AUTISM & CHILDREN WITH AUTISTIC CHARACTERISTICS - A GUIDE FOR SPEECH AND LANGUAGE EVALUATION AND DIAGNOSIS

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DEDICATION

To the people I owe everything ....

Amma, Pappu

Your "anything for you" attitude,

touches my heart so much

I wonder is there any way

I could show you,

how much I am grateful to have parents like you.

CERTIFICATE

This is to certify that this Dissertation entitled: AUTISM & CHILDREN WITH AUTISTIC CHARACTERISTICS - A GUIDE FOR SPEECH AND LANGUAGE EVALUATION AND DIAGNOSIS is the bonafide work in part fulfilment for the Final year MSc., (Speech and Hearing) of the student with Reg.No.M9307.

Mysore
May 1995

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C E R T I F I C A T E

This is to certify that this Dissertation entitled : AUTISM & CHILDREN AUTISTIC CHARACTERISTICS - A GUIDE FOR SPEECH AND LANGUAGE EVALUATION AND DIAGNOSIS has been prepared under my supervision and guidance.

GUIDE

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DECLARATION

I hereby declare that this Dissertation entitled: AUTISM & CHILDREN WITH AUTISTIC CHARACTERISTICS - A GUIDE FOR SPEECH AND LANGUAGE EVALUATION AND DIAGNOSIS is the result of my own study under the guidance of Dr.Pratibha Karanth, Prof. and Head of the Department of Speech Pathology, All India Institute of Speech and Hearing, Mysore and has not been submitted earlier at any University for any other Diploma or Degree.

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Dear parents of autistic children who participated in this study, I am amazed the patience you showed in answering this "big" checklist inspite of your personal worries. I pray hard for invention of a good new therapeutic procedure for all these kids.

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Gouri, Pung, Yashuli, No words to explain my feelings for you! Thanks for all that you have done for me.

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CHAPTER I

INTRODUCTION

Cristopher aged four years has been referred to a multidisciplinary child developmental centre because of concern about his failure to develop normal language and social behaviour. He is seen by various expertise. In the case conference the paediatric - neurologist proposes that the child has developmental dysphasia on the ground that his comprehension is poor and expressive language is abnormal, ability to do nonverbal task is good and there are no neurological signs but psychologist thinks that the child is autistic because, along with the language problem his social behaviour is poorly developed. He does not play well with other children and lacks warmth in his relationship with his parents. The child psychiatrist argues that the child's social and language abnormalities are not severe enough to warrant a diagnosis of infantile autism and suggests a diagnosis of Asperger's syndrome whereas speech pathologist labels him a case of semantic pragmatic disorder.

Similar picture is seen in various clinics of our country where not only budding clinicians but experienced clinicians also find it very difficult to decide whether the child can be diagnosed as an autistic case. If he is

labelled as an autistic then one should be able to pinpoint what diagnostic criteria have been used. The problem does not end with this. We have to consider about those children who clearly show some of the symptoms mentioned in diagnostic criteria but not all. How do we classify them?

As speech pathologists we need to know whether the case should be labelled as pure autistic case or it is the cas of some other developmental disorder with autistic features. Through this dissertation we will try to seek the answers to the questions of diagnosis in cases children with autistic features.

CHAPTER II

REVIEW OF LITERATURE

The national society for Autistic children defines the autistic as one who displays disabilities in following five areas:

1. Sensory perceptual skills
2. Motor skills
3. Communication skills
4. Relatedness
5. Developmental rates and sequences

In addition, the onset must have occurred before 30 months of age.

Prevalence: Prevalence of childhood autism is not clearly established but parallels that of other varieties of childhood handicaps. One child in every 1500 births is probably affected. Wilson (1864) diagnosed two autistics per 10,000 children.

Two main types of autism are:

1) Infantile autism
2) Childhood autism.

Infantile Autism: The onset of psychotic behavior is reported by parents at varying periods from birth to 18 months. Some parents report a gradual onset with apathy, withdrawal and failure to thrive from birth, others report regression from favourable development during the second year of life. Infantile autism usually becomes obvious after IIIrd month during the symbolic phase. Autistic behavior is primary with inability to make human relationships from birth. The development of motor skills is appropriate for the age, the child functions gracefully but remains isolated in a world totally of his own erecting a barrier that stands in the way of messges coming from within him.

Childhood Autism: A socially perceptible deviation in interpersonal relations is characterised by pervasive withdraw, language disturbance, obsessive behavior, bizarre rhythmic activity and wrathful indignation with complete emotional indifference. Language is marked by mutism, defects in attention to sounds despite normal hearing or by echolalia with confusion of personal pronouns. Obsessive routine keeps him excessively pre-occupied with particular objects, resisting change around him. Bizarre, stereotype, repetitive movements such as twirling, rocking, walking on

tiptoe are non-goal directed actions carried out in a uniform way to blot out environmental stimuli. He remains rigid or acts retarded for sustained periods but reveals flashes of normal and exceptional intelligence.

Perceptual disturbances abound with heightened awareness hyper irritability and obliviousness to external stimulation affecting auditory, visual, olfactory senses. Writhing movements of the hands and fingers are accentuated by intense staring.

Poor eye contact, absent social smile, delayed anticipatory response to being picked up, aversion to physical contact limpness or stiffness when held, disinterest in household objects, rejection of appropriate toys are characteristics of these children. Motor behavior accompanies sensory input and discharge. Writhing movements of the hands and fingers create exciting visual input, rubbing odd surfaces, tactile sensations, whirling the body and spinning objects all accompanied by ritualistic flapping of hands, posturing the neck, staring into space are very often seen in these cases.

PURE AUTISM

Development of the concept of autism:

In Kanner's (1943) first account of autism he stated that the conditions he described differs markedly and uniquely from anything reported so far. In this paper, he did not attempt to specify strictly defined diagnostic criteria, but presnted detailed case histories of eight boys and three girls noting the following characteristic features:

1) Inability to relate to people, including members of child's own family from the beginning of life.
2) Failure to develop speech or abnormal largely non-communicative use of language in those who did speak. Pronoun reversal was observed in all children who could speak and echolalia, obsessive questioning and ritualistic use of language inseveral were seen.
3) Abnormal response to environmental objects and events such as food, loud noises and moving objects. Kanner viewed the child's behaviour as governed by an anxiously obsessive desired for the maintenance of sameness, which led to a limitation in the variety of spontaneous activity.

4) Good cognitive potential with excellent rate memory and normal performance on the nonverbal seguin form board test.
5) Normal physical status, several children were clumsy in gait but all had good fine muscle co-ordination.

In the pillars of personality development the autistic personality remains isolated. Inactive, inert, wholly inadequate for the growing responsibilities of an independent individual. He is devoid of feelings for others, lacks all social know-how and fails to make any friends. His feeling is unduly self centered, behaving is self willed and thinking is self directed.

In pure autism, it is only mental function and only some aspects of these that are impaired. The physical appearance of the classic autistic child is normal, the ability to move around is normal, the ability to handle objects is normal. Moreover in the purest cases theability to perceive the world through senses is normal, and so are the capacities to form abstract concepts, categorize events, understand spatial relationship, know about cause and effect plus to make logical inferences. Such is the riddle of Autism, that the missing ingredient is so subtle that even

in the problem area of social interaction and communication a great deal of competence crisis.

Pure autism is rare, as the population studies have proved Autism in combination with other developmental disorder is much more common. It is for this reason that confusion about the essential underlying impairments was inevitable. Theorists can go astray here very easily. Afterall, there are many autistic children who do not have a normal appearance, cannot move well, are clumsy when handling objects, have problems with their sensory perception, do not speak or have considerable problems in abstract thinking. Many are totally cutoff and cannot communicate at all. All of these impairments, striking, significant and handicapping as they are, had to be stripped away because they are not part of core autism.

Typical behavioural characteristics in "PURE" autism syndrome

Rote Memory: An autistic child may remember all the details of a train time table without being a train enthusiast and without wanting to make use of information for travelling. It is appropriate to consider stounding isolated features of rote memory of autistic children as a sign of dysfunction rather than an islet of intct abilities.

Stereotype: Stereotypes are not only abundent gut often excessive inautistic people. Although autistic people seem tobe more prone to show excessive stereotypes than any other clinical group, the stereotypes themselves are not distinctively different.

Routines and rigiditv: More unique characterisic of autism, than simple motor and thought stereotypes are so called elaborate routines of behaviour. They involve larger units of action and consist of more than simple mouthing, rocking, and pacing.

In a study by Uta Frith, when children were given 2 or 4 star shaped and dot shaped stamps with different ink colours, so that they can be simply pressed down to make marks. Children were also encouraged to play freely with xylophone.

Results showed that autistic children behaved in a markedly more stereotype and rigid way than the other children. The other remarkable feature which was observed was - when given a xylophone with four bars, some autistic childrn would never use all four, some simply hit one or perhaps two over and over again. This never happened with

non-autistic children. In the study while the autistic children adhered to their chosen patterns rigidly, such was not the case with the M.R. non-autistic children nor with the young normal preschoolers who took part in the experiment.

Disturbance of perception: Disturbance of perception results in faulty modulation of external sensory input, this constitutes the unique aspect of autism (Goldfarb, 1963; Ornitz, 1971). Behaviourally it appears as hypo or hyper responsive states which alternates in the same child. Eg- In hypo activity to auditory stimuli, he doesnot react to verbal stimuli or loud noises, similar reactions are seen to visual and tactile stimuli.

Autistic cases have been described as showing a preference for proximal receptors (touch, smell, taste) rather than distal receptors (visual and auditory).

Disturbance of developmental rate: Autistic children show deviations from the normal sequential motor, language, and social milestones (Fish, i960).

Disturbance of relating: Autistic child will exibit behaviors such as poor or deviant eye contact, delayed or

absent social smile, delayed or absent anticipatory response to being picked up, apparent aversion to physical contact, a tendency to react to only a part of another person, disinterest in playing games with others. Disturbances in relating may be subtle and intermittent.

Disturbance in motility: The strange bizarre appearnace of many autistic children is due to their peculiar mannerisms and motility patterns. (They may be complex, repeated serially or stereotypes). Examples of such behaviors are body rocking, swaying, flapping hands, head rolling etc.

Two important clinical features which are essential for diagnosis of autism are -

Ace of onset and language:

Age of onset: Autism is more likely to present at birth since the first symptom may not be recognised by parents, two courses have been reported.

In the first, deviant behaior is noted shortly after birth even though mothers may not be able to specify the subtle nature of their infant's "strange behavior". In the

second course of development the parents report relatively normal development upto 18 to 24 months, at which time they first note symptoms. The obvious appearance of symptoms invariably occurs before 30 months of age (Kolvin, et al. 1971).

Language: There is increasing evidence that the level of language functioning in the preschool autistic children may be a reliable indicator of severity of syndrome and a valid prognosticator of future gains (Kanner, Eisenberg, 1955, Latter, 1974, Shapiro and Fish, 1974).

The autist is withdrawn from the sound aspect of reality but failure to hear is selective towards certain individuals. He may remain mute or acquire the ability to speak but his language does not convey meaning to others. The meaning of every word remains fixed always used with originally acquired connotation. The absence of spontaneous sentence formation and echolalia create a peculiar grammatical phenomenon with the wording and intonation repeated.

Autistic language is used for self defense rather than for communication. Speech aberations include echolalia with

repetitive phrases emitted in a sing song slow voice and pronomial reversal of "you" and "I".

Speech may not develop at all or begin and then be lost. Comprehension is better preserved than expression.

Through qualitative studies between autistic children and children with specific language impairment, it has been found out that, there are indeed some peculiarities of speech, language and communication that appear to be unique to autistic children.

Rutter and Schopler (1987) updated the defining features of autism as follows:

1. Delay or total lack of development of spoken language not compensated by gesture or mime.
2. Failure to respond to the communication of others (eg. when young not responding when called by name).
3. Relative failure to initiate or sustain converational interchange.
4. Stereotyped or repetitive use of language
5. Use of 'You' when 'I' is meant
6. Idiosyncratic use of words.

7. Abnormalities of prosody (pitch, stess, rate, rhythm, intonation of speech)
8. Semantic/conceptual difficulties
9. Abnormalities of nonverbal communication.

Autistic continuums:

Kanner complained of two related trends in child psychiatry. Some child psychiatrists did not accept that autism was a distinctive syndrome and suggested it was fruitless todraw sharp dividing boundaries between autism andother types of a typical development, others accepted that autism was a syndrome, but applied this fashionable diagnosis far too widely ... It became a habit to dilute the original concept of infantile autism by diagnosing it in many disperance conditions, which show one or another isolated symptom found as a part feature of the overall syndrome. Wing (1976) noted that some interpreted Kanner's summary of the features of his syndrome far too narrowly, so that autism would not be diagnosed unless the child showed no sign of awareness of other people, despite the fact that none of Kanner's own cases was this severely impaired. Toadd to the confusion, there was a continuing argument as to how far autism corresponded to an early form of

schizophrenia, a debate that was not helped by the fact that there was little agreement as to the nature and diagnosis of schizophrenia itself.

The diagnostic criteria for autism have been refined and made more objective since Kanner first described the syndrome. So, there is now reasonable consistency in how this diagnosis is applied. However many children do not meet this criteria, yet show some of the features of autism, where language development is impaired such children tend to be classed as cases of developmental dysphasia (or specific language impairments) where as those who learn to talk at normal age may be diagnosed as Asperger's syndrome. It is argued that rather than thinking interms of rigid diagnostic categories, we should recognise that the core syndrome of autism shades into other milder forms of disorder in which language or nonverbal behavior maybe disproportionately impaired.

Rutter (1978a) documented the chaos that reigned for some years after Kanner's early report with a wealth of terminology (eg. infantile autism, childhood psychosis, childhood schizophrenia) being applied inconsistently to children who had some or all of the features of Kanner's early cases.

Rutter discussed the question of how far autism could be regarded as a syndrom and how it is related to other conditions. He concluded although there were still many unsettled questions, in order to avoid ambiguity investiators should adopt following criteria in relation to behaviour before five years of age to define childhood autism.

1) Onset before the age of 30 months.
2) Impaired social development, which has a number of special characteristics and is out of keeping with the child's intellectual development.
3) Delayed and deviant language development which also has certain defined features and which is out of keeping with child's intellectual level.
4) Insistence on sameness as shownby stereotyped play patterns, abnormal pre-occupations or resistance to change.

Unlike Kanner, who made a clear distinction between intellectual retardation and autism, Rutter argued that these were not mutually exclusive diagnoses. Using conventional IQ tests to classify children, it was found that most children who fitted the criteria of autism were also intellectually retarded. Although this might seem at

odds with Kanner's original report, it must be remembered that he based his judgement of good intellectual potential on the fact that children had good rote memory and ability to do form board puzzles. Later studies found that many autistic children possessed these skills while remaining very limited in other areas of functioning. The extent of intellectual retardation associated with autism will affect management and prognosis, but IQ level is not now-a-days regarded as a factor in deciding whether or not the child should be diagnosed "Autistic".

Rutter noted that these diagnostic criteria left many unresolved issues, in particular, the question of whether there were distinct subtypes of autism and how to classify children who showed some but not all of the features of autism, but on the basis of a review research he made a strong case for supporting the proposed criteria as the best available for defining the syndrome of autism in a valid and meaningful way. Although his diagnostic criteria have not been without their critics (Waterhouse, Fein, Hath and Snyder, 1967), they have been widely adopted and formed the basis for the 3rd edition of the diagnostic and statistical manual of mental disorders (DSM - III) published by American Psychiatric Association.

There is a growing consensus that autism is ultimately caused by some biological fault, presumably well before birth (coleman and Gillberg, 1985). Depending on the nature and extent of damage, we might suppose that autism can occur as a "pure" disorder but can also occur together with other impairments. We would not expect that autism's association with specific language handicap would be any closer than its association with sensory or motor handicap. All of these combinations might be a result of widespread damage that affects more than one brain system.

If different handicaps can be super-imposed on autism, then the immense individual variation in children diagnosed as autistic would be less puzzling. This logic fits in well with the concept of autistic spectrum or continuum. This concept is largely due to the epidemological studies of Wing and Gould (1979). The spectrum concept does not imply a watered down view of autism as a disturbance with more or less recognizable autistic and 'autistic like' symptoms. Instead it is based on the empirical findings of a common and invariant constellation of three features regardless of the additional handicaps. The characteristic constellation has become known as Wing's triad and is the strongest candidate yet for the core featurs of autism. The triad

refers to three kinds of impairment -> social impairment, communicative impairment and impairment of imaginative activity with substitution of repetitive activity, often there is accompanying general delay accompanying language problems and sensory motor problems.

Wing and Gould (1979) showed that social impairment specifically affects only a proportion of mentally handicapped individuals. Autism is very rare in the normally intelligent population and very frequent in the mentally handicapped population. Quite independent evidence exists to show that normally intelligent autistic individuals suffer from specific neuropsychological deficits (Lincolin, Cour, Chesne, Kilman, Elmasian and Allen 1988; Ramsey and Hamberger, 1988). It is also known that a variety of medical conditions can lead to autism (Coleman and Gillberg, 1985). Observations such as these support the idea that there is subtle brain abnormality which can be linked to the triad but not to any other handicaps.

The notion of an Autistic continuum

As more studies are conducted into questions of diagnosis, the stronger becomes the impression that

difficulties in recognising the boundaries of autism are not solely a consequence of the subjective and elusive nature of the symptoms. Rather, it seems that we are dealing with a disorder that has no clear boundaries. Wing (1988) has argued that rather than thinking rigidly interms of a discrete syndrome of autism. We should be aware that there is a continuum of autistic disorder. She regards social impairment as the core symptom of such a disorder. Chidlren with this social impairment are characterised by a triad of deficits in social recognition, social communication and social understanding. In each of these domains, a wide range of severity of impairment is recognised. Wing would regard a child as falling on a autistic continuum provided they showed this triad of social impairment, irrespective of other symptoms. However, she noted that impairments in other areas do tend to co-occur with a social triad in particular repetitive and stereotyped activities, poor motor co-ordination and abnormal responses to sensory stimuli. As far as language is concerned the child with the triad of social impairment will by definition be defective in the pragmatic aspects of language. In addition problems with the more formal aspects of language (grammar and phonology) may be associated with the social impairments but are not found in all cases.

In talking of an autistic continuum, we imply a single dimension in which a condition such as Asperger's syndrome constitutes a milder form of the same underlying disorder that is seen in autism. However, clinical accounts suggest that conditions resembling autism do not differ just in terms of severity but also in pattern of symptoms. Thus the label Asperger's syndrome is typically applied to clumsy children with circumscribed interests, whose early language development is not delayed and who may have verbal IQ well above performance (IQ) (Wing 1981). In contrast language impaired children fitting the picture of semantic pragmatic disorder typically first present with delayed language development and evident comprehension problems and have a marked IQ discrepancy in favour of performance IQ.

The value of thinking interms of a two dimensional continuum of disorder is that it allows us to retain the terminology and definitions appertaining to the core syndrome, while appreciating relationships with other milder types of disorder (Wing, 1980). It also encourages us to develop a quantitative appraoch to evaluation of symptoms for instance rather than simply noting that the social relationships are abnormal, we move towards assessing severity of impairments in different areas of functioning.

In effect the aim shifts from trying to find more effective procedures for discriminating autistic from non-autistic children to devising objective means of measuring the constructs.

It is important to recognize that our ability to detect qualitative difference between groups will depend on the variables we measure and the superficial similarities between disorders maybe misleading. For eg. Gileberg (1988) noted that left syndrome which has a distinctive course and clinical picture, was for many years not recognized as different from autism because many of the behavioral symptoms are very similar in these two.

Progress in classification then persues a meandering course, with new developments arising both from the recognition of continuity between conditions previously regarded as different and discovery of clear distinctions within pre-existing categories.

In the interest of clarity of communication it would seem advisable to avoid using the diagnosis of autism except for children who do fit in conventional diagnostic criteria (Rutter, 1978a; American psychiatric association, 1987) but

it is important to recognize that the diagnosis cannot be excluded without taking an early history and is not ruled out just because a child shows interest in adults and makes eye contact, where a child does not meet the diagnostic criteria for autism and does develop grammatical speech at the normal age, but has in mild to moderate form the triad of abnormalities described by Wing (1988), a diagnosis of Asperger's syndrome seems most appropriate.

Some psychiatrists use Asperger's syndrome more frequency to include any child of broadly normal intelligence with autistic features, who does not meet the oriteria for autism, even if language is impaired. In effect Asperger's syndrome becomes a synonym for American category of pervasive developmental disorder other wise not specified.

Sub types of pervasive developmental disorders

The American Psychiatric Association (1980) recognised the existence of cases which resemble autism but failed to meet the diagnostic criteria, for this condition. Concerns about classification of such cases were addressed in the 1981 revision of DSM-III. In DSM III-R 'pervasive

developmental disorder' encompasses all disorders in which there is qualitative impairment in the development of

1) Reciprocal social interaction
2) Communication (verbal, nonverbal)
3) Imaginative activity

DSM-III defines childhood onset pervasive developmental disorder as a gross and sustained impairment of social relationships beginning between the ages of 30 months and 12 years, with child exhibiting atleast 3 of the following characteristics:

- sudden excessive anxiety, catastrophic reactions to every day events, inability to be consoled when upset or unexpected attacks of panic.
- narrow or inappropriate affect or extreme lability of mood.
- resistance to change in the environment or insistence on sameness.
- odd movements, such as peculiar postures, hand movements or walking movements.
- abnormal speech characteristics
- over sensitivity or undersensitivity to stimulus
- self mutilation

Autistic disorders corresponds to a severe form of pervasive developmental disorder with onset in infancy or

childhood, in which severe social and communicative impairments are associated with a markedly restricted repertoire of activities and interests. However, it is recognized that pervasive developmental disorder can occur in less severe and prototypical form, in which case the label pervasive development disorder not otherwise specified (PDDNOS) is applied.

AUTISM. BORDERLINE AUTISM. SUBTYPES OF AUTISM

While diagnosing (pure) Autism it is advisble that clinician takes following subtypes or border line cases of autism into consideration in order to achieve an accurate diagnosis.

ASPERGER'S SYNDROME

In U.K., PDD is not widely used, but the diagnosis 'Asperger's syndrome' has become popular to refer to individuals with some autistic features who do not fit all the criteria for Autism (Tantum, 1988). Asperger's account of this syndrome was written one year after Kanner's original publication, but was much less known. The children described by Asperger's were characterised by pedantic and stereotyped speech, clumsiness, obsessional interests and

deficient social behavior. Wing popularised her work in a paper published in 1981, and noted that there were many similarities between Asperger's syndrome and Kanner's syndrome, making it difficult to tell if they were describing the some condition at different levels of severity or distinct disorders. The most popular view seems to be that 'Asperger's syndrome' is a synonym for autism of a less severe kind (Schopler, 1985). However, there do seem to be some merits inretaining the term. First there is still debate, as to how far Asperger's syndrome does overlap with autism (Nagy and Szafmari, 1986; Rutter and Schopler, 1987) second the prognosis for Asperger's syndrome is considerably better than classic autism. For this reason, several specialists (eg. Wing, 1981; Howlin, 1987) have advocated using the term Asperger's syndrome, while accepting that differences from autism may well prove to be only matter of degree. Tantum (1988) argued that without such a category these children are left in a diagnostic limbo and their problems conseguently go unrecognized and uncatered for, because their deficits are not deemed severe or widespread enough to be termed autistic. The numbers of affected children are not negligible. Gillberg and Gillberg (1989) found that Asperger's syndrome was about five times as common as

autism. Another practical reason for retaining the term Asperger's syndrome is that it maybe a more acceptable diagnosis for parents and professionals, manyof whom have a stereotyped view of autism based on the clinical picture in young children (Wing, 1986).

Relationship between autism and developmental language disorder: Language abnormalities are central symptom of autism. This raises the question then of how distinct is autism from developmental language disorder? Churchill (1972) proposed that there was no qualitative distinction between developmental aphasia and autism and that they differed only in degree. Wing (1976) argued that while it is easy enough to recognize children who have the classic syndrome described by Kanner and to differentiate these from an equally classic case of developmental receptive language disorder, the borderlines of these conditions are not at all clear. This issue was addressed in a series of studies by Bartak and his colleagues. They started out by collecting from a range of special schools and hospital units, a sample of children with severe problems in understanding spoken language. These were then subdivided according to Rutter's criteria into 19, who fitted the definition of infantile autism and 23 who clearly did not were referred to as

developmental receptive aphasic group. This study confirmed that it is possible to have a severe receptive language disorder without necessarily being autistic.

Kanner's view that autistic chidlren had adequate language competence where as aphasic children did not was not borne out in this study. On the contrary, autistic children had more severe and more extensive communication problem than did aphasic children. Whereas the apahsic children were characterised by immature language, the autistic children were much more likely to show deviant features. Such as echolalia, pronoun reversals, stereotyped utterances and metaphorical language. However, although language characteristics differentiated the autistic group from the aphasic group there were some children who could not be classified in either group because their behaviour and language fell between these two categories.

Rutter (1978b) concluded that while there were major differences between developmental receptive aphasia and infantile autism in severity, range and nature of language problems as well as in behavioural terms, the existance of cases who were intermediate between the two conditions emphasised the difficulty of drawing a sharp boundary. Also he noted that with the dysphasic as well as the

autistic group, the more autistic like the language the more autistic like was the behaviour, indicating degrees of autism can be talked about in children who do not have the full syndrome.

In general it is not helpful to treat specific developmental language disorder and autism as points on a continuum, most children with developmental language disorders have communication problems that are more circumscribed than those of autistic children and which are not associated with any abnormalities of behaviour of sociability. However, there are some children who, while not fitting the diagnostic criteria for autism, show some autistic features in conjunction with language difficulties.

When reviewing the differential diagnosis one must consider specific diseases which are knownto occur in association with autism. These include phenyleketonuria, congenital rubella, other specific organic brain syndromes, MR, seizures disorders. Also one must differentiate disease with overlapping symptomatology, which also includes environmental deprivation (maternal deprivation, hospitalisation), anaclitic depression, developmental aphasia and sensory deficits. Also in this latter category

are the syndromes like disintigrative psychosis (Rutter, 1972), late onset psychosis (Kolvin, et al. 1971), childhood schizophrenia etc.

Severe sense organ pathology can precipitate severe emotional reactions and developmental arrests in infants and young children. This combination of sensory deficits and secondary ego disturbances may result in a clinical picture which can be confused with autism.

Environmental deprivation: This may lead to delay, it has been shown to induce serious developmental disturbances it does not produce the syndrome of autism. These patients characteristically exibit a uniform delay in the acquisition of motor skills, speech and the adaptive use of toys. They may show unusual bursts of motor activity such as athetoid type movements of the hands but are not like stereotype movements in autistic. These fail to seek out adults when given the opportunity unlike autistic who do not appear to value eye contact when deprivation is released these develop language and participate in games.

Childhood schizophrenia and autism:

Rutter (1972) suggested that the term childhood schizophrenia is confounding and should be abandoned. Any patient regardless of age whose clinical picture fits the classic description of schizophrenia should be so labelled. he considers autism as a separate disease which is first manifested during the first three years of life.

Rutter details the following differences:

1. Familial factors
2. Age of onset
3. Symptomatology
4. Natural history and course of the disease.

Apart from this researchers from children's brain research clinic categorised autistic and autistic like children into three broad categories:

I. The classic autistic syndrome
II. The childhood schizophrenic syndrome
III. The neurologically impaired autistic syndrome

Ist Category: The patients with autistic symptoms of early onset, no observable signs of neurological or

electroencephalographic impairments and a clinical course that can begin improving somewhere between five and seven years of age. These patients are categorized as class I.

If a child develops seizure disorder prior to adolescence, they do not consider him a class 1 patient.

IInd category: These patients also have symptom of autism, no neurologic and electroencephalic abnormalities and no evidence of a degenerative disease. What distinguishes them from the Ist group is the age of onset. In these children the age of onset is invariably over 30 months of age. They also tend to have psychiatric problems in addition to the classic autistic symptoms.

IIIrd category: These patients who present with a number of autistic symptoms are some of the neurologically impaired groups of children. These patients have evidence of organic brain disease on neurological examination, electroencephalographic abnormalities or sometimes evidence of a deteriorating eventually fatal clinical course.

Assessment of the Autistic child:

Clinical diagnosis of behavior disorders is based on quantitative criteria. There are few sharply defined status but many continuums ranging from mild aberrations to manifest deviation. What was thought to be rare four decades ago is now diagnosed with increasing frequency. some of the behaviour problems can be diagnosed by knowledge. Some by experience and some by understanding but the application of these three virtues merges into clinical wisdom. There is no shortcut to developmental diagnosis and no place for spot diagnosis. Each infant can be assessed only on the basis of the history, physical and developmental examination.

Several diagnostic categories must be considered in delineting childhood autism on the basis of a careful history, complete physical and neurological examination and electroencephalogram. The can did enquiry into the emotional life of the child will reveal a significant history of profound disturbance in parent-child relationship in the neonatal period antedating the appearance of autistic manifestation.

Detail assessment should always start with an elaborate developmental history. The clinical history is often a better signpost to a correct diagnosis than the physical examination and special investigations clinical interview is very informative and more can be learnt from parents through the way they present complaints. The history defines the parental concern about the child, it delineates how the child differs from the siblings or other children of comparable age. It gives valuable information about child's development, his social interaction, communications, play interests, daily habits, self control. Mothers can reveal the prenatal, natal, and postnatal history.

Behavioural assessment: This canbe evaluated by taking into account responsiveness, distractibility, effect of extraneous stimuli on the direction of ongoing behaviour. Child's attention span can be calculated by the duration of a particular activity pursued bythe child. Child's reaction to new stimuli should be noticed, his ability to continue anactivity in the face of obstacles plus his adaptability to different environments should be assessed.

Psychometric measurement: Mental assessment reveals the level of cerebral functioning like perception, cognition and speech. When the child fails to master a set of items the

sources of failure can provide a basis for remedial action, clinically, it is much easier to detect deviations from the norm by seeking evidence of change from the preexisting state than by comparison with average criteria of normality or abnormality.

Tests of early mental development assess locomotor development, personal social, adjustment hearing and speech, hand and eye coordination and performance.

Some psychometric measurements use the autist's highest level item passed as an estimte of his intellectual potential but cannot predict general performance. Other techniques employ any items from any test which the child passes and then consider the composite of these items as his individual test, against which subsequent testing is evaluated. Alpern (1967) used a modified infant test for young autists because of the low social and cognitive levels and extreme attentional disorders.

Nonverbal tests: Seguin form board, hole formboard, Willin peg board canbe administered to the child. Picture puzzles from the Merril-Palmer scale provide a flexible instrument for the young child with a scoring system which enables the

examiner to allow for refused or omitted items that are not counted failures as in the Binet test. Form boards are poor predictors of educational attainment, they are difficult to interpret but they enable the tester to note the quality and speed of learning and the reaction to difficulty or failure.

Verbal tests: The autist has special language difficulties with marked delay in onset of speech. There is normal comprehension of language with deficits in the expressive side. So, the tests like peabody picture vocabulary test can be very helpful. This test assesses verbal comprehension on a limited scale. The child is asked to identify one of four pictures corresponding to spoken. stimulus words and the number of pictures correctly identified is converted to a percentile score or mental age.

Similarly, Illinois test of psycholinguistic abilities also canbe administered. This contains nine subtests measuring separate language functioning, each of which can be scored by reference to language norms.

In detail language assessment, spoken language is assessed from reports of parents and teachers, determining

whether the child has begun to speak, whether he has been at the same stage for months or years or whether his use of language has regressed. Inner language is evaluated indirectly by observing the behaviour emanating from it ie. the ability to inter-relate objects and to use symbols in make believe play.

First step in language assessment is to rule out the hearing loss. Thus child should undergo tests like BSERA, Play audiometry, impedance.

Language scales assess expression quantitatively in terms of prespeech vocabulary, vocalisation and sentence structure. The scales for the first years of life involve speech development, vocabulary and communication and scores obtained are related to the expected score for an equivalent mental age. Verbal comprehension is more directly related to general mental ability than any other aspect of speech and language. It should be assessed separately in the case of an autistic child.

DIAGNOSTIC CRITERIA:

Another 40 years have gone bysince Kanner's description, yet there is no unanimity about how to identify

a child as autistic. There are almost as many different criteria used today as there are writers on the subject. Investigators have determined lists of symptoms based on their clinical experience and their hypothesis regarding mechanisms and etiology, very few agree with each other in full detail. A survey of literature shows that the two criteria tht are most frequently agreed upon are:

1) Profound inability to relate to other people - Kanner's extreme autistic aloneness.
2) An early onset

According to Colleman, Autism is not a disease entity. It is a constellation of symptoms ie a syndrome and there appears to be several distinct subgroups within the syndrome, thus the term autistic syndrome. Their research team proposed addition four criteria for diagnosis of autistic syndrome.

3) Language retardation, including impaired comprehension of langauge.
4) Ritualistic and compulsive behaviour.
5) Disturbance of motility and appearances of stereotypes.

6) Abnormal perceptual responses to sensory stimuli, in auditory, visual, and tactile modalities, intact olfactory system.

Seventh criteria seen in some autistic children is an area of excellence ie. an isolated normal and supeior level of functioning and much lower level in most other areas.

From the very beginning, evident even in Kanner's (1943) and Asperger's (1944) first description of autism, there was the idea that by studying their language we should come nearer to understanding autistic children, as they have peculiar problems of speech and language. While language and communication problems have always held a central role. in theories of autism, attention has also been paid to problems in the development of non-linguistic abilities, for instance those that are required in perception and memory tasks (Hermelin and O'Connor, 1970). Some of these problems turned out to be central and specific to autism ie. they are unique to autistic childrn who have a particular kind of difficulty in making sense of incoming information. Relative to their age and intelligence they are impaired when it is essential to extract meaning from a wider context and this is true with linguistic as well as nonlinguistic stimuli (Frith, 1970a, b).

CONFUSION IN THE BEHAVIOURAL EVIDENCE:

If we consider linguistic performance and competence of autistic children, a lot of variability is seen in individuals. Some autistic children seem to posses linguistic abilities that are as high as their level of intelligence. On the other hand, there are many who show undisputed severe language and speech problems. Obviously competence is not reflected in performance in a straight forward fashion. We have to infer competence rather indirectly from a large number of performance assessments.

DIAGNOSTIC CRITERIA TODAY

In international collaboration, experts have agreed the use of certain behavioral criteria for diagnosis of Autism. The most detailed and most recent scheme is the one described in (DSM III-R) of the American Psychiatric Association. A very similar diagnostic scheme is available in the international classification of disease (ICD-10) issued by the World Health Organization.

The esential criteria are specified as

-> Qualitative impairment in reciprocal social interaction

-> Quantitative impairment in verbal and nonverbal communication and in imaginative activity.
-> Markedly restricted repertoire of activities and interests.

Kanner's main symptom 'autistic aloneness' is still the most and first important symptom for all attempts at diagnosis.

An important criteria for diagnosis today concerns impairments of language and communication. Its importance stems from the fact that it tends tobe the most frequent cause for clinic referral initially. Impairments can range from no speech at all to merely delayed language acquisition and odd usage of language including gestures and body language. It has been recognised that there can be profound impairment in the ability to engage in meaningful communication despite adequate speech. Current diagnostic schemes also pay particular attention to the abnormal lack of imaginative activity. This refers to an absence of pretend play as well as lack of interest in typical fictional stories. An enduring criterion for diagnosis concerns the various repetitive and restrictive phenomena ie obsessive desire for sameness. Elaborate routines, rituals, peculiar pre-occupations and oddly narrow interests

are unique features of these children and are virtually never found in any other condition in early childhood. Whether or not a symptomis seen as primary, secondary or merely optional varies according to the overall interpretation of the clinical picture.

IS AUTISM DIFFICULT TO DIAGNOSE?

The diagnosis of Autism is based on behavior. Interpreting the significance of deviant, absent or delayed behaviour depends on a sound background of clinical knowledge.

Diagnosticians often differ when it comes to borderline cases. Therefore, it is possible that a child may be labelled autistic at one center and something else at another. This worries lay people who may wrongly jump to conclusions that it is impossible to diagnose autism and that different authorities are talking about different conditions. When they talk about autistic children, the conclusion is unwarrented. Infact there is strong censensus among experienced clinicians.

If a young child is referred on the basis of queries regarding social and intellectual development, the possibility of autism needs to be considered as well. Questions to be asked include. Is this a developmentally delayed child who will catch up eventually. Is there a serious neurological or sensory defect that impedes normal development or is this child specifically impaired in language development.

In study done by Lorna Wing and Iudith Gould (1980). They took 914 children aging from 0-14 years from Camberwell who were known to health and educational services as suffering from some form of physical and mental handicap. This study aimed at discovering how many children in the population under scrutiny showed any of the main feature of autism. All 914 children were screened and a sample of 173 children was identified for further intensive investigation. This sample included all physically mobile mentally retarded children. It also included all children with any one of three behaviors of typical autism regardless of retardation.

These three features were:

1) Severe social impairment
2) Severe communicative impairment

3) Absence of imaginative pursuits including pretend play with the substitution of repetitive behaviour.

Classic Autism in the most severe form, closely resembling Kanner's original description was found in seven children which corresponds to an incidence of two in 10,000 and is identical to both the sex. The syndrome of autism was again shown to exist in highly recognisable form. However, the single most important diagnostic criterion, namely severe social impairment was identified as present before age 7 years. In an additional 62 children who did not show a history of typical Autism, 70% of these children had such severe mental retardation that their behaviour was extremely limited and for this reason alone they could not show many of the characteristic behavior of the autistic child. They had no complex routines, peculiar speech or special skills. We can conclude that the social impairment of very much the same kind that characterises young autistic children is found very frequently in mentally retarded children who are not autistic by any other criteria.

The triad impairments: It appears that pathological social impairments can be distinguished even at the level of most profound retardation and it can occur at any level of ability.

Lorna Wing and Iudith Gould divided both socially impaired group and sociable group into subgroups based on language comprehension age of either above or below twenty months. It turned out that all socially impaired children in the critical higher ability showed impairment in each of the three features under consideration. None of the sociable children showed any such behavior. Thus, there is truly triad impairments and now we have an answer to the question whether the characteristic impairments seen in the rote nuclear autistic children in such clear cut form are not merely a chance combination.

Intelligence: Many people wonder whether one can put any trust in IQ scores obtained from autistic children. For one thing these children are difficult to test for another results on different intelligence test often seem contradictory. Both Kanner and Asperger were impressed by the 'strikingly intelligent physiognomy' of autistic children and by their unusual skills and interests. The behavior of autistic children often hints the capabilities out of the ordinary and sometimes even rare talent.

Lockyer and Rutter's study showed that the IQ estimates of autistic children remained the same at second testing

even 10 years later. Nevertheless, there was pronounced unevenness of performance on different subtests. But this also was persistent over time.

One needs to remember that truly phenomenal cases are rare, even in the autistic population. Nevertheless, in many case histories there is mention of some ability that is seen as exceptional, the most frequently reported skills are those that have to do with rote memory and with constitutional or spatial skills. Kanner coined the term "Islets of abilities', while others call them "splinter skills". Both terms vividly convey the isolated nature of these peaks of performance.

On WISC, all autistic children show one particular pattern which is clearly discernible. It is recognizable by having two opposite poles, canbe discerned despite individual variations and despite difference in intelligence levels and cultural environment. The pole of worst performance lies on those subtests that demand a high degree of communicative comptence. The pole of best performance lies on those subtests of which block design is the most typical.

Variability in the interpretation of diagnostic criteria:Rutter"s classification of diagnostic criteria was widely welcomed as a step forward in enabling researchers to select children with common characteristics and to communicate with one another with some confidence that the same condition was being referred to, nevertheless points of difficulty remained when trying to apply them.

The first was the language used to describe symptoms required subjective interpretation eg. following description from (DSM IIIR).

In infancy these deficiencies may be manifestated by a failure to cuddle, by lack of eye contact and facial responsiveness and by in difference and aversion to affection and physical contact. Adults may be treated as interchangeable or the child may cling mechanically to a specific person.

Does this mean that the child is not autistic if he makes approahes to other people, appears to enjoy a cuddle or uses eye contact? Several authors have shown that there are many children who have a sustained impairment of social relationship but who do not physically withdraw from people

and may for instance respond favourably to be being tickled (Rutter 1978a, Mund, Sigman, 1986). To achieve more consistency in diagnosis, it is crucial that we distinguish between abnormalities that must be present for a diagnosis of autism to be made and behaviors that are characteristics, but not invariable features of autism. In DSM IIIR the criteria for autistic disorder have been so specified that presence of one or two normal social or communicative behaviour, such as making eye contact or enjoying a cuddle, does not preclude the diagnosis, if other aspects of reciprocal social interaction (eg. imitation, social play etc) are clearly abnoraml.

Changes in clinical picture with age:

Quite apart from problems in deciding what behaviors constitute necessary and sufficient diagnostic features, disagreement may arise when there is a failure to appreciate how the clinical picture may change with age. Rutter (1978a) explicitly stated that the diagnosis should be based on behaviour before 5 years of age and DSM-III-R description given above specifically mentions that this is how social impairment presents in infancy. In his original account Kanner (1943) documented how autistic children change as they grow older.

Between the ages of 5 and 6 years, they gradually abandon the echolalia and learn spontaneously to use personal pronouns with adequate reference. Language becomes more communicative, at first in the sense of a question and answer exercise and then in the sense of greater spontaneity of sentence formation. Noises and motions are tolerated more than previously. Contact with a limited number of people is established in a two fold way.

This changing clinical picture can be puzzling for the professional who has been taught that the autistic child has a profound impairment of social relationships and language difficulties and is then confronted with a ten year old who while socially and linguistically odd, does try to make friends, seeks out others and engages readily in conversation with them.

Three reasons for lack of agreement over the diagnosis of Autism have been considered:

-> use of different diagnostic criteria
-> subjectivity of the symptoms used as diagnostic criteria
-> changes in clinical picture with age.

Recognition of these difficulties and attempts to overcome them have undoubtedly led to much greater consensus in how the diagnostic label is applied. However although specification of clear-cut diagnostic criteria has made it easier for different observers to agree on which children are autistic, we are left with the problem of how to classify the child who is clearly abnormal has some autistic characteristics, yet does not meet the criteria of autism or any other disorder.

There is no doubt that such chldren exist. Virtually every symptom characteristic of autism can be observed in children who donot fit in this diagnostic category.

For the above reason this study was undertaken to primarily to find out, which are the core features of autistic group, and can these features help us to differentiate other childhood disorders from autism, which share some of the common features with this group.

CHAPTER III

METHODOLOGY

We have come way ahead from the time, when autism was considered as a unitary disorder. The notion of autism is changing very fast and the recent literature points out that it should be considered more as a syndrome, which consists of different features.

The main purpose of this study was to identify characteristic features exhibited by autistic group as against, MR with autistic features and DSL group. The study was carried out to find out whether any characteristic features existed in MR with autistic features group which would clearly help speech and language pathologist to differentiate them from autistic group.

The study conducted, was a comparitive study between three groups namely autistic group, MR with autistic features group and delayed speech and language group. It was believed that identification of their differential characteristics will lead us to better management of each group, as management will depend upon specific characteristics shown by the group.

Subjects:

From among those enrolled for therapy at All India Institute of Speech and Hearing, Mysore, three different groups of children were selected as subjects for this study. First group 'A' consisted of children diagnosed as autistic, where as group B and group C were children diagnosed as MR with autistic features, and those with delayed speech and language respectively. Total 15 subjects that is 5 children from each of the above mentioned categories were selected.

Specific criteria to choose these subjects were:

1. The diagnosis had been confirmed by a speech pathologist and psychologist and both had agreed upon the same diagnosis.

2. All the cases had undergone hearing tests, and were ruled out from having any kind of hearing loss.

Table-I: Depicts Age,sex, onset of the subjects.

Group	S.No.	Case	Age (in years)	Sex	Onset
Autistic	1	A1	8	F	4 months
	2	S2	6	F	3 months
	3	A3	4	M	9 months
	4	A4	5	F	2 years
	5	J5	9	M	18 months
MR with Autistic Features	1	D1	4.5	M	1.5 years
	2	R2	3	F	2 years
	3	R3	2.5	F	2 years
	4	B4	5	F	1.5 years
	5	S5	4.5	M	1.5 years
D.S.L.	1	S1	4	M	2 years
	2	M2	3	M	1 year
	3	P3	4	F	3 months
	4	V4	6	M	9 months
	5	R5	4	F	2 years

These subjects were in the age range of 2.5 - 9 years.

Test: Autistic behavior composite checklist by Anita Marcottkiely (1984) was administered on all the subjects.

This checklist consists of total 148 items. They are divided mainly into following categories.

i) Prerequisite learning behaviors

ii) Sensory perceptual skills - visual

iii) Sensory perceptual skills - Auditory

iv) Sensory perceptual skills - Tactile kinesthetic

v) Sensory perceptual skills - Olfactory

vi) Sensory perceptual skills - Gustatory

vii) Sensory perceptual skills - General

viii) Motor development

ix) Pre-language skills

x) Speech and language and communication skills

xi) Developmental rates and sequences

xii) Learning behavior

xiii) Relating skills.

This checklist is in the form of a questionnaire. The question is directed to the parent in order to know if child fails to exhibit certainbehaviors. The parents have to give their opinion and also they have to rate their child's behavior. the rating is entirely subjective and the four scales used for rating are:

If a particular behavior is exhibited

70-90% of the time - frequent

30-70% of the time - intermediate

<30 % of the time - rare

Not applicable - If child does not exhibit a particular behavioor.

Apart from these 148 items, four more additions were included in the checklist.

Those were,

-> When was the onset of the problem?

-> Does the child have imaginative ability?

-> Does he have fascination for music?

-> Does he exhibit any special skills.?

These questions were enlisted additionally, as review of literature on autism strongly points out these features, as some of the major characteristics in autism.

Once all the ratings were obtained, for further quantitative analysis these subjective scales of frequent, intermediate, seldom and not applicable were given weightage of 3, 2, 0, 1 respectively. Data obtained has been discussed in chapter IV with detailed analysis.

CHAPTER IV

RESULTS AND DISCUSSION

Once the checklist was administered on all the subjects and ratings for their behavior were obtained. These ratings of the behaviour were compiled in a tabular form. For the quantitative analysis subjective scale of frequent, intermediate, seldom, not applicable were given weightage as 3, 2, 1, 0 respectively, Later all the scores were added rowwise and columnwise.

Table II: Total score of individual in each of the group.

Subject	Autism	M.R.	D.S.L.
1	165	123	44
2	165	107	84
3	117	73	82
4	165	76	15
5	212	163	26
Total	824	542	257
Mean	164.8	108.4	50.2
S.D.	33.589	37.078	31.689

Above table indicates total scores obtained by each subject from respective group. It also shows us the meanand standard deviation for each group. Though it can be easily found out that among the three groups autistic group has a highest mean followed by M.R. and then D.S.L. group. But standard deviation within the group is more or less the same.

One way ANOVA was applied to the total scores obtained for each subject. Further test of significance was applied, this was done mainly to find out if any significant differences exist between the groups. Scheff's significance test was administered on two groups at a time.

Summary of ANOVA

Source of variations	df	Sums of square	Mean score
Among	2	32835.6	16417.8
Within	12	14028.8	1169.06
Total	14	46864.4	

ANOVA indicates that -

F value obtained for above scores is 14.04 and

P value is 0.007.

Table-Ill: Scheffe's Significance test

Group	Mean Difference	Scheffe's Test
1 (vs) 2	56.4	3.401
1 (vs) 3	114.6	14.042*
2 (vs) 3	58.2	3.622

Above table indicates that Group (1) vs (3) show significant difference at 95% level. Whereas there is no significant difference between group (1) vs (2) and group (2) vs (3).

From the results of quantitative analysis ie (one way ANOVA, Scheff's significance test), we infer that there is no significant difference between autistic and MR with a tistic features group and also between delayed speech and lanuage group and M.R. with 'autistic features group. There is significant difference at 95% level between autistic and delayed speech and language group. No significant differnce between autistic group and M.R. group could be attributed to the fact that M.R. group did share a lot of similar characteristics with the autistic group. For eg. in both the groups following common features were seen:

1) Difficulty in making eye contact
2) Marked physical hyperactivity
3) Delayin fine motor development
4) Delay in language development

On the other hand M.R. and D.S.L. group did not show any significant difference because delay in development of speech and language the prime feature of D.S.L. group was very much present in severe MR group.

Significant difference between autistic group and DSL group is probably due to the fact that DSL group did not exhibit any behavior shown by autistic children except that they showed delay in expression of language but unlike autistic group which showed impairment both in comprehension and expression but relatively better comprehension compared to expression, DSL group had comprehension on par with chronological age.

Though lot of overlapping of features was seen in autistic and severe MR group, there were some specific symptoms seen, which could be deduced from this study to differentiate between these two groups.

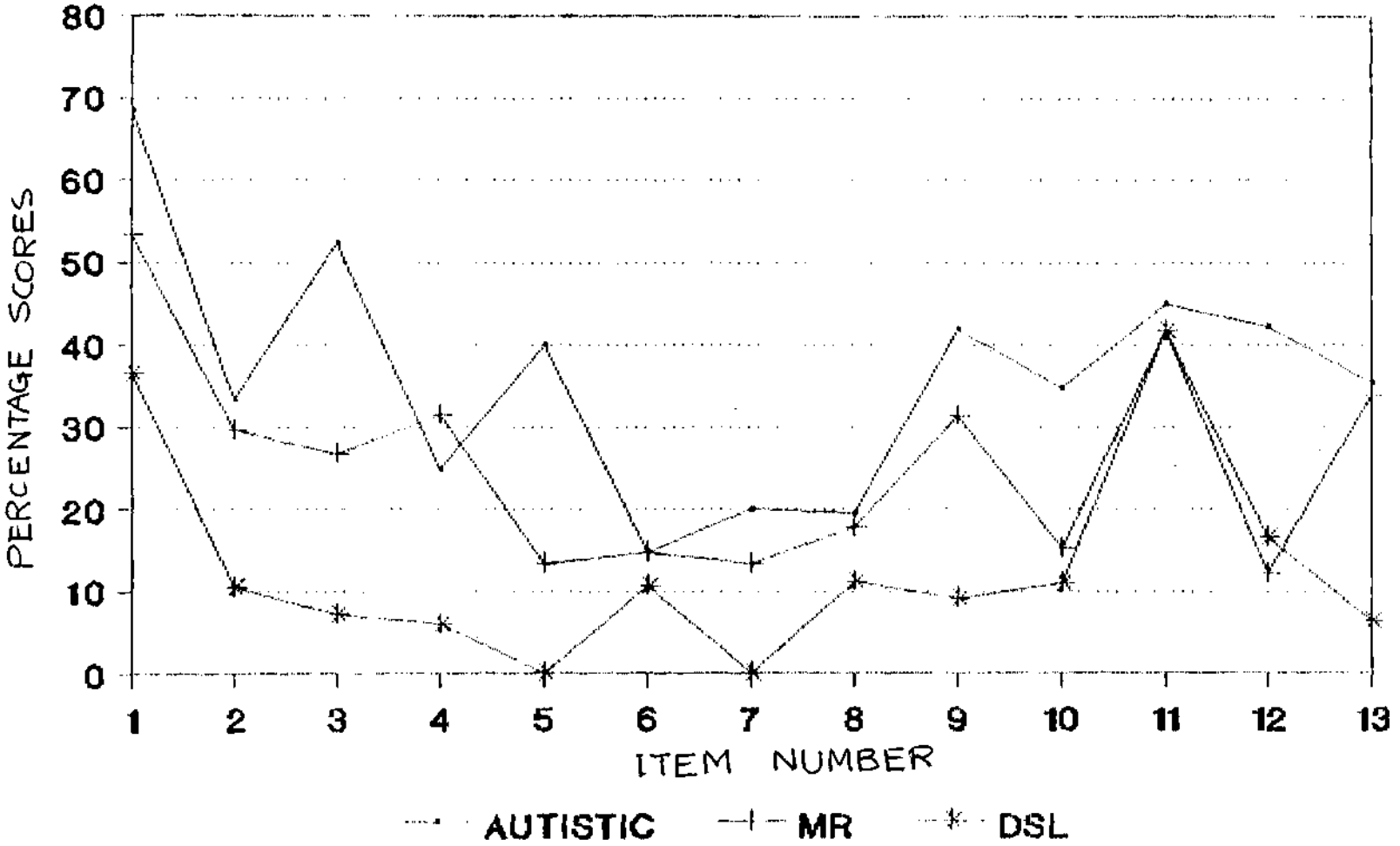
M.R. group had delay in gross as well as fine motor development where as in autistic group gross motor development was normal but there was delay/deviance in fine motor development. As infants M.R. children tended to cry very frequently, this feature was not at all seen in autistic group. Though M.R. children failed to use jargon with inclusion of real words at ages of 12-18s, month they did show this at later age, which was still not observed in autistic group. M.R. group also showed delay in cognitive and psychomotor development in contrast to autistic groups

which had very much restricted performance in imaginative activities and creative play. Fascination for music was seen in all the autistic children and was found to be the only thing which could keep them occupied, M.R. group did not report of any such preferences.

Apart from this, inappropriate silliness, laughing without any apparent reason, disinterest in communication, selective attention to voice, difficulty in attending to toys and objects as an infants was characteristic and frequently seen only in autistic group.

Table-IV: Results of subject group across the subcategories of the test.

	Maximum	Autistic		M.R. with Austistic features		D.S.L.	
		Total	Mean	Total	Mean	Total	Mean
Prerequisite learning behaviour	60	41	8.2	32	6.4	22	4.4
Sensory perceptual skills-visual	135	45	9	46	8	14	2.8
Sensory perceptual skills-auditory	195	192	20.4	52	16.4	14	2.8
Sensory perceptual tactile-kinesthetic	165	41	8.2	52	16.4	16	2
Sensory perceptual olfactory	15	6	1.2	2	6.4	6	6
Sensory perceptual skills gustatory	75	11	2.2	11	2.2	8	1.6
Sensory perceptual general	15	3	6.6	2	6.4	6	6
Motor development	180	35	7	32	6.4	26	4
Pre-language skills	255	107	21.4	86	16	23	4.6
Speech, language and communication skills	630	219	43.8	96	19.2	69	13.8
Developmental rates and sequences	60	27	5.4	25	5	25	5
Learning behaviour	90	38	7.6	11	2.2	15	3
Relating skills	345	122	24.4	117	23.4	22	4.4


80
70
60
50
40
30
20
10
0
PERCENTAGE SCORES
1
2
3
4
5
6
7
8
9
10
11
12
13
ITEM NUMBER
AUTISTIC
MR
DSL

Item No.	Category
1	Pre-requisite learning behaviour
2	Sensory perceptual skills - visual
3	Sensory perceptual skills - auditory
4	Sensory perceptual skills tactile + kinesthetic
5	Sensory perceptual skills olfactory
6	Sensory perceptual skills Gustatory
7	Sensory perceptual skills General
8	Motor development
9	Pre-language skills
10	Speech, language, communication skills
11	Developmental rates and sequences
12	Learning behaviour
13	Relating skills

Above graph indicates that Autistic group has got highest scores in all the areas except area number 4 (tactile, kinesthetic skills) compared to M.R. and D.S.L. group. In many instances autistic and M.R. group have performed similarly, but D.S.L.group maintains a clear distinctness from other two groups.

Above graph can be described as autistic group shows severe impairment compared to M.R. with autistic features and D.S.L. group in following areas.

Sensory perceptual skill-auditory	Number 3
Sensory perceptual skills-olfactory	Number 5
Speech and language communication skills	Number 10
Learning behavior	Number 12

Autistic group and M.R. with autistic features group have performed comparably in following areas:

Sensory perceptual skills visual	Number 2
Sensory perceptual skills-tactile and kinesthetic	Number 4
Sensory perceptual skills-gustatory	Number 6
Sensory perceptual skills-general	Number 7
Motor development	Number 8
Developmental rates and sequences	Number 11
Relating skills	Number 13

For the qualitative analysis the scores obtained for individual feature for different subjects in a particular group were added, any feature occuring overall 66.66% of the time or more than that were noted down.

Result of the qualitative analysis indicates that following features were consistently seen in each of the groups.

Autistic group showed more disruption in -

A. PRE-REQUISITE LEARNING BEHAVIOUR:

Symptoms were exhibited as follows:

i) Difficulty in sitting at a work task independently

ii) Difficulty in making eye contact.

iii) Difficulty attending to and focussing on a work task in an appropriate manner.

iv) As an infant demonstrated difficulty attending to toys or objects.

B. SENSORY PERCEPCTUAL AUDITORY SKILLS:

Symptoms were-

i) As an infant failed to respond to familiar voices by cooing, attending or social smiling.

ii) Fails to respond when called by name.

iii) Selectively attends to voice and sounds (appears deaf sometimes.

C. SENSORY PERCEPTUAL TACTILE-KINESTHETIC SKILLS:

Symptoms were:

i) Self-stimulates with vocal noises

ii) Exhibits marked physical hyperactivity

iii) Exhibits inappropriate physical behaviors (such as running, jumping, perceptual motion that has no apparent significance.

D. PREMOTOR DEVELOPMENT - children showed arrests, regression or inconsistencies in fine motor development.

E. PRE-LANGUAGE SKILLS:

i) Between the ages of 12 and 24 months, failed to use gesture in social interaction.

ii) Fails to exhibit appropriate creative play when given functional toys.

F. SPEECH, LANGUAGE AND COMMUNICATION SKILLS:

i) Fails to initiate social interaction with communicative intent with another person.

ii) Demonstrates distinterest in communication.

iii) Fails to express a minimum of five basic words/signs to make wants and needs known.

iv) Engages in bizarre vocal noises or sounds.

v) Lacks differential expression of 'yes' and 'no..

vi) Fail to understand and respond to simple questions.

G. LEARNING BEHAVIOUR - perseverates or continues an activity when it is no longer appropriate.

H. RELATING SKILLS

i) Fails to initiate or maintain social interaction.

ii) Exhibits laughing or inappropriate silliness for no apparent reason.

Mentally retarded children with autistic features exhibited disruption in following areas:

A. PREREQUISITE LEARNING BEHAVIOUR:

i) Difficulty in making eye contact with people.

ii) Exhibits marked physical hyperactivity.

B. MOTOR DEVELOPMENT:

Delay in gross and fine motor development.

C. PRE-LANGUAGE SKILLS

As an infant used to cry very frequently.

D. SPEECHS AND LANGUAGE AND COMMUNICATION SKILLS:

Between the ages of 12 and 18 months, failed to use jargon with the inclusion of real words.

E. DEVELOPMENTAL RATES AND SEQUENCES:

Child exhibited delays, arrests in the cognitive, affective and psychomotor learning domains.

Children with delayed speech and language primarily showed impairment, in development of speech, language and communication.

Thus these three groups clearly showed difficulties in specific areas, which can be summarised as follows:

Autistic group showed problems in -

1. Prerequisite learning behavior
2. Sensory perceptual auditory skills
3. Sensory perceptual tactile-kinesthetic skills
4. Motor development
5. Pre-language skills
6. Speech, language and communication skills
7. Learning behaviour
8. Relating skills

M.R. group exhibited difficulties in -

1. Prerequisite learning behaviour
2. Motor development
3. Pre-language skills
4. Speech and language communication skills
5. Developmental rates and sequences.

Where as children with delayed speech and language showed impairment only in development of speech, language and communication skills.

Result of the qualitative analysis shows at cardinal features of autistic group found in this study very much correlate with those mentioned in the literature of autism before.

If we compare these symptoms to the diagnostic criteria given by Kanner, we can conclude that these kids also showed difficulty in relating to people, they had failed to develop speech and also had exhibited abnormal response to environmental stimuli. Among the five autistic subjects, all the cases except one were barely at one word level and preferred to remain mute most of the time but all of them had relatively better comprehension compared to their expression. These kids showed abnormal response to different stimuli for eg. difficulty in attending to toys as an infant, inappropriate physical behaviour (running, jumping etc) but these cases did not have good fine motor coordination as mentioned in Kanner's criteria.

Comparison with Rutter's criterion:

1. The first condition mentioned by him about onset being before 30 months was satisfied by all the subjects.
2. Second criteria of impaired social development was also seen, as all the cases showed poor eye contact, failed to develop social smile.
3. Severe language impairment was seen in each of them. None of them could express a minimum of five basic words or signs to make wants or needs known. They lacked differential expression of "yes" and "no", failed to understand and respond to simple questions.

They produced bizarre vocal noises and sounds to self stimulate themselves rather than using it for communication.

4. These children also were engaged in stereotype activities and in inappropriate behaviors which seemed to perseverate when it was no longer appropriate.

These children seem to fit very well in Wing's triad of

- social impairment
- communicative impairment
- imaginative impairment

If we take into account features listed in DSM (III R). ie.:-

- Autistic aloneness
- Reduced social interaction
- Reduced verbal/non-verbal communication
- Reduced imaginative activity
- Restricted repertoire of activiteis and interests.

In practice these criterion would be suitable for application in those cases, when clinicians face difficulties in diagnosing a particular case, as DSM (III R) covers all the major and peculiar fetures seen in Autistic cases. This would help speech and language pathologists to

clearly identify these cases, differentiate them from others. It will also guide them in deciding what areas should be tackled in therapy and which should be given the priority in handling autistic cases as against cases of MR with autistic features. For example in autistic cases main aim of the therapist will be behavior modification of the child, he will concentrate on reducing autistic aloneness, help him in maintaining social interaction with others, improving his imaginative abilities, increase his repertoire of activities and interest; therapy for developing speech and language communication will be more incidental and will get parallel status only after child's behaviour is some what controlled. Where as therapy for M.R. with autistic features will simultaneously act on motor, speech and language and cognitive aspects. Therapy for children with delayed speech and language will be concentrated only on development of speech and language.

Implication:

Results of above study can be directly applied to diagnosis and habilitation of autistic children. In addition to the DSM (IIIR) criteria, the characteristic features enlisted in the current study may be checked to

diagnose an autistic case and to confirm it to be different from other disorders. The main purpose of assessment should not be just to "label" a child but to obtain a base line which can be used later for therapeutic intervention. Once therapist realises which are the areas affected in a particular child, he/she could move in a specific direction and help the child to overcome his handicap.

There were some difficulties in the administration of this checklist, as the profile entirely depends upon parent's observations. Reliability of such answers can be questionable sometimes. Checklist is very long and laborious, a general tendency of parents to get tired of it was observed.

For the above reason, for the regular use of speech and language pathologists, some selected items have been enlisted below, clinicians should check out if child exhibits these basic features. If the child fails in initial screening then detail investigation for autism can be carried out by administration of the complete checklist, but initially following features should be taken into consideration for screening autistic children.

1) Difficulty in making eye contact.
2) Difficulty attending and focussing on a work task in an appropriate manner.
3) Inappropriate responses to stimuli as an infant
   ie.:-
   i) Difficulty in attending to toys
   ii) Failure to respond to social smiling, familiar voices by cooing.
   iii) Self-stimulates with voices.
4) Exhibits delays/arrests in fine motor development.
5) Cannot initiate social interaction and demonstrates disinterest in communication.
6) Severe language impairment, remains mute most of the times or cannot express minimum wants and needs. If language is present it is characterised by echolalia, pronomial reversals.
7) Exhibits stereotyped activities
8) Fails to exhibit imaginative activity and does not engage in creative play.
9) Does not use appropriate gestures to compensate for absence of language.

CONCLUSION

From this study we can conclude that there is definitely a distinct group of autism, which exhibits very characteristic features but, one should keep in mind that there are other disorders which may share some common features with autism for eg. children with mental retardation with autistic features. Thus delineating one disorder from the other is a major task infront of speech and language therapists. This task can be made easier if specific features are investigated. As features differ disorder per disorder, naturally the management will change and will be more specific pertaining to specific symptoms exhibited by the case. DSM (IIIR) criteria, could be quite handy and easy to apply to autistic cases.

Thus once child's problem in an area is understood better, then management would become easier and accurate.

CHAPTER V

SUMMARY

The riddle of autism has intrigued clinicians since quite some time. Kanner (1943) first described this condition. Since then many questions were raised by other professionals regarding those children who could not fit completely into Kanner's criteria but had some obvious similarity. Now the trend has changed, pure autism mostly is believed to be a rare condition. Several studies report that autism in combination with other developmental disorder is much more common.

As more studies are conducted into questions of diagnosis, the stronger becomes the difficulties in recognising the boundaries of autism. Wing (1988) had argued that rather than thinking rigidly in terms of a discrete syndrome of autism, we should be aware that there is a continuum of autistic disorder. She regards social impairment as a core symptom in autism, which can be characterised by a triad of deficits, in social recognition, social communication, and social understanding.

There is also increasing evidence that level of language functioning in the preschool autistic children may be a reliable indicator of severity of syndrome and a valid prognosticator of future gains (Kanner, Eisenberg, 1955; Shapiro and Fish, 1974).

The American Psychiatric Association (1980) recognised the existence of cases which resemble autism but failed to meet the diagnostic criteria. In D.S.M. (III R) 1987; the term "pervasive developmental disorder" was introduced, which encompasses all disorders in which there is a qualitative impairment in the development of -

1) Reciprocal social interaction
2) Communicative
3) Imaginative activity

It states that autistic disorder corresponds to a severe form of pervasive developmental disorders.

Assessment of such children should start with developmental history include behavioural assessment, motor assessment, non-verbal tests, and verbal tests.

The aim of this study was to distinguish between autistic group, M.R. with autistic features and delayed speech and language group. Once the specific areas of impairment was found out, this knowledge could be applied to find out how management would differ in these cases.

Fifteen subjects were taken from 3 groups namely autistic, M.R. with autistic features, delayed speech and language. Autistic behaviour composite checklist by Anita, Marcott Riely was administred on all the subjects. Qualitative and quantitative analysis was done by using one way ANOVA, Scheff's significance test. Results showed that there was no significant difference between autistic and M.R. with autistic features group, as also between MR with autistic features and D.S.L. But there was significant. difference between autistic and DSL group at 95% level. M.R. and autistic group did have soma features. Similar but autistic children had more disruption in prelinguistic learning behaviour, perceptual skills, pre-language and language skills, motor behavior and relating skills M.R. group had impairments in motor, cognitive, prelangauge and language skills where as DSL group had delay only in development of speech and language.

Thus, we can conclude that, though "pure autism" can be identified with certain core features taken into account, we should try to delineate disorders, recognising their difficulties in peculiar areas, and thus utilise this information to alleviate those symptoms.

CHAPTER V

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Autistic Behavior Composite Checklist

by Anita Marcott Riley

Student _____ Age _____

Teacher/Clinician _____ Date _____

Key: ■ Frequent
⊞ Intermittent
⊟ Seldom
[0] Not applicable

Prerequisite Learning Behaviors

Sitting

☐ 1. Does the student experience difficulty sitting at a work task independently?

What is the average length of on-task sitting time? _____

Eye contact

☐ 2. Does the student experience difficulty making eye contact with people? Is the eye contact made in an inappropriate manner? If so, specify inappropriate behaviors. _____

_____

Attending

☐ 3. Does the student experience difficulty attending to and focusing on a work task in an appropriate manner? If so, specify inappropriate behaviors. _____

_____

Compliance

☐ 4. Does the student demonstrate noncompliant behavior when requested to complete a familiar task? If so, describe typical noncompliant behaviors. _____

_____

Sensory Perceptual Skills—Visual

Visual attending

☐ 5. As an infant, did the student demonstrate difficulty attending to toys or objects in the crib?

Staring

☐ 6. Does the student stare into space for prolonged periods?

☐ 7. Does the student stare at or through people or objects for prolonged periods?

☐ 8. Does the student finger- or hand-stare?

☐ 9. Does the student stare at lights, reflections, or changing levels of illumination?

Visual distractibility

☐ 10. Does the student scrutinize the visual details of an object or focus on the background details rather than on the whole or figure?

☐ 11. Is the student distracted by visual stimuli in the environment?

Visual withdrawal

☐ 12. Does the student withdraw from visual stimuli by covering eyes, closing eyes, or averting eye contact? If so, specify inappropriate behaviors. _____

_____

Atypical visual regard

☐ 13. Does the student exhibit atypical responses to visual stimuli in any manner other than listed? If so, specify inappropriate behaviors. _____

Sensory Perceptual Skills—Auditory

Startle

☐ 14. Does the student lack a startle response?

Localization

☐ 15. Does the student fail to localize or turn in the direction of the sound?

Familiar voice

☐ 16. As an infant, did the student fail to respond to familiar voices by cooing, attending, or social smiling?

Name recognition

☐ 17. Does the student fail to respond when called by name?

Selective attention

☐ 18. Does the student selectively attend to voice and/or sound (may appear deaf at times)? If so, specify prevalent situations or stimuli when the student attends.

_____

_____

Specify prevalent situations and stimuli when the student does not attend. ___

_____

☐ 19. Does the student lack appropriate attention or responses to sound (hyporesponsivity) or at times appear deaf?

Auditory distractibility

☐ 20. Is the student distracted by auditory stimuli in the environment?

☐ 21. Does the student respond inappropriately to varying levels of sound? If so, specify inappropriate behaviors. _____

_____

☐ 22. Does the student exhibit difficulty distinguishing figure from background auditory stimuli?

☐ 23. Does the student overrespond (hyperresponsivity) to sound or noise in the environment? If so, describe responses. _____

_____

Auditory withdrawal

☐ 24. Does the student withdraw from auditory stimuli by covering or plugging ears with hands or fingers? If so, specify stimuli that seem to evoke this response.

_____

_____

Auditory self-stimulation

☐ 25. Does the student self-stimulate with vocal noises that would not be considered attempts at speech communication? If so, specify prevalent stimuli in the environment that may evoke this behavior. _____

_____

Atypical auditory responsivity

☐ 26. Does the student exhibit atypical responses to auditory stimuli in any manner other than listed? If so, specify inappropriate behaviors. _____

_____

Sensory Perceptual Skills—Tactile/Kinesthetic

Tactile self-stimulation

☐ 27. Does the student exhibit self-stimulating stereotypic movements (such as rocking, lunging, darting, whirling, hand flapping)? If so, specify inappropriate behaviors. _____

_____

☐ 28. Does the student exhibit self-stimulating touching behaviors (such as rubbing, saliva smearing)? If so, specify inappropriate behaviors. _____

_____

Tactile withdrawal

☐ 29. Does the student resist or withdraw from tactile or physical stimulation by another person or object? If so, specify inappropriate behaviors and prevalent stimuli that may evoke these behaviors. _____

_____

Gesticulations and grimaces

☐ 30. Does the student exhibit inappropriate gesticulations (gestures) and facial grimaces? If so, specify inappropriate behaviors. _____ _____

_____

Physical activity

☐ 31. Does the student exhibit marked physical hyperactivity (overactivity)?

☐ 32. Does the student exhibit marked hypoactivity (underactivity)?

☐ 33. Does the student exhibit inappropriate physical behaviors (such as running, jumping, or perpetual motion that has no apparent significance)? If so, specify inappropriate behaviors. _____

_____

Physical responsivity

☐ 34. Does the student exhibit rigidity when held or hugged?

☐ 35. Does the student exhibit flaccidity when held or hugged?

☐ 36. Does the student exhibit other inappropriate responses to physical contact? If so, specify inappropriate behaviors. _____

_____

Pain response

☐ 37. Does the student exhibit a lack of responsiveness to pain and injuries? If so, specify inappropriate behaviors. _____

_____

Sensory Perceptual Skills—Olfactory

Smell

☐ 38. Does the student frequently smell or sniff objects? If so, specify prevalent stimuli. _____

_____

Sensory Perceptual Skills—Gustatory

Taste

☐ 39. Does the student exhibit strong food preferences (sweets, dairy products, meats, etc.)? If so, specify food and/or textures. _____

_____

☐ 40. Does the student lack any preference for foods?

☐ 41. Does the student exhibit an aversion or strong negative reaction to specific textures of foods? If so, specify. _____

_____

Licking and mouthing

☐ 42. Does the student explore objects by mouthing them?

☐ 43. Does the student frequently lick objects that are not edible?

Sensory Perceptual Skills—General

Preferential sensory modality

☐ 44. Does the student exhibit preferences for experiencing sensory stimuli through atypical modalities (touch, taste, smell, and movement) rather than the more typical learning modalities (auditory and visual)?

Motor Development

Motor functioning level

☐ 45. Does the student exhibit delays, arrests, regressions, or inconsistencies in gross motor development? If so, specify. _____

_____

☐ 46. Does the student exhibit difficulty with balance?

☐ 47. Does the student exhibit delays, arrests, regressions, or inconsistencies in fine motor development? If so, specify. _____

_____

Oral motor functioning

☐ 48. Does the student exhibit infantile oral motor functioning (such as rooting, sucking, biting, drooling, difficulty swallowing solids or liquids, chewing)? If so, specify. _____

_____

☐ 49. As an infant, did the student exhibit difficulty with breast or bottle feeding? If so, explain. _____

_____

☐ 50. Does the student exhibit difficulty chewing and/or swallowing foods? If so, explain. _____

_____

☐ 51. Does the student drool excessively? If so, explain. _____

_____

Oral apraxia

☐ 52. Does the student exhibit oral apraxia (the inability to voluntarily execute motor movement in the oral area) that may be present spontaneously? If so, specify oral areas. _____

_____

General motor apraxia

☐ 53. Does the student exhibit apraxia (the inability to initiate motor movements in the limbs or other areas)? If so, specify areas. _____

_____

Motor retrieval

☐ 54. Does the student exhibit difficulties with retrieval of motor movements or motor patterns?

☐ 55. Does the student exhibit difficulty retrieving patterns of an entire motor movement?

☐ 56. Does the student exhibit motor retrieval difficulties in a specific area of the body? If so, specify body area or areas and behaviors. _____

_____

Pre-Language Skills

Crying

☐ 57. As an infant, did the student fail to vocalize differential crying (crying differently in varied situations, such as for discomfort, fear, hunger)?

☐ 58. As an infant, did the student seldom or never cry?

☐ 59. As an infant, did the student cry frequently?

☐ 60. Does the student frequently cry for no apparent reason?

☐ 61. Does the student cry with an unusual vocal quality or in an unusual manner? If so, explain. _____

_____

Babbling

☐ 62. Between the ages of 5½ and 8 months, did the student fail to babble (vocal play with speech sounds, such as *duh, muh, buh, puh*)?

Jargon

☐ 63. Between the ages of 8½ and 18 months, did the student fail to use jargon (flow of connected speech sounds strung together in a sentence-like fashion without the presence of real words)?

Gestures

☐ 64. Between the ages of 12 and 18 months, did the student fail to use simple gestures with sound (such as pointing with jargon)?

☐ 65. Between the ages of 12 and 24 months, did the student fail to use gestures in social interactions (such as "bye-bye" or "peek-a-boo")?

☐ 66. Does the student fail to comprehend simple gestures (such as pointing to a chair with the command, "Sit down," or an outstretched hand with the command, "Give it to me")?

☐ 67. Does the student fail to express or respond to the gestures "hi" and "goodbye?"

☐ 68. Does the student fail to point to or gesture toward desired objects?

☐ 69. Does the student fail to use other relevant gestures? If so, specify. _____

_____

☐ 70. Does the student nondiscriminately imitate gestures (gestural echolalia)? If so, is the imitation immediate or delayed? _____

Cause-Effect

☐ 71. Does the student fail to demonstrate an understanding of cause-effect by using environmental objects as a means to an end (for example, use of water fountain, toilet handle, light switch)? _____

_____

Functions of objects

☐ 72. Does the student experience difficulty using, manipulating, or understanding the function or uses of common objects (such as a cup, toothbrush, door knob, lights)? If so, specify inappropriate behaviors or uses. _____

(If this skill is present, specify any objects used appropriately. _____

_____)

Creative play

☐ 73. Does the student fail to exhibit appropriate creative play when given functional toys (such as a cooking set or baby doll)?

(If this skill is present, specify examples of appropriate play. _____

_____)

Speech, Language, and Communication Skills

Receptive functioning level

☐ 74. Does the student fail to recognize a minimum of five common nouns when named (Mommy, Daddy, family names, baby, cookie, no-no)? If true, specify approximate comprehension level. _____

_____

Commands

☐ 75. Does the student fail to respond to simple directional commands (such as "Come here" or "Give it to me")?

☐ 76. Does the student fail to respond to simple prepositional commands in the environment?

Communicative intent

☐ 77. Does the student fail to initiate social interaction with communicative intent with another person?

(If this skill is present, is the student selective in those approached? _____

_____)

☐ 78. Does the student demonstrate disinterest in communication? If so, how? ____

_____

(If the student does demonstrate interest in communication, specify method used. _____)

☐ 79. Does the student lack an awareness of socially appropriate uses of communication?

If so, specify some inappropriate interactions. _____

_____

(If this skill is present, specify some appropriate uses of communication. ____

_____)

Mode of communication

☐ 80. Has the student failed to develop a mode of communication to indicate wants and needs?

Check all communication modes used by the student:

___ Crying

___ Grabbing

___ Nonspecific gesturing

___ Pulling person or using person's hand to attain desired object

___ Specific natural gesturing by pointing or gesturing toward desired item

___ Vocalizing

___ Vocalizing with pulling, pointing, or gesturing toward desired item

___ Signing/total communication (specify level by circling):

One-word/sign utterances

Two- or three-word/sign phrases

Simple sentence

Compound sentence

Complex sentence

___ Photo/picture system

___ Photo/picture-word system

___ Word board system

___ Mechanized communication device (specify equipment and level of functioning):

_____

___ Computerized communication device (specify equipment and level of functioning):

_____

___ Verbal (specify level by circling):

One-word utterances

Two- or three-word phrases

Simple sentence

Compound sentence

Complex sentence

___ Intonation patterning: Melodic Intonation Therapy (MIT) (specify level): _____

___ Other (specify) _____

Mutism

☐ 81. Does the student exhibit mutism?

☐ 82. Is there a total absence of sound?

(If not, specify types of sound present. _____

_____)

☐ 83. Does the student exhibit selective mutism? If so, specify situations that evoke expressive attempts. _____

_____

Vocalization

☐ 84. (If nonverbal) Does the student fail to exhibit varied patterns of vocalizations?

☐ 85. (If nonverbal) Does the student fail to imitate others' intonation patterns?

☐ 86. Does the student fail to attend to music or singing?

☐ 87. Does the student fail to respond to rhythmic music by body or hand movements in approximate time to the music?

☐ 88. (If nonverbal) Does the student fail to respond to songs by vocalizing?

Jargon with words

☐ 89. Between the ages of 12 and 18 months, did the student fail to use jargon with the inclusion of a few real words?

Associated verbalizations

☐ 90. At 10 to 18 months, did the student fail to associate verbalizations of "Mama" or "Dada" with the primary caretakers?

Normal echoing

☐ 91. Between 8 and 24 months, did the student fail to imitate or echo normal speech?

Echolalia

☐ 92. Does the student exhibit verbal echolalia? If so, is it immediate, delayed, or mitigated? _____

☐ 93. Does the student exhibit gestural echolalia (indiscriminate imitations of motor movements and gestures)? If so, is it immediate or delayed? _____

Perseveration

☐ 94. Does the student perseverate or continue to repeat all or part of an activity, a motor movement, sign, or verbal utterance when it is no longer appropriate? If so, give an example. _____

_____

Quality of speech

☐ 95. Does the student exhibit atonal or monotonic speech showing little or no inflection?

☐ 96. Does the student exhibit inappropriate pitch of speech? If so, is it too high or too low? _____

☐ 97. Does the student exhibit atypical rhythm of speech? If so, specify. _____

_____

☐ 98. Does the student exhibit inappropriate volume? If so, is it too soft or too loud? _____

☐ 99. Does the student exhibit an atypical speech quality other than listed? If so, specify. _____

_____

Expressive functioning level

☐100. Does the student fail to express a minimum of five basic words/signs to make wants and needs known (use of family names, foods, toys, . . .)? If true, specify approximate vocabulary level. _____

_____

Indicating needs

☐101. Does the student fail to indicate basic wants and needs (such as food and drink)?

(If this skill is present, specify method used. _____

_____)

☐102. Does the student fail to indicate a need for help?

(If this skill is present, specify method used. _____

_____)

Verbal regression

☐103. Did the student babble, jargon, use real words or short phrases, and then discontinue or lose these skills? If so, at what age and to what extent did the regression occur? _____

_____

Vocal noises

☐104. Did the student engage in bizarre vocal noises or sounds after a verbal regression occurred? If so, describe. _____

_____

Affirmation/negation

☐105. Does the student lack differential expression of "yes?"

(If this skill is present, specify method used. _____

_____)

☐106. Does the student lack differential expression of "no?"

(If this skill is present, specify method used. _____

_____)

Questions

☐107. Does the student fail to understand and respond to simple questions?

(If this skill is present, specify method used. _____

_____)

☐108. Does the student fail to ask simple questions to request objects, actions, or information?

Pronoun usage

☐109. Does the student fail to use the pronoun "I" appropriately?

(If this skill is not present, does student refer to self by name? _____)

☐110. Does the student exhibit pronomial reversals?

☐111. Does the student fail to appropriately use the pronouns *he, she, it, they, his, hers, its, theirs*?

☐112. Does the student demonstrate confused gender agreement in pronouns?

Generation

☐113. Does the student fail to generate varied language structures to communicate? If so, what types of rote communiques are typical? _____

_____

☐114. Does the student ask inappropriate questions?

Expressive retrieval

☐115. Does the student exhibit difficulty retrieving words, signs, and/or phrases? If so, specify types of cuing or therapy techniques that are helpful. _____

_____

_____

Developmental Rates and Sequences

Developmental rates and sequences

☐116. Does the student exhibit delays, arrests, and/or regressions in the cognitive, affective, and psychomotor learning domains? If so, specify. _____

_____

☐117. Does the student exhibit disordered skill acquisition or splinter skills? If so, specify. _____

_____

☐118. Does the student exhibit inconsistent development between the fine and gross motor functioning levels? If so, specify. _____

_____

☐119. Did the student exhibit developmental delays before 30 months of age?

Learning Behaviors

Perseverative activity

☐120. Does the student perseverate or continue an activity when it is no longer appropriate?

Concrete vs. abstract

☐121. Does the student learn concrete skills, yet exhibits difficulty with the abstract?

Generalization

☐122. Does the student exhibit difficulty generalizing acquired concepts into new contexts? If so, specify measures necessary to achieve generalization. _____

_____

_____

Association

☐123. Does the student exhibit difficulty associating acquired knowledge to related situations and contexts?

Retention and memory

☐124. Does the student exhibit difficulty retaining and remembering taught concepts? If so, what maintenance schedule is necessary? _____

_____

Retrieval

☐125. Does the student exhibit difficulty retrieving information? If so, specify the problem:

____ Concept retrieval

____ Sound sequencing

____ Word retrieval

____ Word order

____ Other (specify) _____

Relating Skills

Social interactions

☐126. Does the student lack a social smile?

☐127. As an infant, did the student lack social interaction in play and exchanges (such as waving "bye-bye" and playing "peek-a-boo")?

☐128. Does the student exhibit an absence of facial responsivity and reciprocal use of eye contact?

☐129. Does the student lack reciprocal responsivity to physical contact?

☐130. Has the student failed to develop a relationship with family, caretaker, or significant other?

☐131. As an infant, did the student fail to respond differently to the primary caretaker than to strangers?

☐132. Does the student lack appropriate social interaction and cooperative play with peers?

☐133. Does the student fail to initiate or maintain social interaction?

Emotional behaviors

☐134. Does the student exhibit laughing or inappropriate silliness for no apparent reason?

☐135. Does the student cry for no apparent reason?

☐136. Does the student engage in frequent or severe temper tantrums?

☐137. Does the student exhibit difficulty waiting for needs to be met?

Fear

☐138. Does the student lack fear of real danger?

☐139. Does the student exhibit fear of objects, people, or situations without reason?

Aggression

☐140. Does the student exhibit self-abusive behaviors (such as head banging, biting, hitting, scratching)? If so, specify inappropriate behaviors. _____

_____

☐141. Does the student exhibit aggressive behaviors toward others? If so, specify inappropriate behaviors. _____

_____

☐142. Does the student frequently damage or destroy the property of others by breaking, tearing, banging? If so, specify inappropriate behaviors. _____

_____

Resistance to change

☐143. Does the student resist change in daily routines?

Ritualistic behaviors

☐144. Does the student engage in rituals (such as lining up objects, repetitive motions, or other inappropriate behavioral patterns)?

Play

☐145. Does the student engage in odd or inappropriate play for prolonged periods?

Object relations

☐146. Does the student exhibit an inappropriate attachment to an object? If so, specify. _____

_____

☐147. Does the student prefer interaction with inanimate objects?

Spinning

☐148. Does the student exhibit a preoccupation with spinning, flipping, or twirling objects? If so, specify typical inappropriate behaviors. _____

_____