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PRAGMATICS IN 5-10 YEARS OLD CHILDREN IN DOWN SYNDROME

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CHAPTER 1

INTRODUCTION

Down syndrome is condition, which is a genetic disorder having an extra chromosome which are small packages of gene's present in the body. Down syndrome has an extra chromosome 21 present out of 46 chromosomes in the body. This is usually known as trisomy 21. In these children their IQ level is from mild-moderate range that is slower to speak than other typical children. It affects their physical features, intellect and overall development including some heart problems. There are three types of down syndrome's: trisomy 21, translocation down syndrome and mosaic down syndrome. This condition affects around 23,000 – 29,000 children in India every year and the survival rates is 44%. This condition's cause is unknown and possibilities found was that it could be the reason because of passing down from parent to child.

Lima, Delgado and Cavalcante (2017) aimed to analyze national scientific production on development of language and communication in down syndrome and early intervention in this population. Search of databases of articles, thesis and dissertations were conducted using 'language', 'down syndrome', and 'language development' descriptor combination. Results showed, there is a consensus regarding the presence of a deficit in language development in children with down syndrome compared to the process of children with typical development; that there is greater use of gestural productions which favored lexical acquisition and speech-language intervention is effective in language development in down syndrome.

There are several characteristics that come under this condition which are affected like: physical, cognitive, academic performance, vocational skills and behavior. In cognitive skills, it is the cognitive impairment, problems with thinking and learning which is common in children with down syndrome and usually ranges from mild to moderate. So it deals with short attention span, poor judgement, slow learning capabilities, delayed language and speech development. In behavioral literature, the frequency and intensity of the behavior is often greater. Increased levels of restlessness and worry may lead the child to behave in a very rigid manner. It deals with sleeping difficulties, stubborn and tantrums and delayed toilet training. Common behavior concerns are wandering off, stubborn behavior, attention problems and obsessive behavior.

Powers, Brown, Hogan, Martin, Ortenberg and Roth (2015), aimed children with down syndrome at risk for lower urinary tract dysfunction and delayed toilet training. Questionnaire designed to assess toilet training, continence status, symptoms of lower urinary tract dysfunction and prior evaluation of urological complaints. Results were shown, average age of reported toilet training completion was 5.5 years in children with down syndrome and 2.2 years in controls and can experience marked delay in toilet training and suffer incontinence afterward. Academic performance included, the children with down syndrome made steady progress in reading accuracy but their progress on measures of reading comprehension, language, spelling and memory was more limited.

In physical literature is about the physical features seen in down syndromes. In vocational skills, it deals with the jobs for people with down syndrome.

In general, there are 3 types of employment options available to individuals with down syndrome; open employment, supported employment and sheltered employment.

Dolva, Lilja and Hemmingsson (2007) investigated the relation between functional performance skills of children with Down syndrome and the age of entry into mainstream elementary education. A cross-sectional study of 70% of the 7-year-old children with Down syndrome in Norway (N = 43), we measured functional performance using the Pediatric Evaluation of Disability Inventory (PEDI). Results showed the certain level of development and independence seems to be required for a child with Down syndrome to be viewed as ready to enter elementary school and perceptions of readiness for school may be culturally dependent.

Language is a complex combination of several rule systems that can be divided into 3 major components: form, content and use. Form includes syntax, morphology, and phonology, those systems that connect sounds or symbols with meaning. Content encompasses meaning or semantics, and the use of component includes pragmatics which are the basic rule system found in language. Syntax governs the ordering of words in sentences. Phonology is about smallest units of speech sounds combined together to form words. Semantics is about the meaning or content of the meaningful units. Morphology is the smallest unit of meaning in language. These all components in down syndrome children are different than from those seen in typically developing children. Pragmatics is the intentional use of language to interact with other people using gestures, facial expressions and eye gaze.

In the case of phonology for children with down syndrome, they will have difficulties in perceiving and producing speech. Expressive language skills are more impaired than receptive skills in young individuals with down syndrome. In syntax, they have difficulty in learning and understanding and using of complex grammatical sentences. In semantics, initially, they learn those that refer to objects, events or actions then to adjectives and adverbs they are generally good in vocabulary. They have a very good vocabulary as they mature. In morphology, children with downs syndrome show specific productive delays, first in being able to say single words and then in being able to produce sequences of words. In pragmatics, use of information from the physical, social and affective context of the talk to decide what to say, how to say and what another person's words mean in children with down syndrome. Pragmatics talk about the development in pre-linguistic period and linguistic period.

Pereira and Oliveira (2015) investigated aspects of family life that influence communicative performance of children with Down syndrome. Application of "features of family environment" questionnaire and pragmatic analysis of children with DS communication was used. 30 children of both genders ranging from 5 to 10 years old took part. Results showed, correlation between items of questionnaire and pragmatic analysis results regarding communicative means and communicative functions was found to exist.

All individuals with down syndrome should have their pragmatics skills assessed in order to determine their current level of profiling their strengths and weakness in social context. In order to determine the competence of language in the child, we have to assess their aspects of language like conversing in specific situations and with different people. We used Pragmatics Profile in Everyday Communication Skills in down syndrome children from 5 years to 10 years of age to assess their pragmatics skills. There are 4 aspects we are assessing in this; first is communicative functions, second is response to communication, third is interaction and conversation and lastly contextual variation. If these all take place through varieties of gestures, vocalizations or verbal responses to maintain communication within family and outside of family. Doing so, can help us determine the communication skills in children with down syndrome.

Typical children develop verbal or non-verbal pragmatic skills between 1 and 5 years. However, it is not known if children with Down Syndrome with MA of approximately 4 years also follow a similar developmental profile for the verbal or non-verbal pragmatic skills. Hence there is a need to assess the pragmatic skills in children with DS between 5-10 years of age using PPECS (1995).

CHAPTER 2

REVIEW OF LITERATURE

Down syndrome is a genetic disorder in which a child is born with an extra chromosome. Chromosomes are the body's little "packages" of genes. They are in charge of determining how a baby's body develops during pregnancy and how it functions as it grows in the womb and after delivery.

https://www.cdc.gov.html

A baby is born with 46 chromosomes on average. One of these chromosomes, chromosome 21, has an extra copy in Down syndrome babies. Trisomy is a medical word for having an extra copy of a chromosome. Trisomy 21 is another name for Down syndrome. This extra copy alters the way the baby's body and brain develop, posing mental and physical obstacles for the child. Down syndrome is a disorder, not a disease.

The phrase refers to the characteristics that come from the transformation. Despite the fact that people with Down syndrome may act and seem alike, each individual has unique abilities. People with Down syndrome typically have a mild-to-moderately low IQ (intelligence quotient) and speak more slowly than normal youngsters. The extra chromosome can influence a person's cognitive ability and physical growth, resulting in mild to major developmental difficulties in children. It is also known to create other medical issues, such as cardiac and gastrointestinal problems.

Down syndrome is divided into three categories. Because the physical appearances and behaviors of each kind are so similar, people often can't identify the difference between them without looking at their chromosomes.

- Trisomy 21: Instead of two copies of chromosome 21, each cell in the body has three copies.
- Translocation down syndrome: When an extra part or whole of chromosome 21 is present, but it is joined to or translocated to another chromosome.

- Mosaic down syndrome: Mosaic refers to a mix or collection of things. Two copies of chromosome 21 are found in some of their cells.

Incidence and Prevalence:

Down Syndrome is the most common multiple anomaly disorder in humans, with a population prevalence of about one in every 1000 persons, however estimates vary. In the United States, down syndrome is the most frequent chromosomal abnormality. The variation in prevalence between populations, countries, or within the same population over time will be determined by the community's common risk factors.

According to the Down Syndrome Federation of India, the incidence of chromosomal defects in India is 1 in 166 live births. However, because India is one of the world's most populous countries, there is a higher incidence of down syndrome, which occurs in about 1 in 830 live births.

Every year, 23,000-29,000 children in India are born with Down syndrome. Only 44 percent of the 23,000 to 29,000 children born with Down syndrome in India each year survive.

Lima, Delgado, and Cavalcante (2017) sought to examine national scientific production on language and communication development in people with Down syndrome, as well as early intervention in this population. The terms ‘language,' ‘down syndrome,' and ‘language development' were used to search databases containing papers, theses, and dissertations. The findings revealed that there is agreement that children with down syndrome have a linguistic development loss when compared to children with typical development.; that there is more gestural production, which favors lexical acquisition, and that speech-language intervention is beneficial in language development in people with Down syndrome.

Causes:

The karyotype in 95% of cases reveals an additional full chromosome 21. The phenotype is caused by an asymmetrical translocation/mosaicism in the majority of instances. Down syndrome causes people to be infertile. Although the cause is unknown, it is known that women aged 35 and over have an increased risk of having a kid with Down syndrome.

Although it is uncommon, it is possible to pass down syndrome from one parent to the next. However, not everyone with translocation down syndrome is born with it; it can also occur by chance.

Characteristics:

Physical, cognitive, behavioral, academic, and vocational features are common in the down syndrome condition, yet each kid with down syndrome is unique.

Physical literature: (5-10 years)

i. Excessively lax joints and decreased or weak muscle tone (hypotonic) throughout the body.
ii. Excess flesh at the back of the neck due to a short neck
iii. A nose and a flattened facial profile
iv. The head, ears, and mouth are all little.
v. Eyes that slant upward, with a skinfold that protrudes from the upper lid and covers the inner corner of the eye.
vi. White dots on the coloured area of the eye, to name a few (called Brush field spots)
vii. Hands that are wide and short, with short fingers
viii. The palm of the hand has a single deep crease across it. A deep groove between the first and second toes.
ix. Arms and legs that are short and stocky.
x. A nose that is smaller than typical and has a flattened nasal bridge.

Cognitive literature: (5-10 years)

Cognitive impairment, or difficulties with thinking and learning, is frequent in persons with Down syndrome, and it can range from mild to severe. Down syndrome is only seldom linked to significant cognitive impairment. The following are some more prevalent cognitive issues:

Short attention span:

Children with Down syndrome struggle to stay focused on projects for long periods of time without becoming quickly distracted. This child may show these characteristics

more frequently than other children his or her age. 2012 (McBrien). In one study, researchers utilized questionnaire measures to show that children with down syndrome (4-9 years) had higher levels of inattention than typically developing children matched for nonverbal mental age (thus younger), but no higher levels of oppositional or hyperactive behavior. (Education for Down Syndrome, 2021).

Poor judgement:

People with Down syndrome lack the mental capacity to make decisions for themselves. Each decision that must be made must be carefully considered in terms of its complexity and whether or not that individual is capable of making it. (2019, Miller)

Slow learning Capabilities:

Down syndrome children experience impairments in speech and motor abilities, and they may require assistance with self-care tasks such as clothing and grooming. (Gavin et al., 2018). Important milestones such as crawling, walking, and talking take longer for children with Down syndrome. It may take longer for them to get dressed and use the toilet on their own as they get older. They may also require additional assistance in school with tasks such as learning to read and write, as well as following directions. (Moira, 2018).

Delayed language and speech development:

Overall, compared to usually developing peers, the development of speech and language skills is delayed. Many children with Down syndrome develop nonverbal skills like gesturing and signing before they can communicate verbally. The age at which children with down syndrome develop their first words varies widely, ranging from 1 to 5 years old. Children with Down syndrome can typically learn to communicate with signs or images far earlier (as early as 10-12 months of age) than they do with vocal speaking. (McCarthy, Engstler, & Skeldon, 2016).

Behavioral literature: (5-10 years)

While the number of compulsive behaviors in children with Down syndrome is comparable to that of typical children of the same age, the frequency and intensity of the behavior is frequently higher. Increased restlessness and concern might cause a child to act irrationally.

Sleep difficulties:

It is estimated that roughly half of all children with Down syndrome have sleep problems. These issues could be behavioural or physical in nature, such as obstructive sleep apnoea. During sleep, the walls of the throat relax and constrict or restrict the airway, leading a person's normal breathing to be disturbed.

Some kids may suffer from a complex mix of behavioral and physical sleep issues. Routines for bedtime and waking, going to bed when weary, falling asleep without parents, and avoiding excitement near bedtime are all important. Some of the factors that can help to reduce the risk of behavioural sleep issues. (Down's Syndrome Association, 2021).

Stubbornness and tantrums:

Many children with Down syndrome are frustrated for a variety of reasons. When frustration arises, many people find it difficult to relax and feel better. This has the potential to exacerbate behavioral issues. (Stein et al., 2010). Children with Down syndrome are frequently not dissimilar to children who are ordinarily developing. Temper tantrums, for example, are common in children aged 2-3 years old, but they can start as early as 3-4 years old in a child with Down syndrome (National Down Syndrome Society, 2021).

Delayed toilet training:

It has been observed that starting the treatment after the third birthday seems favorable for children with Down syndrome. Starting too early might lead to other issues, such as an increase in unwanted toilet-training behaviors and high levels of parental frustration. (National Down Syndrome Society, 2021).

Children with Down syndrome who were at risk for lower urinary tract dysfunction and delayed toilet training were studied by Powers, Brown, Hogan, Martin, & Roth (2015). Toilet training, continence status, symptoms of lower urinary tract dysfunction, and earlier evaluation of urological problems are all assessed using this questionnaire. The average age of reported toilet training completion in children with Down syndrome was 5.5 years, compared to 2.2 years in controls. Children with Down syndrome can face significant delays in toilet training and incontinence as a result. The first step in evaluating a child with down syndrome who presents with a behavior concern is to determine if there are any acute or chronic medical problems related to the identified behavior.

The following is a list of the more common medical problems that may be associated with behavior changes:

i. Vision or hearing deficits
ii. Thyroid functions
iii. Celiac disease
iv. Sleep apnoea
v. Anaemia
vi. Gastroesophageal reflux
vii. Constipation
viii. Depression
ix. anxiety

A primary care physician's evaluation is a crucial part of the initial work-up for children with Down syndrome who are experiencing behavioral issues. The behavioral issues that children with Down syndrome face are often similar to those that children with average development face. They may, however, appear later and remain a little longer.

When assessing the behavior of children with Down syndrome, it is critical to consider the individual's developmental age as well as his or her chronological age. It's also crucial to understand the level of a person's receptive and expressive language skills, because many behavioral issues stem from frustration with communication. Finding techniques to help the person with down syndrome speak more effectively can often solve behavior problems.

Common Behavior Concerns:

Wandering/Running off:

This would include having good locks and door alarms at home, as well as having a plan written into the IEP at school for what each person's job would be in the case that the child left the classroom or playground. A stop sign on the door or siblings asking permission to leave the house can serve as a visual reminder to a kid with down syndrome to ask permission before leaving the house.

Stubborn/oppositional behaviour:

A description of a child's behavior during a regular day at home or at school can sometimes assist in identifying an event that may have sparked non-compliance.

Oppositional behavior can be a person's way of expressing dissatisfaction or a lack of comprehension due to communication or language issues. When children with Down syndrome are faced with a tough assignment, they are often quite excellent at distracting their parents or teachers.

Attention Problems:

Down syndrome individuals can have ADHD, however they should be assessed for attention span and impulsivity based on developmental age rather than chronological age. Anxiety disorders, language processing issues, and hearing loss can all cause attention issues.

Obsessive/Compulsive Behaviours:

These can be basic; for instance, a toddler may always want to sit in the same chair. When not directly engaged in an activity, obsessive / compulsive behavior can present itself in subtle ways, such as dangling beads or wearing a belt. This form of behavior is most common in children with Down syndrome who are younger. While the amount of obsessive behaviors in children with Down syndrome is comparable to that of typically developing children of the same age. (National Down Syndrome Society, 2021).

Academic performance: (5-10 years)

While the children with Down syndrome showed continuous growth in reading accuracy, they made less development in reading comprehension, language, spelling, and memory. However, rather than phonological awareness, a measure of receptive vocabulary predicted reading in children with Down syndrome. Even when disparities in cognitive ability were taken into account, persistence at 4-6 years predicted academic achievements (reading, math) at 11-5 years in a study of 25 children with down syndrome.

Down syndrome students might have a wide range of abilities. They can learn and acquire new abilities at any time in their lives, but they will achieve their objectives at a different speed. Students with Down syndrome are frequently enrolled in regular schools and enjoy participating in a variety of educational activities with their peers. Encourage physical activity and participation in all school and extracurricular activities.

Many children with Down syndrome attend conventional schools and are able to

participate in regular classes. Some students require specialized instruction in areas where they struggle to learn. Their parents collaborate with teachers and others to devise a strategy for each child's learning. Down syndrome children enjoy their fun as well. They participate in sports and hobbies such as music and dance lessons.

Because their talents develop at a slower rate, the gap between the student and his or her peers may widen as they get older. Individual training, visuals to enhance understanding (e.g. sign language, picture symbols), and extended work time are all examples of supplementary supports. The majority of young children with Down syndrome can and do go to childcare centers, playgrounds, and preschools. Down syndrome children can attend regular schools.

In recent years, inclusive education for children with Down syndrome has progressed slowly but steadily. More children are being educated in their local school settings thanks to supportive legislation that helps schools offer the resources needed to satisfy special educational needs. According to some studies, providing suitable schooling in inclusive environments provides the best opportunities for children with Down syndrome. (International Down Syndrome Education Organizations, 2021).

Dolva, Lilja, and Hemmingsson (2007) looked at the relationship between functional performance skills and the age of entry into standard elementary school for children with Down syndrome. We examined functional performance using the Pediatric Evaluation of Disability Inventory in a cross-sectional study of 70 percent of 7-year-old children with Down syndrome in Norway (N = 43). (PEDI). The findings revealed that for a child with Down syndrome to be considered suitable for primary school, a particular level of development and independence appears to be required, and that judgments of school readiness may be culturally sensitive.

Vocational skills: (5-10 years)

Teenagers and young adults are assessed and taught for professions that are a good fit for their strengths. This enables children to be self-sufficient and achieve their greatest potential. (Romito & Pellegrino,2020). Vocational training is also offered to assist them in earning a living and being financially self-sufficient. (web solutions, 2020)

In general, there are 3 types of employment options available to individuals with down syndrome:

1. Open Employment
2. Supported Employment
3. Sheltered Employment

In open employment, the individual finds work in the community by responding to adverts or job posts or approaching businesses proactively, and works autonomously without the use of support services.

Supported employment is more frequent, and it involves an individual working in an integrated setting while receiving support from a trainer. Trainers accompany the individual to work so that he or she can learn the necessary job skills and ready to work independently.

Typically, the trainer works with the individual full-time at first, then reduces his or her involvement to just giving periodic support, such as visiting the job site to assist in training the individual for new assignments.

LANGUAGE:

Language is a system of traditional spoken, manual (signed), or written symbols through which human beings express themselves as members of social group and participants in its culture. Communication, identity expression, play, imaginative expression, and emotional release are its all purposes of language.

Components of Language:

Language is a complicated mix of various rule systems that can be broken down into three categories: form, content, and use.

The systems that connect sounds or symbols with meaning are known as syntax, morphology, and phonology. The use of component comprises pragmatics, while content includes meaning or semantics. Syntax, morphology, phonology, semantics, and pragmatics are the five basic rule systems present in language.

Syntax is a set of rules that governs the placement of words in sentences. At the word level, morphological rules determine structure. Which sounds may appear together,

how they will sound together, and where they may appear are all determined by phonological principles. Meaning and the interactions between meaning units are governed by semantic rules. It aids language users in distinguishing between sense and non-sense. Finally, pragmatics is a set of rules that govern the use of language. In communication, all of these rule systems are used at the same time.

Development of Phonology in Neuro-typical and Children with Down Syndrome:

Each language has its own set of speech sounds or phonemes, as well as sound combinations that are unique to that language. To produce words, phonemes, the smallest meaningful units of spoken sound, are joined in a certain way. The distribution and sequencing of phonemes within a language are governed by phonological principles. Distributional rules define which sounds can be used in different parts of a word. In English, the / or "ny" sound in ring, for example, may not appear at the start of a word.

A multitude of factors influence the phonological systems of Downs Syndrome children, which can lead to difficulty in recognizing and generating speech. In general, children with Down Syndrome produce words with the same phonological properties as children with regular development. Stop, nasal, and glide consonants are especially accurate, but fricatives, affricatives, and liquids are frequently incorrect.

In young people with Downs Syndrome, expressive language abilities are very challenging, and they are often worse than receptive language skills. Children with Downs Syndrome frequently make phonological errors during their school and pre-school years. Although the errors are similar to those made by ordinarily developing youngsters, inconsistency of errors may be a distinguishing feature of Down syndrome phonological impairment.

Acquiring the grammar and syntax of the language appears to be far more challenging for most children with Down's syndrome than learning lexical elements. The majority of youngsters with Down's syndrome experience distinct productivity delays.

Development of Semantics in Neuro-typical and Children with Down Syndrome:

Meaning is a method for classifying and categorizing reality into categories and units that group related objects, actions, and interactions together while distinguishing those that are dissimilar. Some units, such as walk and ride, are mutually exclusive. A

human can't perform both at the same time. Words or symbols do not represent reality; rather, they represent the beliefs or concepts of each language user about reality. It is linked to a number of experiences rather than a single one.

The vocabulary and pragmatics skills of children with Down syndrome are particularly strong. As they grow older, they often acquire a large and diverse vocabulary. They have good social skills and communicate efficiently via gestures and facial expressions.

Children also appear to learn new word meanings in a sequential manner. Those that allude to objects, events, or actions are the ones that children learn first. After that, kids appear to be learning adjectives and adverbs. In general, they learn a set of keywords that represent place and time, and then they focus on relationship words like as "her" and "their."

Development of Syntax in Neuro-typical and Children with Down Syndrome:

The form or structure of a sentence is governed by syntactic rules. They define sentence units based on word order. Syntax determines which word combinations are grammatically correct and which are incorrect. A noun and a verb must appear in each sentence. Around the age of 18 months, children begin to produce 2-word utterances. At this age, children are remarkably good at developing the correct syntactic shape. They don't make any mistakes by putting the modifier before a definite pronoun.

Children's utterances become longer and more complex as they go from simple two-word utterances. They add more specifics to their utterances, such as words and suffices, that were missing in their earlier utterances. They go from saying things like "more milk" at 12 to 18 months to saying things like "I want more chocolate milk" at 24 to 36 months. Most children's syntax is adult-like by the age of four, but language develops and refines throughout infancy and maturity. It refers to a language's grammatical characteristics. It is concerned with the sequence of words. Inflections and word-to-word relationships It has guidelines for putting words together to form sentences.

Many children make sentences of three or four words in length and combine these words in a variety of ways to produce grammatical constructs as early as two years of age. When converting two-word phrases into sentences, children appear to employ some tactics. Combining two two-word phrases and removing the common word is one method.

By the age of 10 or 12, the youngster will have mastered practically all of adult grammar, including passive voice understanding and expression. Passive voice comprehension and expression are developed around the age of twelve.

Syntax evolution is continuing in tandem with semantic development. The development of a child's vocabulary accelerates as soon as he or she utters the first word. During the first half of the second year, infants' vocabulary expands rapidly as they gain mobility and gain more information and experience with people, objects, and events. As people grow older and gain more experience, phrases evolve into increasingly complicated sentences. The increase in vocabulary learning is a crucial step that underpins semantic progress.

Down syndrome children have a strong desire to speak and interact with others. More challenging parts are syntax and morphology (which includes grammar, verb tenses, word roots, suffixes, and prefixes).

Learning to grasp and use more sophisticated grammar and syntax continues to be difficult, and most teenagers with down syndrome have relatively immature development. Anne Fowler does the research in this area (Fowler, 1990). She claims that while children with down syndrome can build up a vocabulary, they may struggle with language grammar and syntax, which they are unable to overcome, and that this may be a limit imposed by the genetic disease.

Development of Morphology in Neuro-typical and Children with Down Syndrome:

The study of morphemes is known as morphology. It refers to the study of a language's 'form.' What appear to be single forms (words) in many languages really comprise a higher number of similar word parts. Morphemes are the simplest, most basic, and most meaningful units of language. i.e. the tiniest unit of significance The majority of children with Downs Syndrome appear to have significantly more difficulties acquiring language grammar and syntax than lexical elements.

In Summary:

Most children with Downs Syndrome have distinct productive delays, beginning with the ability to pronounce single words and progressing to the ability to form word sequences. Downs Syndrome children develop at a slower rate than ordinarily developing

youngsters, and language skills are particularly tough for them. Furthermore, certain parts of speech and language development are delayed more than others. A profile of relative strengths and weaknesses is a term used to describe this trend. Spoken language development lags behind cognitive development in most children with Downs Syndrome; most children with Downs Syndrome develop spoken language skills slower than their nonverbal mental ability. As a result, they've been labelled with a distinct speech and language delay.

Good early communication skills: Most Downs Syndrome youngsters are eager to speak, and their early nonverbal communication skills are excellent. Making eye contact, taking turns, and so forth are examples of this (Sue, 1993).

Strength in learning vocabulary: Children with Down syndrome frequently learn to comprehend what early words mean at a rate that is consistent with their level of nonverbal knowledge (cognition). They do, however, take longer to learn to utter the words (production).

Difficulties speaking clearly: They usually speak in a childlike manner. They do not, however, progress to trying to pronounce words, preferring instead to utilize more gestures for longer periods of time than other toddlers with equal levels of understanding.

Development of Pragmatics in Neuro-typical and Children with Down Syndrome:

'Pragmatics is the study of how people use language in real-life settings, by genuine speakers and hearers' (Bates, 1974).

It can be defined as the deliberate use of words to communicate with others. Although this definition focuses on language, using language for social purposes entails much more, such as coordinating linguistic information with gestures, facial expression, eye gaze, and body posture, as well as using information from the physical, social, and affective context of the conversation to decide what to say, how to say it, and what another person's words mean.

Integration of present conversation with pertinent knowledge from earlier interactions with other participants, as well as previous events or entities mentioned in the current conversation.

Furthermore, typical children use a lot of deliberate language and rely on nonverbal behavior for situational assistance. As a result, becoming pragmatically competent necessitates skills and knowledge beyond those required for linguistic acquisition, such as memory skills, in-depth and well-organized knowledge of the social and physical worlds, as well as knowledge of the communicative process itself, the ability to flexibly integrate multiple sources of information from various modalities, and the ability to plan and recognize actions that are geared toward a specific goal.

Language acquisition necessitates youngsters learning far more than sound patterns, grammar, and vocabulary. Pragmatics is the study of language from the perspective of users, including the decisions they make, the challenges they experience when using language in social interactions, and so on. The age at which they appear has now been established. There are several parts of pragmatics, including:

i. expressing objectives for what we communicate,

ii. initiating, maintaining, and concluding a conversation,

iii. listening awareness, and iv. understanding the importance of situational context.

Between the ages of two and ten months, the kid maintains eye contact. The exchange of looks is employed to control behavior. The child expresses his demands by pointing to an object and vocalizing at the same time. When a youngster is between the ages of 10 and 16, he can make motions to give objects, point to things, and call caretakers' attention to the object he wants. During play, the child engages in nonverbal turn taking with adults. Intentions for semantics evolve. Rudimentary verbal abilities are visible throughout this level. The child responds to questions and expresses feelings. The child may be able to shift or change topics on occasion. All of them are observed for 18 to 30 months. Conversations are chaotic at the beginning.

They will be able to establish a discourse – the many methods of gaining and maintaining a listener's attention – between the ages of 3 and 4. Several other skills, such as turn taking, are improved. When asked, they begin to react appropriately by providing clarification. When speaking to a newborn, a child will be able to adapt his speech style.

Between the ages of four and five, a kid can comment on grammar and language. The child can provide synonyms and antonyms. The child's knowledge of the social variables that govern a successful discussion has grown significantly, including the correct

use of forms of address and politeness indicators, as well as the use of indirect requests. They will also be able to predict probable places of communication breakdown and fix them, such as repeating utterances to ensure clarity or asking for clarification.

Once a child reaches the age of five, he or she will be able to use language for aesthetic goals. They use a variety of persuasion techniques. They learn to make up linguistic games, tell jokes and riddles, insult each other, and retain group identity. The capacity to speak backwards is one of the most impressive of these abilities. Around the age of nine, this becomes increasingly advanced. Social experience is a big part of how kids gain these skills. Pragmatics might take up to 14 years to form (adolescence).

The pragmatic profile in Down Syndrome is defined by regions of relative strength and weakness that change with age, reflecting both changes in the domains of competence that underpin pragmatic behavior and the dynamic nature of societal communication demands on the individual. Wherever possible, we summarize the status of our understanding about various elements of the syndrome's behavioral phenotype in this section.

Pragmatic Development in children with Down syndrome in Pre-Linguistic Period

Children that are typically developing begin to communicate intentionally around the age of 9 months, around 2 to 3 months before they use their first words. To communicate their goals to others, typical toddlers employ a variety of eye gaze, gestures, and non-verbal vocalizations. To make a request for an object, but the onset of such purposeful communications is delayed in Down Syndrome.

As a result, they make fewer requests, especially instrumental requests, which are aimed to control another's behavior, than developmental level-matched ordinarily developing peers or even cognitively matched individuals with intellectual disabilities from other causes. Although less delayed than in requesting, children with Down syndrome are similarly delayed in the frequency and maturity of form of their comments, i.e. attempts to draw a partner's attention to something noteworthy in the environment, when compared to developmentally matched typical children.

In order to engage in purposeful acts of communication like requesting and commenting, a number of interconnected precondition achievements and behaviors must be in place, each of which presents its own set of problems for children with Down Syndrome. The capacity to utilize a variety of gestures, including pointing, is also required for intentional communication. Gesture use appears to be an area of relative strength for children with DS, although being delayed in comparison to their usual age counterparts. In fact, research has revealed that children with DS make more motions than their typically developing peers. It's possible that the difficulty in learning spoken language encourages a greater dependence on, and development of, gestures.

Progress in the realm of pre-linguistic intentional communication requires cognitive breakthroughs as well. For both children with ID, including DS, and normally developing children, development in commenting and requesting has been linked to the formation of concepts about things and the informal links between actions and consequences.

Whatever the cause, children with DS's delays in pre-linguistic purposeful communication may have a little part in their later linguistic communication delays. We require knowledge of social appropriateness, as well as understanding of form and substance, to communicate effectively. Pragmatics, or language use, is concerned with discourse or conversational skills because language is largely used in conversational skills. The way and what the speaker chooses to say, as well as how it is interpreted, is determined by the context of the conversation.

Pragmatics norms control the order and coherence of discussions, the correction of errors, and the role and intents of participants. Turn-taking, beginning, maintaining, and terminating a discussion, establishing and keeping a topic, and making relevant contributions to conversations are all examples of conversation organization and coherence. Giving and receiving comments is part of the repair process. Establishing and maintaining a role, as well as switching linguistic codes for each position, are examples of role skills. Finally, the speaker's objective and the communicative situation are used to code intentions.

Pragmatics Development in Down Syndrome in Linguistic Period:

During the pre-linguistic period, there is evidence of pragmatic issues in children with DS. These issues persist in the language period; however, some aspects of pragmatics are more difficult for people with DS than others.

At least when engaging with parents or other competent adults, children with DS communicate the same intents through language and at the same rates as younger, typically developing children at similar developmental levels. Answering (answering yes/no questions) is the most prevalent purpose expressed by preschoolers with DS, which reflects their passivity in dialogue with adults. These findings show that once children with DS start speaking, they see language as a means of expressing the same types of social goals as generally developing children at similar developmental stages.

They show significant pragmatic weaknesses, especially as they get older and are confronted with situations in which knowledge must be transmitted regarding increasingly abstract or nonexistent entities and occurrences. Although performance in the non-face to face test was linked to a measure of expressive language ability (vocabulary and grammar), the pragmatic difficulties of speakers with DS also revealed a lack of comprehension of basic principles of informational adequacy in linguistic interaction.

Although there are some areas of pragmatics where people with DS have particularly severe impairments, there are other areas where they outperform people with neurodevelopmental disorders. As a group child with DS, for example, verbal perseveration (excessive number of statements on the same topic) is uncommon. (Scott, 1998).

Mancini, Silva, Gonçalves, and Martins (2003) compared the functional performance of Down's syndrome (DS) children of 2 and 5 years of age with that of normally developing children (ND). Forty youngsters (n=10) were divided into four groups: The functional test PEDI, which quantifies children's performance (skills and independence) in three domains: self-care, mobility, and social function, was used to evaluate 1) children with DS with 2 years of age; 2) children with DS with 5 years of age; 3) normal children with 2 years of age; 4) normal children with 5 years of age. At two and five years of age, the results show the areas of performance where DS children's delays were functionally manifested. The data showed that the observed group differences were influenced by age, and that they changed over time.

Hage, Resegue, Viveiros, and Pacheco (2007) looked examined the profile of pragmatic abilities in early children without modifying their language to see if there were any significant differences in these abilities when socioeconomic status was taken into account. 30 children aged 36 to 47 months, from public and private early childhood education schools with low, medium, and high socioeconomic status populations, 30-minute semi-structured interaction between child and evaluator recorded on VHS tape. The results demonstrated that children respond/maintain conversation more than they initiate it, according to a review of their conversational skills profile. Children from various socioeconomic levels' pragmatic ability may be hampered by sociolinguistic factors.

Porto, Limongi, Santos, and Fernandes (2007) is to determine the best sample size and moment of filmed interaction to research children with Down syndrome's pragmatic abilities. The communicative characteristics of 25 Down syndrome children aged 2 to 7 years was assessed. There were no significant variations between the samples produced with varied videotaped durations for pragmatic study of communication of children with Down syndrome, according to the findings.

Johnston and Stansfield (2007) aim was to compare parental perceptions of six pre-school children with Down's syndrome to those of six children without cognitive disability in terms of pragmatic skills. On the Reynell Developmental Language Scale, they were matched for language comprehension age, and their parents were interviewed using a pragmatics profile of early communication skills. Children with and without Down's syndrome displayed significant similarities in reported behaviors and responses, according to the findings. When compared to children with similar levels of comprehension functioning at an early pre-school level, children with Down's syndrome exhibit a normal range of pragmatic skills and communication goals.

Cunha and Limongi (2008) wanted to see how children with Down syndrome performed in terms of their communicative profile (verbal, oral, and gestural) in a play environment and a spontaneous encounter with an adult. In two separate play contexts, 28 children with Down syndrome were evaluated. The results revealed that verbal communication is the most commonly employed socially, that play situations with caregivers are the most effective, and that gestural communication is mostly used during interactions with therapists.

Soares, Pereira, and Sampaio (2009) look into pragmatic talents and how they affect communicative use in Down's syndrome patients. The pragmatic evaluation (ABFW). Ten children and adolescents, both male and female, aged seven to thirteen, took part in the study. The communications functions, communication means (vocal, gestural, or linguistic), and communicative acts were used to examine the behavior patterns. A free play environment with a family member was used to collect data. The verbal and gestural communication methods, as well as the remark and narrative functions, were the most commonly used by the participants, according to the findings. Mothers were accountable for only 10% of the communication direction, which was mostly carried out by the children and adolescents who participated in the study.

Cunha and Limongi (2010) wanted to see if environmental and contextual variables had an impact on pragmatic components of language in Down syndrome children's interactions with caregivers and therapists, and compare their performance in both contexts. The study included 15 children with Down syndrome, ranging in age from 4 to 6.11 years. The findings revealed that the socioeconomic and educational status of the caregivers may be risk factors for the development of pragmatic aspects of language in children with DS. These children were able to establish and maintain conversation in a comparable manner, using communicative means and functions.

Amato and Fernandes (2011) analyzed and discussed of communicative development since the pre-verbal period. The data was analyzed and synthesized in reference to pragmatics elements of 6 participants from the first to the 36th month of life. The results showed that the verbal mean has increased in frequency since the 30th month, but the gestural mean is still responsible for an important part of communication initiated by the child, and that infants seek interactivity from birth and that the quality and quantity of their communication abilities improve with age.

Pereira and Oliveira (2015) looked into how family life affects children with Down syndrome's communicative abilities. The “features of home environment” questionnaire was used, as well as a pragmatic study of children with DS communication. Thirty children of all genders, ranging in age from five to ten years, took part. The results revealed that there was a correlation between the items on the questionnaire and the results of the pragmatic analysis in terms of communicative methods and communicative functions.

Garcez and Moraes (2015) evaluated language using the ABFW technique to study and link the lexical and pragmatic ability of children with DS with similar elements in typical language development. It involved ten children who were divided into two groups: five children with DS who were assigned to the integrated GDS group, and five typically developing children who were assigned to the control group (CG). Children were matched chronologically between the ages of 6-7 years and enrolled in both APAE and regular school. Youngsters with Down syndrome had more difficulties in the vocabulary exam than children with usual development, according to the findings. As playing in a pragmatic test, both groups displayed equal amounts of communicative acts and domain interaction, although GDS' communicative actions were largely vocal and gestural when compared to CG's.

Smith, Naess, and Jarrold (2017) investigated the nature of pragmatic skill in DS children. Initiation, Scripted language, understanding context, and Nonverbal communication were examined in 29 DS children aged 6 years. According to the children's communication checklist 2, as reported by their parents. The researchers looked into the relationship between pragmatics and measures of language, nonverbal mental capacity, and social functioning. In all areas of pragmatics, children with DS were impaired in comparison to norms from typically developing children. In comparison to other areas of pragmatics examined in these youngsters, nonverbal communication was much greater, whereas understanding context was significantly worse.

Lee, Bush, Martin, Barstein, Maltman, Klusek, and Losh (2017) employed parent report, standardized, and direct assessments to look at pragmatic language in boys and girls with down syndrome (DS) up to 3 points. On parent reports and standardized tests, DS had more difficulties than younger typically developing controls, but only girls with DS differed on direct assessments. Individuals with DS obtained additional pragmatic abilities at a slower rate than controls.

Assessment of pragmatics:

All people with Down syndrome should have their pragmatics skills evaluated to see where they stand in terms of identifying their strengths and weaknesses in social situations. To establish whether they have components of language such as the ability to communicate in a certain context or with different individuals, the assessment should take

place in a number of settings such as classrooms, peers, at home, or in the community. It is critical to recognize that a child with Down syndrome has linguistic skills.

In general, pragmatics profiles are examined using a variety of techniques that include both formal and informal forms. Pragmatics is made up of three primary language skills that must be assessed. Communication objectives, engagement (shared attention to an object, person, or issue) are examples. - beginning verbal conversations and responding to others initialize.

Clinical Assessment of Pragmatics (CAP), Comprehensive Assessment of Spoken Language-2 (CASL 2), Test of Language Development (TLD), Clinical Evaluation of Language Fundamentals–5 (CELF), and Pragmatics Profile of Everyday Communication Skills are some of the techniques used to test pragmatics (PPECS). We employed the Pragmatics Profile in Everyday Communication Skills in down syndrome children aged 5 to 10 years in our review of the literature. This was utilized to evaluate their ability to think pragmatically. Pragmatics Profile in Everyday Communication Skill in children (PPECS) (Dewart & Summers, 1995).

The view that traditional approaches to therapeutic therapy on speech and language issues in early children need to be reinforced with a perspective on children as communicators in everyday encounters was the original inspiration for the development of the Profile. Traditional assessment methods, such as standardized testing and observations of interactions in clinical settings, can only provide a limited picture of how children communicate their needs and wishes, as well as how they deal with the variety of communicative situations and conversational partners they will encounter throughout the day.

We feel that the manner in which a kid communicates outside of the clinic are critical and should be the focus of intervention for children with communication problems. We've also been influenced by recent advances in kid language study. Recent research has concentrated on a topic that has been overlooked in the past: pragmatics, or the study of language in its context of use. A pragmatic approach to child language places an emphasis on how communication is accomplished. It examines how language is used to convey a wide range of intentions, to respond to the listener's communication demands and to participate in discussion and related discourse (Scott, 1998).

The pragmatic approach has a lot to offer the field of speech and language pathology, and it's already influencing research and practice (Prutting, 1982; Gallagher and Prutting, 1983; Roth and Spekman, 1984a and 1984b; McTear and Conti-Ramsden, 1992; Smith and Leinonen, 1992; Craig, 1995). 'We predict that this pragmatics approach will not be just another addition to our evaluation techniques, but that it will shake the very foundations of how we have been approaching children with language problems,' Lund and Duchan (1983) said, and we agree: 'We predict that this pragmatics approach will not be just another addition to our evaluation techniques, but that it will shake the very foundations of how we have been approaching children with language problems.

Our belief that we can study children's language by giving them controlled stimuli like sentences to imitate or formal tests will be called into doubt. Our assumption that clinic language is the same as outside clinic language will be called into question. As data from pragmatics research become available, our hope of measuring a child's language skills in one context in a two-hour diagnostic session will be dashed.

The Profile is a tool for examining communication in any child, whether or not he or she has communication problems, and regardless of whether those problems are caused by developmental delays, hearing loss, physical or learning disabilities, specific language impairment, or other circumstances. We also plan for this investigation to serve as a foundation for intervention with the purpose of enhancing the child's communicative abilities in all contexts and for all tasks in everyday life.

We choose to concentrate on three important areas of pragmatic growth. The first is the development of communication functions, which is the process by which a kid learns to express a variety of intentions, such as requesting, greeting, and providing information, through a variety of communicative behaviors such as gesture, vocalization, and language. The child's response to communication, or how the child reacts to and interprets communication from others, is the second factor to consider. The kid's participation in interaction and discourse is the third feature, which looks at the child as a participant in social interactions involving initiation, turn-taking, and repair. We also looked at how variables in context, such as time and place, and the persons involved, alter the manifestation of various facets of pragmatics.

The purpose of the Profile is to provide a broad overview of the child's communicative talents and requirements. Although we did not attempt to cover every aspect of pragmatic development, the Profile does provide information on a wide range of topics, including the range and form of communicative intentions expressed, response to communications, manner of conversation participation, and the impact of situational context on a child's communication skills.

The method emphasizes the value of parents' contributions and acknowledges them, Caregivers and teachers can contribute to the examination of children's language development as well as intervention planning and implementation.

Parents, on the other hand, have vital information on their child's communication skills because they interact with him or her on a regular basis and have shared communication experiences. Parents, in our experience, will offer information about their child's present behavior if asked respectfully.

Bates (1993) contends that parents' reports are more valuable than observational and laboratory-based studies of children's early language. 'After all, parents are with the infant in a variety of contexts, including all those very predictable routine settings where early words are born (e.g. feeding, bathing, and going to bed),' she says.
Teachers' knowledge about the child in the classroom and the specific types of communication tasks that occur within the school can be studied when they are interviewed. As with parents, conducting a Profile interview with teachers can help them work together more effectively and gain a better knowledge of each other's perspectives.

The Form of Questioning:

The questions in the Profile are based on real-life events and experiences that parents, teachers, and others may relate to. Each question's wording has been carefully chosen and tested. We needed to make sure that each question guided responders to the correct part of communication. Simultaneously, the questions had to be written in a way that was easy to comprehend and didn't sound professional or stilted when uttered by the interviewer. We tried to make the questions relevant to every child's experience, regardless of whether or not he or she had challenges. Though they are likely to arise in the course of an interviewee's descriptions, the questions were not designed to focus on communicative

issues or problem behaviors. We avoided looking backwards in time and instead concentrated on the child's current behavior.

Qualitative approach:

The approach we used in designing the Profile was motivated by our strong belief in the usefulness of qualitative, descriptive data alongside quantitative data. Language assessments that are standardized and provide norm-referenced scores and are based on measures of language form and structure have made a significant contribution to the objective research of language performance. A score resulting from such a test, on the other hand, provides little or no insight into how a person's language issues effect their day-to-day communication.

As a result, the Profile's conclusions are presented in descriptive rather than numerical form. Other approaches and analysis can be used to supplement and extend the descriptive overview.

The Profile consists of two structured interviews, one for children aged four to ten years old and the other for older children aged five to ten years old. A set of questions is asked during each interview. Each question provides a list of alternative responses in the form of examples, which should only be used to prompt interviewees if they are having trouble answering. Answers are written in the area provided beneath each question. Each interview is divided into four portions, with the fourth section shared by both. The sections are as follows:

Section A: Communicative Functions
Section B: Response to Communication
Section C: Interaction and Conversation
Section D: Contextual Variation.

The subjects covered in each section are listed in detail under ‘An Outline of the Structure' at the start of each Profile.

The youngster can express a variety of communicative functions in Section A. In the pre-school version, for example, there are questions concerning how the kid expresses

desires, such as requests for an object or action. The school-age version addresses requests as well, but concentrates on the types of requests that older students should be aware of, such as requests for information and aid.

Section B looks into how the youngster reacts to and responds to other people's communication. For example, questions about the child's understanding of direct requests are asked in the pre-school form, whereas questions about indirect requests are addressed in the school-age version.

The way the youngster interacts with others and engages in a discussion is covered in Section C. This engagement isn't always verbal; it can also take the form of a variety of body gestures and behaviors. Questions focus on how contacts are started, maintained, and ended, as well as how conversations might be restored when they break down.

Section D looks at how a child's communication changes based on the situation. It inquires about various locations, people, times of day, and things that the youngster enjoys discussing. We believe that the same questions can be applied to both age groups in this area.

The interviews are supplied at the end of this manual so that you can record your comments and, if necessary, include them in your case notes. The Profile's structure and the issues covered in each section, as well as a cover sheet and a Summary Sheet, are all included. Users are given brief instructions at the start of the interviews.

The Profile is not, and is not meant to be, a standardized measure, unlike most of the techniques to language assessment that are routinely utilized. We came to the conclusion that measurement is not always useful or meaningful in the study of an individual's ordinary communication exchanges. The setting in which communicative behaviors occur, as well as the people involved, have a big impact. Our decision to take a descriptive, qualitative approach corresponded to a growing trend in psychology toward acceptance of qualitative research methodologies (Robson, 1993), Eastwood (1988) used it in speech and language therapy, as well as in education and health research. We feel that a descriptive approach based on information from persons who are familiar with the child might be quite useful, at least as a starting step in investigating pragmatics. It can provide access to information not available from standardized testing as a clinical and research tool.

We first prepared a series of questions based on the literature on pragmatic development and our personal experience of young children's everyday communication when preparing the interviews for both the pre-school and school-age versions. These questions were piloted by speech and language therapists, and the interviewees' responses, as well as the therapists' reactions to the usage of the Profile, were then fed back to us. We then changed the questions and reorganized the format of the Profile in light of this knowledge.

Students from the Central School of Speech and Drama and City University carried out a number of small-scale research projects for the pre-school version, providing us with systematic feedback on responses given to each question by normally developing children and children with a variety of impairments (including language delay, cerebral palsy, hearing impairment and autism).

A number of specialist and experienced speech and language therapists around the UK offered to pilot the draught Profile with a wide range of clients whose difficulties ranged from hearing impairment to severe physical and learning disabilities in the case of the school-age version of the Profile. Their reports, as well as those from a small number of student projects, were useful in designing the final version.

Because the Profile takes a descriptive, qualitative approach rather than a quantitative one, reliability and validity must be treated differently than with traditional quantitative methodologies (Dey, 1993; Robson, 1993). Correlations with scores on other exams or scales, for example, do not establish validity. The content of the Profile is valid because it is based on research in the field of pragmatics.

The usage of the Profile with a single child is used to determine reliability and validity. The consistency of an interviewee's responses should be checked in informal methods, such as by asking the same question again afterwards. Because each interview's findings are based on one person's perspective, validity is a concern, by acquiring information from various sources, the user should strive to validate the responses. Interviewing someone else, such as the other parent, a teacher, or a crucial worker, can be one of these sources. Other ways to assessment in the field of pragmatics, such as naturalistic or organized observation or conversational analysis, can also provide sources.

When two people who know the child are interviewed separately, it's crucial to remember that variances in their reports don't always mean the Profile responses aren't trustworthy. Differences may occur as a result of their distinct approaches to observing and responding to the child, or because the youngster acts in two distinct ways in two different situations. In reality, discrepancies across respondents' narratives can be quite instructive, and the Profile's capacity to highlight these discrepancies is one of its strongest assets.

Who will find the Profile useful?

The Profile is intended for use by anyone with a professional interest in language and communication development. Speech and language therapists, educational and clinical psychologists, health visitors, and child development teams have all used it since it was first published. Teachers with a strong interest in language development in both mainstream and special educational settings, as well as those working with children whose home language differs from the school's, have used the Profile extensively. The Profile has also been used in a number of research projects involving children's language.

To which children is the Profile relevant?

The Profile's main strength is that it can be used to explore communication in a wide range of children, regardless of whether or not they have developmental issues. It's been used to look into communication in kids with delayed language development, specific language impairment, hearing loss, vision loss, physical impairments, and learning disabilities, including severe and profound disabilities. It applies to youngsters who are nonverbal as well as those who communicate using words. It can be utilized with the assistance of an interpreter if necessary, which has been found to be highly effective for children whose home language is different from their school language, to explore language use by children of any culture.

What age-range does the Profile cover?

The pre-school edition of the Profile was created with infants and pre-school children in mind. This portion of the Profile can be used to investigate children's early communication from a pre-verbal stage of development to a time where the kid is able to convey wants and intentions using basic and complex words and have simple conversations. The school-age version expands the age range to include children from the age of four to about 10.

preschoolers: ages 0 – 4 years.

school-aged children: 5-10 years.

The interview will be focused on the child's present communication behavior. The interviewee, on the other hand, may want to bring up a previous instance of the child's communication. This data can aid in determining the child's developmental growth. The Profile's focus on the family's day-to-day activities may lead to parents wanting to explore other aspects of their kid and family, and it is up to the interviewer's choice whether or not it is appropriate to pursue them – either at this time or after the Profile interview is completed.

Recording responses

On the papers, the interviewer should jot down responses. The interviewer will have space to write down the interviewee's response to each question. The applicable answer may be ticked if the response conforms to one of the examples mentioned; nonetheless, it is preferred to maintain a record of responses in the interviewee's own words.

Summarizing the Profile

Responses When the purpose of the interview is to identify priorities for intervention, the Summary Sheet that appears at the beginning of the Profile part can be used to assist synthesize the main findings of each section and to indicate priorities for intervention. The Summary Sheet has space for summarizing each section of the Profile. The interviewer can use the summary spaces in Sections A, B, and C to keep track of the child's communication in each section. The summary section for Section D can be used to note how the child's communication varies depending on communicative situation. The summary can be used to record any general points that occur.

Implications for Intervention

The Profile's main goal is to provide information and insights that can be used to plan and implement interventions with the child, his or her family, teachers, and other caregivers. The purpose of such an intervention is to improve the child's linguistic abilities so that he or she can fully engage in society. The Profile promotes collaboration and understanding between professionals and important people in the child's life. This kind of cooperation and understanding can help a lot with the child's communication growth.

The user of the Profile acquires a better insight of the child's and family's daily lives outside of the professional setting. Knowledge is obtained regarding how and with whom the child communicates, as well as the communication options accessible. Aspects of the cultural background and way of life frequently surface. This information can be useful in recommending ways to improve the child's communication skills while avoiding ideas that are impractical or contradict the family's cultural norms.

Many more ideas will be created by families, teachers, and others working with the kid as a result of using the Profile and planning intervention. This technique to boosting a child's speech is based on the use of real-life circumstances and everyday interactions. The objective is to help individuals around the kid to communicate in such a way that the child's daily interactions become more successful and enjoyable to all parties involved, rather than to remove the child from everyday contacts for therapeutic input.

Conclusion:

Down Syndrome is a chromosomal disorder caused by an extra chromosome 21 due to a chromosomal mistake during cell division. Down syndrome can have an impact on a person's cognitive abilities and physical growth, as well as causing mild-moderate developmental disorders and an increased risk of certain health conditions. Around one in every 700 pregnancies results in Down syndrome. 2017 (Crosta). Physical, cognitive, behavioral, vocational, and academic features are all present in this syndrome.

Speech-language pathologists face a challenging and complex job when evaluating pragmatic language skills. Because of the nature of pragmatics, creating standardized exams that truly capture the essence of social communication is nearly impossible. There are no reliable and valid standardized pragmatics exams for the pre-school population at this time. However, in order to comprehend a child's linguistic competency, pragmatic development must be assessed. In that research and a guide to be utilized in assessing pragmatics in children have well documented the development of pragmatics in pre-school and school-aged children.

Need for the Study:

Typical children develop verbal or non-verbal pragmatic skills between 1 and 5 years. However, it is not known if children with Down syndrome with MA of approximately 4 years also follow a similar developmental profile for the verbal or non-verbal pragmatic skills. Hence there is a need to assess the pragmatic skills in children with DS between 5-10 years of age using PPECS (1995).

CHAPTER 3

METHOD

Aim:

The aim was to profile the pragmatic abilities of 5 to 10 years old children with downs syndrome using the PPECS.

Objective:

To administer The Pragmatics Profile of Everyday Communication Skills in Children (Hazel Dewart & Susie Summers, 1995)

Participants:

10-20 children with Downs Syndrome with age range from 5 to 10 years was selected for the study in special schools, day care and homes.

Inclusion Criteria:

1) Children with age range 8-10 years
2) Children with Moderate – Borderline category of down syndrome.

Exclusion Criteria:

1) Children with non-Co morbidities
2) Children with no other syndromes.

Materials:

The Pragmatics Profile of Everyday Communication Skills in Children (Hazel Dewart & Susie Summers, 1995) (Appendix 1)

Different parameters used for pragmatics are:

A. Communicative functions
    1. Attention Directing
    2. Requesting
    3. Rejecting
    4. Greeting
    5. Self-expression and Self-assertion

6. Naming
7. Commenting
8. Giving information

B. Response to Communication

9. Gaining Child's attention
10. Interest in interaction
11. Understanding of gesture
12. Acknowledgement of previous utterance
13. Understanding of speaker's intention
14. Anticipation
15. Responding with amusement
16. Responding to 'No' and negotiation

C. Interaction and Conversation

17. Participating in interaction
18. Initiating interaction
19. Maintaining an interaction or conversation
20. Conversational breakdown
21. Conversational repair
22. Request for clarification
23. Terminating an interaction
24. Overhearing conversation
25. Joining a conversation

D. Contextual variation

26. Person
27. Situation
28. Time
29. Topic
30. Books as a context for communication
31. Use of language in play
32. Peer interaction
33. Compliance with social conventions

Assessment of Language Development (Lakkanna, Venkatesh & Bhat, 2008) (Appendix 2)

PROCEDURE:

Conversation samples were recorded from all the children in the special school, day care and homes.

Experimenter visited the child in the special school, day care and homes in Kottayam. The experimenter explained the purpose of the study to the parents/caregivers of the child. A consent letter was obtained from the parents/caregiver were willing to participate in the study. Following this, a case history will be obtained/gathered from the parents/caregivers. The Pragmatics Profile of Everyday Communication Skills was administered through telephonic interview and through direct observations of the child through video calls. This information was supplemented with video clips by the parents/caregivers.

The data was analyzed and tabulated, then subjected to descriptive statistics.

CHAPTER 4

RESULTS

Aim:

The aim is to study the pragmatic abilities of 5 to 10 years old children with down's syndrome.

The results are discussed below.

Table 1

Shows the demographic data of the participants

Sl No	Code	Age (years)	Gender	A. C. F			B. R. C			C. I & C			D. C V			Total Score (264)
				V (48)	G&V (32)	G (16)	V (30)	G&V (14)	G (7)	V (27)	G&V (18)	G (9)	V (27)	G& V (18)	G (9)	
1.	1F	10	F	33	10	0	18	6	0	15	1	1	12	8	0	104
2.	1M	6	M	6	20	5	18	8	0	9	12	0	9	10	0	97
3.	2F	8	F	9	8	11	9	6	4	0	1	7	0	14	1	70
4.	2M	10	M	3	8	12	0	8	6	3	8	4	0	10	2	64
5.	3F	6.5	F	9	18	5	6	14	1	6	12	1	3	12	0	87
6.	3M	10	M	51	0	0	15	8	1	3	14	3	3	10	2	110
7.	4M	10	M	30	8	3	15	6	2	3	10	3	14	3	0	97
8.	4F	6	F	9	20	4	6	6	5	0	8	5	9	10	0	82
9.	5M	10	M	24	8	5	15	2	5	6	10	2	0	16	0	93
10.	5F	8.5	F	24	12	3	6	8	4	3	4	6	0	4	6	74
11.	6M	8	M	12	8	9	3	2	8	9	6	3	6	12	0	78
12.	7M	6	M	21	12	3	3	8	6	3	4	6	9	4	3	82
13.	7F	8	F	30	2	6	3	12	3	3	10	3	3	12	2	89
14.	8M	7	M	27	6	5	3	4	6	3	4	6	0	4	4	72
15.	8F	6	F	6	20	5	6	4	6	0	4	7	6	10	1	75
16.	9M	5.5	M	27	14	1	0	6	7	0	4	7	0	8	4	78
17.	10M	6.5	M	24	6	5	6	10	2	3	4	6	3	8	3	80
18.	10F	7	F	15	18	2	3	12	3	6	6	4	3	10	3	85
19.	11M	9	M	30	8	3	9	8	3	3	6	5	12	6	1	94
20.	12M	8	M	30	14	0	12	12	0	0	10	4	3	16	0	101
Mean		7.8		21	11	4.35	7.8	7.5	3.6	3.9	6.9	4.15	4.75	9.35	1.6	85.6
SD		1.60		12.11	5.92	3.32	5.79	3.30	2.47	3.78	3.74	2.13	4.59	3.815	1.80	12.32

Short Abbreviations:

Abbreviations	Full forms
LMC	Lower middle class
UMC	Upper middle class
ULC	Upper lower class

URT	Upper respiratory tract
GER	Gastro esophageal reflux
V	Verbal
G+V	Gesture & vocalization
G	Gesture
NR	No response
P.N	Post-natal
W	Age at which child started walking

From Table 1 we see:

- The mean age of the participants was 7.8 years (SD=1.6)
- The mean RLA was 4.08 years (SD=0.56) and ELA was 3.58 years (SD=0.89)
- The mean of age at which the child started walking was 2.58 (SD= 0.61)
- The mean of the verbal responses on PPECS was 35.7 (SD= 15.63)
- The mean of the gestural and vocalizations response on PPECS was 34.4 (SD= 10.31)
- The mean of the gestural response on PPECS was 13.6 (SD= 6.92)
- The mean of no responses was 1.1 (SD= 0.78)
- The overall mean score was 85.30

Table 2

Shows verbal, gestural and vocalization and gestural responses for communication function, response to communication, interaction and conversation and contextual variation by the participants.

SL No.	Code	Age (years)	Gender	ALD (years)		P.N	W (years)	SES	V (132)	G & V (88)	G (44)	NR (0)	Total Score (264)
				RLA	ELA								
1.	1F	10	F	4.5	3	Flu	2 ½	LMC	72	26	1	2	99
2.	1M	6	M	5	5	Tonsillitis	4	UMC	42	50	5	1	97
3.	2F	8	F	4	3	Allergy.	3	UMC	18	30	23	2	71
4.	2M	10	M	3.5	2	Asthma.	4	LMC	6	34	24	2	64
5.	3F	6.5	F	4.5	3.5	URT	2	UMC	24	56	7	2	87
6.	3M	10	M	5	4.5	Wheezing	2	UMC	72	30	3	1	105
7.	4M	10	M	4.5	4	Sinusitis	2	LMC	42	36	8	1	86
8.	4F	6	F	3	2.5	Rhinitis	2 ½	ULC	24	44	14	1	82
9.	5M	10	M	4	3	Fever	3	UMC	45	36	12	1	93
10.	5F	8.5	F	3.5	4	Dyspnoea	2 ½	UMC	33	28	19	1	80
11.	6M	8	M	4.5	2.5	URT	2	LMC	30	28	20	1	78
12.	7M	6	M	4	3.5	Allergy.	2 ½	LMC	36	28	19	0	83
13.	7F	8	F	4	3.5	URT	3	UMC	39	36	14	0	89
14.	8M	7	M	3.5	3	Wheezing	2	LMC	33	18	21	3	72
15.	8F	6	F	4	4.5	Dyspnoea, rhinitis.	2 ½	LMC	18	38	19	1	75
16.	9M	5.5	M	3	2.5	URT	2 ½	UMC	27	32	18	1	77
17.	10M	6.5	M	4.5	4.5	GER	2	ULC	36	28	17	1	81
18.	10F	7	F	4	3.5	Tonsillitis, rhinitis.	2 ½	UMC	27	46	12	0	85
19.	11M	9	M	4.5	5	Allergy	3	LMC	54	28	12	1	94
20.	12M	8	M	4	4.5	URT	2	UMC	45	52	4	0	101
Mean		7.8		4.08	3.58		2.58		35.7	34.4	13.6	1.1	85.30
SD		1.60		0.56	0.89		0.61		15.63	10.31	6.92	0.78	10.03

Short Abbreviations:

Abbreviations	Full forms
V	Verbal

G+V	Gestural & vocalization
G	Gestural
SD	Standard Deviation
C.F	Communicative Function
R.C	Response to Communication
I & C	Interaction & Conversation
C.V	Contextual Variation

From Table 2 we see that for section A Communicative Functions on PPECS:

- The mean of the verbal responses is 21 (SD= 12.11)
- The mean of the gestural and vocalization response is 11 (SD= 5.92)
- The mean of the gestural responses is 4.35 (SD= 3.32)

For section B Response to Communication on PPECS:

- The mean of the verbal responses is 7.8 (SD=5.79)
- The mean of the gestural and vocalization response is 7.5 (SD=3.30)
- The mean of the gestural response is 3.6 (SD= 2.47)

For section C Interaction and Conversation on PPECS:

- The mean of the verbal response is 3.9 (SD= 3.78)
- The mean of the gestural and vocalization response is 6.9 (SD= 3.74)
- The mean of the gestural response is 4.15 (SD= 2.13)

For section D Contextual Variation on PPECS:

- The mean of the verbal response is 4.75 (SD= 4.59)
- The mean of the gestural and vocalization response is 9.35 (SD= 3.81)
- The mean of the gestural response is 1.6 (SD= 1.86), Overall mean score: 85.6

DISCUSSION

The aim of the study was to profile the pragmatic abilities of children with Down Syndrome in the age range of 5 to 10 years using the Pragmatics Profile Everyday Communication Skills (Dewart and Summers, 1995). The results show that the children with down syndrome largely employed verbal means to communicate with familiar persons, gestures used to supplement verbal expressions when the language skills failed them and largely gestures when confronted with new situations and persons.

The mean age of the children was 7.8 years. The sample consisted of 12 boys and 8 girls, 10 coming from upper middle class, 8 coming from lower middle class and 2 coming from upper lower class. The mean receptive language age was 4 years and expressive language was 3.6 years. The mean age when the child walked independently was 2.6 years. Six children suffered from allergy, wheezing and asthma during the post-natal period, five children suffered from upper respiratory tract infections, two children suffered from tonsillitis, two children suffered from dyspnea and one child suffered from gastroesophageal reflux.

To meet the communicative need of gaining an adults attention in familiar surroundings the children predominately used verbal expression and frequently supplemented vocalizations with gestures and only occasionally fell-back on gestures to meet communicative needs.

Cunha and Limongi (2008) aimed to verify the performance of children with DS regarding their communicative profile (verbal, oral and gestural) during a play situation and a spontaneous interaction with an adult. 28 children with DS studied in two different play situations. Results showed, verbal communication mean is the one which is socially more used, the play situation with caregiver was most effective and the gestural communication mean was used mostly during the interaction with the therapists.

While responding to the adult's attempts at gaining the child's attention the children predominately responded both verbally and vocalization with gestures infrequently they responded with gestures.

Soares, Pereira and Sampaio (2009) investigate the pragmatic abilities and their influence on the communicative use in subjects with Down's syndrome. The pragmatic assessment (ABFW). The participants were 10 children and adolescents, male and female, from seven to 13-year old. The behavior patterns were analyzed by using the communicative functions, the communication means (vocal, gestural or verbal) and the communicative acts. Data collection was provided from a free play situation with a family member. Results showed, the verbal and gestural communication means and the comment and narrative functions were the most used among the participants; mothers were responsible for just 10% of the communication direction and it was carried out predominantly by the children and adolescents that took part in the study.

During interaction and conversation requirement the children predominately interacted using vocalizations and gestures. Gestural responses were higher than verbal responses during interaction and conversations.

Smith, Naess and Jarrold (2017), explored the nature of pragmatic communication in children with DS. Twenty-nine; 6years old DS children were assessed in areas of Initiation, Scripted language, Understanding context, Nonverbal communication. As reported by children parents via the children's communication checklist 2. The relationship between pragmatics and measures of vocabulary, non-verbal mental ability and social functioning were explored. Results, children with DS were impaired relative to norms from typically developing children in all areas of pragmatics. The area of nonverbal communication was significantly stronger while area of understanding context was significantly poorer relative to other areas of pragmatics assessed in these children.

Garcez and Moraes (2015) investigated and correlated the lexical and pragmatic competence of children with DS with same aspects in typical language development to evaluate language, tests of vocabulary and pragmatic from ABFW protocol applied. It was conducted with 10 children divided into two groups; 5 children who were diagnosed with DS integrated GDS group and 5 typically developing children were allocated in the control group (CG). Children were matched according to chronological age between 6-7 years and were enrolled in APAE and in regular school. Results showed, children with DS had greater difficulty in the vocabulary test than children with typical development. In pragmatic test, two groups showed similar numbers of communicative acts and domain interaction when

playing, however, the communicative acts of GDS were predominantly vocal and gestural when compared to CG's.

Pereira and Oliveira (2012) aimed to build a communicative profile of children with DS and their respective mothers. 30 children from 5 to 10 years, both sexes took part of this research. Data collection was conducted from a spontaneous interaction between mother and child and conducted a descriptive analysis to build the communicative profile of the participants. Results showed, children presented 10 communicative acts per minute on average; gestures were the most common way they used to communicate themselves and the "recognition of other", the "commentary" and the "game" were communicative functions used more often. The mother's had 12 acts per minute on average; used mostly the speech to communicate themselves and the "commentary", "request for action and information."

A similar approach was observed for interactions involving new persons, situations and activities, where children predominately interacted using vocalizations and gestures. And verbal responses were higher than gestural responses.

Cunha and Limongi (2010) aimed to verify influence of environmental and contextual variables in pragmatic aspects of language of Down syndrome children when interacting with their caregivers and therapist and compare their performance in both situations. Participants were 15 children with DS with ages ranging from 4 to 6.11 years. Results showed, caregiver's socioeconomic and educational levels might be considered risk factors for development of pragmatics aspects of language in children with DS. These children were able to initiate and maintain communication, using communicative means and functions in a similar fashion.

Hage, Resegue, Viveiros and Pacheco (2007) analyzed profile of pragmatic abilities in young children, without language alterations and to verify if there are significant differences in these abilities, considering socioeconomic level of these children. 30 children aged between 36 and 47 months, from public and private early childhood education school, whose population they attend are of low and medium/high socioeconomic status, 30-minute semi-structured conversation between child and evaluator recorded on VHS tape. Results showed, analysis of children's conversational skills profile revealed they

respond/maintained more than they initiate conversation. Sociolinguistic aspects can interfere in pragmatic abilities of children from different socioeconomic levels.

In conclusion, the results show that children with Downs Syndrome are able to initiate and maintain communication, and use similar communicative means and functions with caregiver and therapists. However, the nature of their interactions was more verbal with family members and familiar persons than with unfamiliar persons. Similar findings have been reported in literature (Garcez & Moraes, 2015). Children with Downs Syndrome have greater difficulty with expressive language skills which could be the reason for breakdown in verbal communication with new people, events and places. In such situations these children fall back onto gestures and vocalizations to support communication and socialization. Hence, rehabilitation of children with Down's syndrome is important to help them develop their pragmatic skills and live meaningful lives in society and their communities.

CHAPTER 5

SUMMARY & CONCLUSION

Aim:

The aim is to profile the pragmatic abilities of 5 to 10 years old children with Down's syndrome using the PPECS.

Method:

The pragmatics profile of everyday communication skills was administered in children with Down syndrome from 5-10 years old from special schools, day care and homes. Around 10-20 subjects were selected for the study. The inclusion criteria were children with age range from 5-10 years with only moderate to borderline category in children with down syndrome and criteria excluded was children with non-co morbidities and no other syndromes involved.

Materials such as pragmatics profile in everyday communication skills in children (PPECS) were observed to assess their different parameters in pragmatics along with case history and consent forms were provided, observed and asked questions through video calls and telephonic interviews and also obtained information through video clips.

Results:

The mean of the verbal responses is 21, the mean of the gestural and vocalization response is 11, and the mean of the gestural responses is 4.35 in communicative functions in section A by using PPECS.

The mean of the verbal responses is 7.8, the mean of the gestural and vocalization response is 7.5 and the mean of the gestural response is 3.6 in response to communication by using PPECS.

The mean of the verbal response is 3.9, the mean of the gestural and vocalization response is 6.9 and the mean of the gestural response is 4.15 in interaction and conversation by using PPECS.

The mean of the verbal response is 4.75, the mean of the gestural and vocalization response is 9.35, the mean of the gestural response is 1.6 in contextual variation by using PPECS and overall mean score: 85.6.

Conclusion:

The results show that children with Downs Syndrome are able to initiate and maintain communication, and use similar communicative means and functions with caregiver and therapists. However, the nature of their interactions was more verbal with family members and familiar persons than with unfamiliar persons. Similar findings have been reported in literature (Garcez & Moraes, 2015). Children with Downs Syndrome have greater difficulty with expressive language skills which could be the reason for breakdown in verbal communication with new people, events and places. In such situations these children fall back onto gestures and vocalizations to support communication and socialization. Hence, rehabilitation of children with Down's syndrome is important to help them develop their pragmatic skills and live meaningful lives in society and their communities.

Implications:

Rehabilitation of children with Down's syndrome is important to help them develop their pragmatic skills and live meaningful lives in society and their communities.

Limitations:

As a clinical and research tool, it can give access to information which is not available from a standardized testing.

The pragmatics profile of everyday communication skills in children (PPECS) can be used for a specific number of people.

This tool cannot determine the cognition level like mental age (MA) in children with Down syndrome.

Future directions:

- Studies can be done to compare pragmatic skills of children with Downs Syndrome of the same age who are verbal and non-verbal.

CHAPTER 6

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CHAPTER 7

APPENDIX – 1

The Pragmatics Profile of Everyday Communication Skills in Children (Hazel Dewart & Susie Summers, 1995)

Different parameters used for pragmatics are:

A. Communicative functions
    1. Attention Directing
    2. Requesting
    3. Rejecting
    4. Greeting
    5. Self-expression and Self-assertion
    6. Naming
    7. Commenting
    8. Giving information

B. Response to Communication
    9. Gaining Child's attention
    10. Interest in interaction
    11. Understanding of gesture
    12. Acknowledgement of previous utterance
    13. Understanding of speaker's intention
    14. Anticipation
    15. Responding with amusement
    16. Responding to 'No' and negotiation

C. Interaction and Conversation
    17. Participating in interaction
    18. Initiating interaction
    19. Maintaining an interaction or conversation
    20. Conversational breakdown
    21. Conversational repair

22. Request for clarification
23. Terminating an interaction
24. Overhearing conversation
25. Joining a conversation

D. Contextual variation

26. Person
27. Situation
28. Time
29. Topic
30. Books as a context for communication
31. Use of language in play
32. Peer interaction
33. Compliance with social convention

APPENDIX - 2

Assessment of Language Development (Lakkanna, Venkatesh & Bhat, 2008)

CONSENT FORM

Student Researcher:

Dear Parent, I am a student doing my master's degree in Dr.M.V. Shetty College of Speech and Hearing, Mangalore. For the purpose of my research, I request you take part in this study. The details of the study are given below.

Purpose of study:

The purpose of the present study is to analyze the communication skills of children with Down Syndrome using "The Pragmatic Profile".

Method:

Subjects between 5-10 years of age will participate in the study. The test consists of 33 questions distributed into 4 sections. I will need to both observe and ask the parent/caregiver of the child questions from The Pragmatic Profile test to assess communication and interaction. To measure the language age of the child I will administer

the Assessment of Language Development (ALD) test. For this I will show pictures to the child and also ask questions to the parent. The parent will be present throughout the testing period. The entire testing will be done through personal interview, telephonic interview, video call and pre-recorded videos sent by the parent/caregiver.

Time Demands:

20-30 minutes.

Audio or video recordings made during the interview, will be held in a secure location and destroyed completely after the study.

If you agree to participate in the study, please sign below.

- I, hereby, consent to myself (whose name:) being audio taped, tested and/ or observed.
- I have read and understood the background information that you provide about the research.
- My participation is entirely voluntary and my child and/ or I can withdraw permission at any time.
- ☐ Yes. I will be happy to provide answers to any questions you may have over the phone.

  Phone no:

- ☐ No. I don't want to be disturbed with calls.

Place:

Date:

Signature of participant:

CASE HISTORY

Demographic Data

Name: Date of birth:

Age/gender:

Date:

Socio Economic Status:

Father's name: Age:

Education: Occupation:

Mothers name: Age:

Education: Occupation:

Telephone no:

Complaint:

_____

_____

1. Family History

a) Hereditary disease

b) Sibling history

c) Age of mother at conception

Note:

_____

_____

2. Natal History

a) Pre-natal history (any complications during the 1st trimester)

Note:

_____

_____

b) Peri-natal history

1) Delivery

a) Hospital/ home

b) Full time/ pre-mature/ post mature

c) Caesarean/ forceps/ suction/ umbilical cord twisting

d) Prolonged/ precipitate/ breech

e) Other difficulties please describe:

Note:

_____

_____

_____

2) Birth cry: Normal/ Delayed/ Feeble

3) Birth weight: Normal (2-4 kg):

Note:

_____

_____

c) Post-natal history

1) Eruptive fever
2) Respiratory infection
3) Allergic condition
4) Head injury
5) Convulsions
6) Any other specifications:

Note:

_____

_____

3. Developmental history

a) Motor developmental (gross motor skills):

i. Head control
ii. Turning over sitting
iii. Standing
iv. Walking
v. Bowel and bladder control:

b) Speech development history

a) Cooing
b) Babbling
c) Variegated Babbling
d) Jargon
e) First word
f) Phrase
g) Sentence
h) Communication

_____

_____

c) Fine motor skills:

Handedness

Grasp eating writing hitting.

Right:

Left:

Notes:

d) Any feeding issues

e) Sensory functioning
   a) Do you suspect any hearing loss in your child?
   b) Does your child have any visual problem, or any corrections made?

4. OPME (oral peripheral examination)

	Structures	**Functions**	**Others**
Lips			
Teeth			
Hard palate			
Tongue			

Jaw			

f) Articulation errors:

5. Test Results:

Clinician signature: supervisor's signature: