the study shown repetition of words or phrases while communicating with parents. Their response to social smile was low. Language development is slow. And the ability of these children to listen and follow conversation is low. They fail /fear eye contact. Their ability to express own interest and need verbally is low. Their interest and ability to follow social play is low. These implies that

autistics can affect the children’s social ,communication and body & object use of the children affected by these developmental disorder ‘autism’.

**Table 10: Interview with Parents (Part Three)**

social	C1		C2		C3		C4		C5	
	yes	No	yes	No	yes	No	yes	No	yes	No
Understand feeling of others		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
With drown behavior	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
Aggressiveness	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
Repeating words/ things/ mannerism phrases	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	

From the table above; interview with parents indicated that, the ability of their autistic child to understand feelings of other people was low, all children shown withdrawn behavior and some shown aggressiveness and all of them have shown repetitive and stereotyped behavior.

**Table 11: indicates interview with parents to record the repetitive behavior children**

Behaviors		Never or rarely	one or more time daily	15 or more times daily	30 or more times daily
Arrange objects or other things in rows or patterns?	C1			✓	
	C2			✓	
	C3			✓	
	C4			✓	
	C5			✓	
Repetitively fiddle with toys or other things? (e.g. spin/rotate, bangs, or flicks anything repeatedly?)	C1				✓
	C2			✓	
	C3				✓
	C4				✓
	C5				✓
Spin/rotate him/her around and around?	C1				
	C2		✓		
	C3			✓	
	C4		✓		
	C5			✓	
Rock backwards and forwards, or side to side, either when sitting or when standing?	C1				✓
	C2			✓	
	C3			✓	
	C4			✓	
	C5			✓	
Pace or move around repetitively?(e.g. walk to and fro across a room, or around the same path outside?)	C1			✓	
	C2			✓	
	C3			✓	
	C4			✓	
	C5			✓	
Make repetitive hand and/or finger movements?(e.g. flap or flick hands or fingers repeatedly?)	C1				✓
	C2				✓
	C3			✓	
	C4			✓	
	C5			✓	

Table 11 The interview with parents regarding the repetitive behavior of children selected for the study indicated that, all children shown 15 times or more repeatedly arrange objects or toys daily as per the toy was given to them. Response from the parent also indicated four children selected for the study shown 30 times or more repetitive swindle with toys or objects and only child two has shown this behavior 15 or more times daily. Almost all children selected for the study have shown the stereotyped behavior by spinning/ rotating themselves as shown above in the table. The interview with parents indicated repetitive round movement and flapping of hands & fingers were also the stereotyped behavior of these children as indicated on the table above. From the table these children have shown these behaviors for at least 15 or more times daily.

Table 12(see appendix-3) indicates characteristic domain for five children and the frequency in terms of observation periods (1-4). Characteristic domain mainly used for assessment are, social skill, communication and repetitive behaviors. Each five children's, positive assessment, are listed in front of observable characteristics and the observers. The number of characteristics chosen positive for children C1, C2, C3, C4 and C5 are listed down in the table. However the number of positive assessment for each child varies with the observation day. The number of positive records for each child on the first day observation may equal, less or greater than records on the 2nd, 3rd & 4th observation days. This was happen because of variation of variables within the environmental factors and errors of the observer. In all cases however the numbers of positive record in each characteristic domain for each child is very high. The main behavioral domains selected for the assessment are social, communication and body or object use. These were managed differently at different time for three months-that is each characteristic domain on the check lists have been checked by the observer against the observable behaviors of children, once per week four times a month for three months.

## ***Case-1: Social domain***

### ***Child-one***

Table 12 indicates that, from 23 total indicators of lack social skills, child-x (child one) exhibited positive in an average 20 social behavior impairments, throughout the first observation day, an average 18 on the second, 18 on the third and an average 20 on the fourth observation days. The major social behavioral deficits recorded through assessment includes failure to attend social cues, lack of social smile, lack of imitation of other children at play, lack of awareness of feelings of others, echoes words or statements made by teachers or other students, and withdrawal behavior. These are signs that are used consciously in social interactions; and help to decide how to act around other people by understanding social situations. For example: child-1 was in a class room and he gets out of his seat, even though it's time for other students to sit down. The teacher corrects him and tells him to sit down. The class mates have already taken their seats they have learned to read that situation successfully. But when the teacher tells child-1 to sit down a second time, it causes anxiety or frustration; lead him to increased behavioral control problems and unable to see what's actually going on. The observation record shows that child-1 has lack of social smile, that is to mean troubled understanding of manners of change in social phenomena for example he get sad when others students get smile on telling events about monkey and lion. He cannot make smile talk, does not imitate other children at play, and lack of awareness of feelings of others and express aggressive behavior to others when peers want to interact with him. Observations on assessment of social behavior of child-1 also indicated that he remain detached or isolated with strong desire for privacy throughout social play. For example when in social plays such as run, jump, and play games child-1 was quiet reserved detached himself and go back away from the play area and take sideways near the class room. One of the



class mate of child-1 tried to approach him saying “let us play the valley ball”, child-x was not happy to play with them. And he replay no!-by flapping his hands, and turning his face away from his class mate. Other class mates encourage him in social play in the same ways. But, he ignores their statements and responds aggressively saying: I don’t want to play now because I get exhausted. In general child-1, exhibits an average 19 in lack social behavior measures from total 23. These means, child one exhibited positive in majority of characters indicating social impairments from the checklist.

### **Child Two:**

From the total 23 characters indicating social skill child-2 exhibited 20 positive, in lack of social skill throughout four observation periods as indicated on table 8. Child-2 typically does not pick up and adopt positive social skills that are demonstrated by the teachers in the same ways as others from the same class. The major social skill deficits recorded through observation includes, lack of listening actively when interacting face to face with peers does not make eye contact, interrupts the speaker before the speaker concludes speaking and does not provide feedback honestly and with respect for the speaker without losing the content of the speech. Slow in participating equally and was shy, lack of taking turn in conversation, poor waiting patience, inability to following directions. Farther more child-2 lack social smile, he did not answer questions about the ongoing expressions presented by the teacher. He does not attend social clue, not responsive to other people, does not imitate others, lack of seeking to share enjoyment with peers. frail to form age appropriate peers relationship, deficit in joint attention(lack of ability to coordinate his attention between object and peers) lack of social orientation (e.g. responding to name),poor social referencing(decreased responsiveness to others feeling, for example: he failed to look and understand teacher’s facial expression.( when teacher faced with anger situation,

'normal' children look to teacher for an indication of fear in his facial expression. But child-2 does not indicate fear as response to teacher's facial expression. He has poor shifting attention; for example: the teacher notice that he is looking at the black board and asks child-2, to look at the black board, the child looks at the teacher's hand movement instead of looking at the black board. farther more the teacher wrote letter 'A' on the black board then hold-up child-2s hand with its finger pointing to letter 'A' simply to shift child's attention to letter 'A'. But the child looked at teacher's face rather than letter 'A'. Therefore for child-2 the ability to shift one's focus of attention from idea to another idea is low. The ability of shifting attention is an important aspect of active social participation and socialization.

### **Child-Three:**

From 23 total characters presented to measuring social skill, child-3 exhibited an average 20 positive in social impairment. The major social behaviors of child-3 as recorded through observation and assessment includes: that the child prefers to be alone seems not to be interested in other people at all, refuse to talk about his feelings and interest. When on interaction with peers he shows some self-stimulating behaviors like flapping hand over and over. This is common for child-3 even when in the class room teachers seek response from him. He avoids physical contacts with friends has trouble understanding of feelings of other students. Respond less to itsown name, less eye contact, shows nodding heads on attempt to respond to teachers, if few word to respond. Sometimes demonstrate some signs like pulling or pushing others leading to get something he wants. He hasdifficulty understanding others feeling forming attachments and relationships. He has difficulty in joint attention behavior. Anxiety, depression, restlessness are some observable behaviors of this child. Do not show interest in looking where someone is looking. Interview with mother indicates that when she (mother) has turned her head to look at

something in the home child-3 does not show the same. He has difficulty in body balance, posture. He has difficulty in body movement and physical activity in play areas. This indicates impaired motor skill. Delays in motor skill affect how the person performs in social activity and socialization. Interview with mother indicates that early attachment was absent, i.e. he rejects mothers love for example: by rejecting to held, bending his back when picked up to minimize the contact normal infants and parents-love. Lack joint attention refuses eye contact. The impaired attachment to mother is one way in which child-3 social development is poor. But the child never approaches others and when play may not initiate others.

#### **Child Four:**

What is unique to child-4 is her enthusiastic interest in music than any other social plays accustomed in the school. She has exceptional ability to recall the sequences and words of songs heard earlier in that particular academic year. In addition she has relatively good sensory motor coordination skills and strength among children assessed positive for autistic behavior. However her rhythmic song was characterized by action than it was by sound. Out of 23 characters presented to assess social skill throughout the assessment periods child-4 assessed positive for an average 21, 20, 19.6, 20.6 characters from the checklist on 1st, 2nd, 3rd and 4th round observations respectively. The overall average positive record is 20.3 that 88.26%. The major deficits recorded in social skills for child-4 include: lack of trust in other people around, withdraw behavior. In school, she often stands and watches other children from a distance; she ignores them and often persistently avoiding eye contact. Flapping hands as defense mechanism in response to conversation with teacher, moves her selves back and forth refuse to be touched or called by name and shyness. Usually she is unable to understand the interest of other people.

Despite her unique ability in music she failed to develop any friend at school. In fact some of her class mates prefer to pastime with her for rhythmic sensory motor coordination of songs.

### **Child-Five**

Normally child-5 seems to have good appetite dining time. Interview with parent indicated that, unless care givers managed the time and amount of meal to be consumed, she couldn't manage to limit the time and amount of meal at a time. Physically she looks happy and socially active. She has good time with almost all children approaching to her. She smiles all time for unjustified reason. She fails to follow social cues. For example when children cry she did not worry. When teacher's facial expression changes somehow to anger, she keeps smile. Relatively she has ability in art and drawing. Her father sends her to Kokobetsibah school-Addis Ababa, to help her develop the skill. But he took her back to Jimma because she fail to adopt herself socially to teachers and students of Kokobetsibah special classes within six months in 2011. Out of 23 characters presented to assess social skill, child-5 scored positive assessmenta average 20.44 that 88.86%. The major social deficits recorded throughout observation time include: not responsive to other people's facial expression. Shyness, less or no eye contact, rock back and forth for a long period of time are other social deficits observed. for example: during the break time at school she goes out of the class room seating on floor moves her head back and forth. Act of rotating rapidly for long period of time and running in circle.

## **Case 2: Communication skill**

### **Child-1**

Generally there are two approaches used to the assessments of communication skill in this research. Observation checklist and parent report. The child has difficulty in communicating with speech language. Communication is mainly characterized by echoic response. He simply repeats exactly what he hears. For example: hearing someone saying “Dabo” he says ‘Babo’. Poor social use of language failure of normal back and forth conversation with peers or teacher. Abnormal volume and rate of speech, Out of 31 characters presented to assess communication skill he has recorded positive average 30 or 96.77% for the total communication deficit. In addition to characteristics of communication deficits mentioned above, the major communication deficits recorded through observation includes: lack of coordinated verbal and non-verbal communication for example inability to coordinate eye contact with word. Inability to coordinate non-verbal communication, for example: eye contact with gesture. He cannot recognize or interpret pupil's verbal communication, inability to recognize or interpret people's non-verbal expressions. He was unable to convey range of emotions or feelings through words and unable to use and understand gestures.

### **Child-two:**

Language is divided in to two parts: receptive language or what the child understand and expressive language or what the child says. Of course child two has sever difficulties in both the expressive and receptive languages. Only parent/guardian can understand what he would actually want to say. It is very difficult for someone to understand the speech of child-2. Speech appear to be non-meaningful. Some of the communication deficits recorded through assessment includes:

inappropriate facial expression. Language mainly characterized as introverted, the speech is idiosyncratic to mean that it is personal language which is not clear for others. Murmuring, lack of back and forth conversation, very little or no sharing of interest. Of course sometimes show interest by pointing to an object than using speech language. Lacks joint attention. For example when someone/teacher pointing to an object to call child-2's attention the child fail to point to that particular object. From the total 31 characteristics presented to assess deficit in communication skill, child-2 scored positive in an average 30 or 96.77% characters and negative in 1 or 3.23%. The major areas of communication deficit recorded includes: all communication characteristics mentioned above. the child scored negative or has some skill in that the child shows interest in some cases like interest to water and food, mainly not through speech but by pointing, pulling people to direction of food. When he was thirsty or need for drinking water he points to water glass.

### **Child-three**

His communication is characterized by production of few words. mainly he used to call house furniture which are always on use like Television, chairs and food items like spoon, dish, cup etc. Interview with parent indicates that, even though they helped the child learn relatively more complex word and sentences child-3 frequently forget the concept. Report from the teachers indicates similar behaviors of child-3. He was frequently forgetting class lesson which students of the same class understand it easily. The language ability is considered distorted. He produces distorted words or sentence structure. The sequences of words are somehow distorted. Even though he produces meaningful words it takes time for him to produce the word. This indicates that the child has some problem in receptive language. Sometimes he repeated words without understanding what other people saying. He has Poor understanding of non-verbal

language and fear the eye contact, Lack of verbal reasoning. Interview with parent indicates that the child was not participated in early social communication interaction/play. From 31 characters presented to assess deficits in communication skills his record indicates positive a average 20 or 64.51%. And negative 11 or 35.48%.

#### **Child-four**

Production of speech language is characterized by introverted voice difficult for the listener to hear. Abnormal production of vocal quality and speech sound a very low pitch of voice, she speaks hoarsely or roughly. This was identified by asking the child oral reading or speech sample and asking the question. In general child-4 identified positive for deficit in speech disorder and language disorder. The language is characterized by deficiency of receptive and expressive language. In some case she is unresponsive to her name. Flapping hands in responses to conversation with other people. Out of 31 total characters presented to assess communication skill, her record indicates an average 31 impaired or inappropriate facial expressions, lack of eye contact, lack of shared attention restricted vocabulary, inability to maintain conversation and stereotypic style of speaking.

#### **Child-Five**

Major communication deficits recorded includes: language characterized by production of few words. She has limited ability to express oneself verbally. Fearing situation, fail to understand facial expression of others. Always look happy which is not normal for others. 'Normal' children change their facial expression when the situation in the environment changes. Child-5's facial expression does not change with change in situation. Often she has difficulty paying attention to relevant information in the environment. Focus attention to certain part of the

objects and excluding of what is relevant information. For example: she looks at the ball not the detail information what to do with the ball. She noticed insignificant detail attention on staple on the corner of the exercise book, but not on the information what to do on the pages. Appear to lack desire to communicate with others people. In general, the observation indicated that the child showed interest to express oneself nonverbally than verbal. Abnormal production of speech sound and abnormal production of vocal quality are also amongst speech deficit identified.

### **Case-3: Body or object use (repetitive behavior)**

In these studies, two factors have been identified: 1) repetitive sensory/ motor behaviors; and 2) resistance to change/ insistence on sameness. Six factors were identified: “ritualistic behavior,” “sameness behavior,” “stereotypic behavior,” “self-injurious behavior,” “compulsive behavior,” and “restricted interests.” Stereotyped behavior was observed across four function categories: attention, demand, no attention and reaction. Even though variability exists for each child stereotypes were demonstrated within all four conditions.

#### **Child-one**

Child 1: The stereotypic and repetitive behaviors of child one includes regular head movement up and down, forth and back. And protrude his tongue repetitively. Tongue movement and opening the mouth. The behavior happened continuously and difficult to count since it happened regular way. Observation revealed that child-one stop the behavior when someone is speaking to him.

#### **Child-two**



The child is known by his hand flapping when someone wants to talk to him. For example he exhibits the repetitive hand flapping with fear of eye contact when children of the same class want to give him pencil. Child-2 did not talk to his friends by looking face to face rather he say something in trying to express his feeling by rolling his eye to either upward or to the sky.

### **Child-three**

This is unique to this child. He frequently blinks his eye just no by focusing of on people but on the space. There is no as such other mannerism to record the repetitive behavior for child 3

### **Child –four**

The child lacks to express her feeling through speech. Her sound is swallowed and only a tiny of swallowed sound is heard when she speaks. Therefore most of her effort to express herself is dominated by flapping of hands. Movement is characterized by toe/ on the tip of finger.

Child –five: Repetitive behavior recorded for child five is her regular flapping of hands, when speaking to teachers, peers and shyness.

### **Child- five**

The unusual repetitive behaviors of the child five as report from parents and teachers indicates that, child's restricted range of activities such as arranging and rearrangements of objects repeating phrases, words and sometimes sounds. Sometimes she repeats wiggling fingers in front of the eyes as self stimulating behavior.

## Chapter Five

### 5.1. Discussion of Findings, Conclusions and Recommendations

#### 5.1.1. Discussion of the Findings

The objective of this assessment is to describe the dominant autistic behavior among school children selected for the study. To reach at target group for assessment, two levels of screening processes were taking place. These are level one screening and level two screening. This measure of screening level aimed to identify sample population from the general population. i.e from the whole grade one and two in selected schools for the study. This stage focuses on language, motor and other observable & none deviant observable behaviors. This level of screening is easy, and depends on teachers, parents and peers reports. The second level of screening was aimed to differentiate autism from others disabilities. Level two screening result was focused for assessment, decision and determination purposes. The screening tools were used at this level for determination. In assessment process, a total of 73 students from grade one, and 87 students from grade two were selected for the assessment. From these 128 students were checked that they are “normal” in all aspects of life in the school. Even though some teachers reported these children are disturbing the class and they are unhappy to learn. However, change in environment such as shift from home family to school day for kids might have impacts on how they behave during the early years of schooling. and 27 children identified as having some sort of impairment in area of sensory, (vision, hearing) physical, and mental functioning and only five students were identified to have impairment, in social, communication and repetitive behavior. Teachers of their respective classes were provided observation checklist to carry out careful observation in and outside the class room once within a week for three months. 3 boys and 2 girls were known as having Autistic behavior. The report from teachers who

where independently observed the patterns of the behaviors of children indicate students, exhibited behavioral pattern that is unique to the class room. Such behavior includes: anxiety, depression, restlessness while in the classroom. According to these teachers, these students were known by the teachers as lazy and unable to learn equally with others. However, teachers indicated that, some children manifested the main behavior, associated with unresponsiveness, repetition of words or phrases, pronoun reversal, the use of gesture during conversation, hand flapping and difficulties in interacting with other pupil.

The aim of this study is to assess the dominant autistic behavior among school children. The assessment point of references was established by the researcher based on autistics diagnostic criteria. According to the DSM-5 2013 there are four major diagnostic criterions proposed as core behavior of children with autism. This includes: Deficits in social-emotional reciprocity, deficits in nonverbal communicative behaviors used for social interaction and deficits in developing and maintaining relationships, under the first criteria. These are impairment in social, communication and repetitive behaviors. These are behavioral domains used in the assessment process and analyzed case by case in the fourth chapter. Case one: discusses the social impairments, case two: communication problems and case three: repetitive ritualistic or stereotyped behavior of autistic children.

Case one: Most of the area of social behavior deficits recorded in this assessment was similar for autistic children. Some of the common behavioral impairment includes, lack of social play, lack of understanding of social clues, loneliness, with-drawl behaviors, shyness, lack of awareness of feeling of others, trouble understandings of manners of change in social phenomena, slow interaction, lack of attention, lack of interest to play, failure to give feedback honestly and with respect, difficulties in joint attentions. These are recorded as positive behavior

for autistic children. The problem is that these problem behaviors adversely affect the education, and routine daily life of these children at school and at home level. However some of social behavioral ability recorded in this assessment did not worked for some autistic children. But for others under this study, areas of social behavior ability records are negative assessment against points of references chosen for this assessment process. Some of the negative assessments in social behavior includes: the ability to follow simple commands (such as, seat down, stand up, come-on, go away), the ability of the child to respond to his/her own name, ability to fear of dangers, the ability to have visual reaction to a “new” person, ability of responding to verbal cue(not acting as deaf).

Case two: discusses on the child’s lack of or difficulties of communication. Most of Area of communication problems recorded was similar for some of target groups in this study. These includes: production of few words, Limited ability to express oneself verbally, inability to maintain conversation, very little or no sharing of interest, lack of coordinated verbal and non-verbal communications, failure of normal back and forth conversation, Abnormal volume and rate of speech, difficulty in receptive and expressive language. echolalic speech(repeating the same nose or words), immediate or delayed literal repetition of the speech of others: appears to be no meaningful, but may indicate an attempt to communicate.

However some of the ability records in communication include: the ability to express need/wants non-verbally (example: the child show sign of drinking when he/she need water). The ability of not repeating words or phrases, for example case of child five, the teacher asked the child “what is this”? Indicating bread, the child did not repeat the phrase “what is this “rather replay “Babo”. Communication difficulty is one of the three areas of deficit exhibited by autistic children. In general these children experiences language and communication difficulties,

although there are considerable differences in language ability among individuals. Some individuals are nonverbal while others have extensive language with deficits in the social use of language. The children seem caught up in a private world in which communication is unimportant. This is not an intentional action but rather inability to communicate. These behaviors substantially hinder them to learn and interfere with their education and daily life.

Case three: repetitive behavior: In these studies, generally two factors have been identified: 1) repetitive sensory-motor behaviors; and 2) resistance to change/ insistence on sameness. Under these four factors were identified: “sameness behavior,” “stereotype behavior,” “obsessive behavior,” and “restricted interests,” “motor mannerisms,” Specifically, the area of repetitive behaviors recorded under this study includes: flapping hands, movement on toe/on the tip of thumbs, regular head movement up and down, forth and back, tongue movement and open mouth . Some of these children present with many of these symptoms in this core area while others may have only one or two. Interview with parent indicates motor mannerisms occur when the children are excited, anxious, or worried. These behaviors increase the likelihood of social rejection or isolation, and always interfere with or prevent participation in enjoyable daily activities and education of these children in the class room. Preoccupations with parts of objects (e.g., zip of the school bag not whole part of the bag, knocking tables). Ritual behaviors (e.g., collecting sticks and keeping them in a bag behind the door; lining up preferred objects (sands); pouring water from a cup repeatedly into the sink), resistance to changes in environment (example, becoming upset when family members gets haircuts,) compulsions and rituals, difficulties with changes in routine, and repetitive sensory motor including: repetitive use of objects, unusual sensory interests, hand and finger mannerisms.

In general, as the child grows older, information from parents indicates that the effect of autism tends to become more profound. At school, these children typically unable to learn with their peers. In addition to its effects on child the effect of autistic behavior on members of the family are significant. Parent indicated that their lives changed as result of caring for their autistic child. It is impractical to have two parents working. One of the members of the family give up their work to stay at home and look after the child, reorganizing their homes to accommodate the behavior of the child. The cost of raising a child with autistic behavior is enormous according to information from the parent.

### 5.1.2. Conclusion

Data from the teachers and assessment, about the student behavior was assembled and analyzed carefully in chapter 4. These data were discussed in chapter five. In general, the result of the assessment of the dominant autistic behavior of the school age children in regular schools indicated, from a total of 160 sample population selected for the custody, 128 students were checked that they are “normal” in all aspects of life in the school. Even though some Teachers reported that, these children are disturbing the class and they are unhappy to learn. 27 children identified as having some sort of impairment in area of sensory, (vision, hearing) physical, and mental functioning and only five (5) students were identified to have impairment, in social, communication and repetitive behavior. Teachers of their respective classes were provided observation checklist to carryout careful observation in and outside the class rooms. 3 boys and 2 girls were known as having Autistic behavior.

The finding of this study confirms that all the five children fitted the diagnostic criteria developed by DSM-5 (2013). Children who were, selected as target group for this particular assessment exhibited impairment in three areas of development: impairment in social skill, communication and repetitive and stereotyped behaviors. This indicates that these behaviors are autistic behavior excepted by autistic children in the schools. This asserts the prevalence of autistic children among school children. The prevalence rate of autism according to this research finding is 5 in 1515 school age children. Or the prevalence rate of ASD to be 33 out of 10,000 school age children in Jimma, Ethiopia.

### 5.1.3. Recommendation

1. There are autistic children in schools selected for this particular research. If research and assessment will conduct in schools of other cities, there would be a chance of getting children with autistic among the school children. Therefore, professionals, teachers, and school management need to assess their school children for this particular developmental disorder 'Autism' and provide educational support required by Autistic children.
2. Autistic children in these particular area (Jimma), needs educational support required in the school. Therefore teachers and educational decisionmakers needs to plan for this support required by autistic children. To do this the availability of trained personnel is necessary. Therefore, city education office needs to insure the availability of trained manpower in special needs education to facilitate the education of children with Autism.
3. The problems of these children are manifested in three developmental areas. These are impairment in social, communication and repetitive & stereotyped behaviors. Careful planning is required by the teacher or school management to meet the special needs of these children. Careful planning with appropriate budget and arrangement of the school is also required.
4. Parent and school management needs to work together for the attainment of the same goal, that is the improvement of the specific problem of the child both at home and in the school. The integrated planed activities of the parent and the school for alleviation of the problem of the child with Autism must be coordinated and coincide for better improvement of the life of the child.
5. Autism & autistic children should be clearly known in the community. They should not necessarily be categorized as intellectual disability. All autistic children are not intellectually



disabled. With appropriate support and management they can learn and work effectively as other member of the community. Therefore special needs resource centers should be open for them in elementary schools with necessary assigned trained man power for support system required in schools.

6. Parents are the first immediate environment for their children at home level; they are expected to regularly inform teachers, about their children's special needs. Teachers need to consider the information of the parent about the child and take their own major to facilitate the education of the child in the classroom.
7. Autism as neuro-developmental disorder did not yet, get attention, it deserves from the school environment, even though the prevalence of Autism among school age children is evident. Individualized education program, adaptation of the curriculum, removing barriers (social, instructional barriers) etc..., are some of the supports required for Autistic children in the school. Therefore teachers and school management need to provide support system required for Autistic children in school environments.
8. Schools and woreda education offices should allocate budget for establishment and strengthen the resource room for education of children with special needs (including autistic children) to facilitate quality education of these children.
9. The effective implementation of special needs education program strategy need not only from the government, the role of professionals, especially in area of special needs is vital. Special needs professionals need to work efficiently for the educational benefits of children with special needs in their local environment. They have to be committed for their profusion and efficiently use their knowledge for the benefit of children with disabilities. They need not to

expect a lot from other body to come to their local environment, to start implementing special needs education program strategies in schools in their local woreda or kebele's. Furthermore, networking and experience sharing between these professionals helps them learn from each other to strengthen the profession.

10. MoE & Regional education bureaus, must give due attention for the acceptance and implementation of special needs education programs, and must make sure availability of trained personal in education offices and school under their governance, so that special education programs work effectively at school level.

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## Appendixes

### ለቤተሰብ የተዘጋጀ ቃለ መጠይቅ

ይህ መጠይቅ በአዲስ አበባ የኒቨርሲ ቴሌቪዥን ስርዓት ስር ወጥቶ ለጥናት ስራ ለመጠየቅ የተዘጋጀ ሲሆን እርሶ እንደ ወላጅ የእርሶን ተሳትፎ ለጥናቱ ስኬት አስተዋጽኦ አለው። ስለሆነም የእርሶ ፍቃድና ማሳደግ ወሳኝ ስለሆነ እና መጠይቁ ምላሽ ስር ወጥቶ ለጥናት ስራ ለመጠየቅ የተዘጋጀ በመሆኑ በነፃነት ተሳትፎ እንዲያደርጉ በአክብሮት እንጠይቃለን።

**ስላገል ለጥናት ብብር አመሰግናለሁ!**

#### ክፍል አንድ

1. የልጁ መለ \_\_\_\_\_
2. እድሜ \_\_\_\_\_ ልጅ \_\_\_\_\_
3. ምን ዓይነት ት/ቤት ይማራል? \_\_\_\_\_
4. ከሌሎች ልጆች በምን ይለያል? \_\_\_\_\_
5. ምልክቶቹ ምን ዓይነት ናቸው? \_\_\_\_\_
6. በስን ትዓመት ነው ምልክቶቹ የታዩት? \_\_\_\_\_
7. ከሌሎች ልጆች ጋር የሚያመሳስለው ባህሪ ይደረግ? \_\_\_\_\_
8. ምን ምን ምልክቶች በጋራ ይታይባቸዋል? \_\_\_\_\_
9. እንዴት ናቸው ምልክቶቹ የሚታዩት? \_\_\_\_\_
10. መንስኤው ምን ዓይነት ስልጣን አለው? \_\_\_\_\_

#### ክፍል ሁለት

**2 በልጁ ቋንቋ እና መግባባት ችሎታ ዙሪያ የተዘጋጀ መጠይቅ፤**

1. የመግባባት ችሎታው እንዴት ነው?
2. ቃላትን የመደጋገም እና መልሶ የማለት ባህሪ አለው?
3. ለፈገግታ ምላሽ አለው? ምን?
4. በቋንቋ እድገት አኳያ ከሌሎች በምን ይለያል?
5. በንግግር ላይ እርሶን በአግባቡ የማዳመጥ ችሎታ አለው?

6. አይንአፋር /ቀናብሎማየት/ ይፈራልን?
7. የሚፈልገውንነገርበቃልመግለጽችሎታውእንዴትነው?
8. ንግግርወይምጨዋታንበጉጉትይክታተላል?

**ክፍልሶስት**

**3. በልጁማህበራዊኑሮችሎታዙሪያየተዘጋጀመጠይቅ፤**

1. የሌሎችልጆችንፍላጎትየመረዳትችሎታውምንይመስላል?
2. ብቸኝነትንይመርጣል?
3. ቁጡነትናየመነጨነጭባህሪአለው?
4. ልዩችሎታውመንድነው?
5. ሌሎችያለትንወይምየተጫወቱትንይደግማልወይስአዳዲስሐሳቦችንበማፍለቅይጫወታል?
6. ሌላካለይግለፁ\_\_\_\_\_

**ክፍልአራት**

**4. የልጁየራሱንሰውነትወይምሌሎችእቃዎችአያያዝዙሪያየተዘጋጀመጠይቅ፤**

1. ሰውነቱወይምራሱንወይምእጁንበተደጋጋሚየመወዝወዝባህሪአለው?
2. የያዘውንነገርአይለቅም? ይጨነቃል?
3. ነገሮችንየመደጋገምባህሪአለውን?
4. በዚህዙሪያያለውንአጠቃላይሁኔታተጨማሪካለይግለፁ\_\_\_\_\_

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Appendix 1

**Form for comparison of the behavior (for teachers use)**

This observation checklist is prepared for teacher observers, and to be filled only by teachers who are selected for the observation. You are selected as observer of the students who are participants of the study. Your participation as observer is very important for the success of the study. The observation result is aimed at determining only the dominant behaviors of the child selected for the study, which in turn used as feedback for parents, other teachers and school management for immediate support required. Therefore fill free to observe and mark (☐☐) or circle in front of characteristics on the checklist, that your student might exhibited actuality. Please try to observe this child in classroom, at play station & in the field.

Thank you in advance.

Childs name: \_\_\_\_\_ Birth date: \_\_\_\_\_  
 Examiner: \_\_\_\_\_ Test date: \_\_\_\_\_

*For those items that most accurately describe the child, please circle the symbol at right.*

1	Have difficulty initiating or sustaining a conversation		
2	Wants to play with peers but often awkward and disturbing		
3	Unresponsive to normal teaching methods		
4	Have difficulty in listening to others		
5	Have difficulty in keeping eye contact		
6	Have difficulty taking turns and sharing.		
7	May have difficulty with reciprocal smiling		
8	May remain detached or isolated, strong desire for privacy		
9	Repeat words & phrases		

10	May have difficulty staying on topic in conversation		
11	May have difficulty with imaginative play		
12	May become preoccupied with moving objects(wheels dust particles etc)		
13	May become anxious more easily than typical		
14	Repetitive behaviors like circling, hand flapping		
16	Have repetitive behaviors when anxious to block out others		
17	Lack of awareness of feelings of others		
18	Abnormal speech content and quality		
19	Sustained odd play		
20	Lack of or abnormal social play		
21	Inability to initiate or sustain conversation		
22	Preoccupation with parts of objects		
23	No real fear of danger		
24	Poor use of body language and nonverbal communication		
25	a fascination with repetitive movement		
26	Repeating words or phrases back		
27	Little or no eye contact, facial expressions, and gestures		
28	Repetitive body movements (hand flapping, rocking) and/or abnormal posture (toe walking)		
29	Noticeable physical over activity or under activity		
30	Difficulty interacting with other people and failure to make peer friendships		
31	Difficulty expressing needs and wants, verbally and/or nonverbally		

32	Insisting on following routines and sameness, resisting change		
33	expresses aggressive or self-injurious behavior		
34	Exhibits pronoun reversal (you for I...)		
35	Not responding to verbal cues (acting as if deaf)		
	Echoes questions or statements made by other people		
36	Inability to initiate or sustain conversation		
37	Frequently has no visual reaction to a "new" person		
38	Does not follow simple prepositional commands		
39	Lacks a social smile (may smile out-of-context)		
40	Does not follow simple commands (sit down, come here, stand up) given once		

Comments:

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Appedx-2

Observation Checklist for *researcher*(Adapted ABC)

Childs name: \_\_\_\_\_ Birth date: \_\_\_\_\_

Examiner: \_\_\_\_\_ Test date: \_\_\_\_\_

*For those items that most accurately describe the child, please circle the number at right*

No	Items/ characteristics	yes	no
1	Whirls self for long periods of time		
2	Learns a simple task but “forgets” quickly		
3	Frequently does not attend to social/environmental cues		
4	Does not follow simple commands (sit down, come here, stand up) given once		
5	Does not use toys appropriately (spins wheels, etc.)		
6	Poor use of visual discrimination when learning (fixates on parts of objects such as Size, color, position...)		
7	Lacks a social smile (may smile out-of-context) 2		
8	Exhibits pronoun reversal (you for I...)		
9	Insists on keeping certain objects with him/herself		
10	Seems not to hear (despite normal hearing tests)		
11	Speech is atonal and arrhythmic		
12	Rocks self for long periods of time		
13	Does not (or did not as a baby) reach out when reached for		
14	Strong reactions to minor changes in routine/environment		
15	Does not respond to own name when called out among two or more other names		

16	Lunges and darts about, interrupted by spinning, toe walking, hand flapping...		
17	Not responsive to other people's facial expressions or feelings		
18	Seldom uses "yes" or "I"		
19	Has special abilities in one area- seems to rule out mental retardation		
20	Does not follow simple prepositional commands (e.g., "puts the ball <i>in</i> the box")		
21	Sometimes shows no "startle response" to a loud noise		
22	Flaps hands (or other self-stimulating behavior)		
23	Severe temper tantrums and/or frequent minor tantrums		
24	Actively avoids eye contact		
25	Resists being touched or held		
26	Sometimes, painful stimuli (cuts, injections, bruises) evoke no reaction		
27	Is (or was as a baby) stiff and hard to hold		
28	Is flaccid (doesn't cling) when held in arms		
29	Gets desired objects by gesturing		
30	Walks on toes		
31	Hurts others by biting, hitting, kicking...		
32	Repeats phrases over and over again		
33	Does not imitate other children at play		
34	Often will not blink when a bright light is directed toward eyes		
35	Hurts self by biting hand, banging head....		

36	Does not wait for needs to be met (wants things immediately)		
37	Cannot point to more than five named objects		
38	Has not developed any friendships		
39	Covers ears at many sounds		
40	Twirls, spins, and bangs objects a lot		
41	Difficulties with toilet training		
42	Uses 5 or less words per day spontaneously to communicate wants or needs		
43	Often frightened or very anxious		
44	Squints, frowns, or covers eyes when in the presence of natural light		
45	Does not dress self without frequent help		
46	Repeats sounds or words over and over again		
47	“Looks through” people 4		
48	Echoes questions or statements made by other people		
49	Frequently unaware of surroundings and may be oblivious to dangerous situations		
50	Prefers to manipulate and be occupied with inanimate objects 4		
51	Will feel, smell, or taste objects in the environment		
52	requently has no visual reaction to a “new” person 3		
53	Gets involved in complicated “rituals” such as lining things up...		
54	Is very destructive (toys and household items are quickly broken)		

55	A developmental delay was identified at or before 30 months of age 1		
56	Uses at least 15 but less than 30 spontaneous phrases daily to communicate		
57	Stares into space for long periods of time		
	<u>Total</u>		

Appedx-3

Table 12- Presentation of behavioral domain used during assessment process

Each behavioral domains used during assessment process were separately analyzed in table 8 as follows.

Observation round	Characteristics	Observer groups	Number of observation/month for two month	Total no of characteristic domain in check list	Number of characters chosen positive/ child				
					C1	C2	C3	C4	C5
1 <sup>st</sup>	Social impairment	Observer 1	4	23	20	21	20	22	18
		Observer 2	4		22	21	20	20	21
		Observer 3	4		18	21	21	21	20
	Communication	Observer 1	4	31	26	30	31	25	28
		Observer 2	4		28	31	31	26	24
		Observer 3	4		30	30	30	20	25
	Body or object use	Observer 1	4	22	22	22	21	22	20
		Observer 2	4		20	20	22	16	22
		Observer 3	4		21	21	21	20	18
2 <sup>nd</sup>	Social impairment	Observer 1	4	23	18	20	22	20	22
		Observer	4		20	20	20	20	20

		2								
		Observer 3	4			16	18	22	20	22
	Communication	Observer 1	4	31		24	28	30	28	28
		Observer 2	4			28	30	26	28	29
		Observer 3	4			28	30	30	29	30
	Body or object use	Observer 1	4	22		20	21	21	16	18
		Observer 2	4			18	21	20	18	22
		Observer 3	4			21	21	20	20	18
3 <sup>rd</sup>	Social impairment	Observer 1	4	23		18	21	20	18	20
		Observer 2	4			18	20	18	18	20
		Observer 3	4			19	20	18	22	21
	Communication	Observer 1	4	31		18	18	30	24	29
		Observer 2	4			26	18	28	28	24
		Observer 3	4			18	26	24	25	26
	Body or object use	Observer 1	4	22		20	21	20	22	18

		Observer 2	4		20	20	18	18	18
		Observer 3	4		20	21	21	22	18
4 <sup>th</sup>	Social impairment	Observer 1	4	23	20	18	20	22	20
		Observer 2	4		20	21	22	18	20
		Observer 3	4		21	21	22	22	20
	Communication	Observer 1	4	31	28	30	26	28	24
		Observer 2	4		26	28	24	28	28
		Observer 3	4		26	28	26	26	22
	Body or object use	Observer 1	4	22	20	20	20	22	18
		Observer 2	4		22	21	20	18	20
		Observer 3	4		22	2	18	22	18

Appedx-4

Questioner to measure repetitive behavior.

Date .....

I.d.....

Teacher's questioner to measure child's repetitive behaviors

Child's name.....

Children often repeat the same behavior over and over again, and some children are more repetitive than others in way that is not usual for typical learners.. Please rate the repetitive behaviors the child has shown over the last three Monthsand rate the most usual way he/she displays this behavior. Please tick one response for each question.

behaviors	Never or rarely	One or more time daily	15 or more times daily	30 or more times daily
Arrange objects or other things in rows or patterns?				
Repetitively fiddle with toys or other things? (e.g.spin, bang, or flick anything repeatedly?)				
Spin him/herself around and around?				
Rock backwards and forwards, or side to side, either when sitting or when standing?				
Pace or move around repetitively?(e.g. walk to and fro across a room, or around the same path outside?)				
Make repetitive hand and/or finger movements?(e.g. flap or flick hands or fingers repeatedly?)				



## **Declaration**

I, the undersigned, declare that this thesis is my original work and hasn't been submitted for a degree in this or any other university and that all the sources used in this study has been properly acknowledged.

Name \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_

This thesis has been submitted for examination with my approval as a university advisor.

Name \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_