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Acquisition of Morphophonemic Structures in Malayalam Speaking Children with Intellectual Disability

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Language is a complex and dynamic system of conventional symbols that is used in various modes for thought and communication. ASHA (1982). The children with Intellectual Disability (ID) have deficits in syntax along with other components of language in varying degrees throughout their lives. Research on language acquisition in India has been carried out mostly through dissertation (Subba Rao (1995), Sucharitha, Sujatha, Karanth, 1993). Large scale data in any one language for different age range is unavailable. Hence it is difficult to visualize and describe language acquisition in many Indian languages. Literature review in different Indian languages shows that even though several syntax structures are assessed in both typical children and children with Intellectual Disability, few or limited studies were done on morphophonemic aspects in Malayalam language. The present study emphasizes on studying acquisition of Morphophonemic structures in children with Intellectually Disability and Malayalam speaking children, mental age from 4-6 years, which enable speech language pathologist for a focused assessment, better intervention and monitoring progress in therapy. 20 typical Malayalam speaking children in the age range of 4-5 and 5-6 years (10 members in each group) and 60 children with intellectual disability mental age 4-5 and 5-6years (30 members in each group) participated in present study. Morpho-phonemic structures were selected with suitable examples. The responses were collected from each individual by presenting picture stimuli and transcribed for analysis. Results reveal that Svara sandhi (vowel + vowel) are the Morpho-phonemic structures that are primarily acquired in both typically developing children and children with Intellectual Disability. Morpho-phonemic structures, Svara vyanjana sandhi (vowel + consonant), vyanjana svara sandhi (consonant + vowel) and vyanjana sandhi (consonant + consonant) were the least developed structures in the age range of 4-6 years and are likely to develop above 6years. Typical children performed better when compare to children with Intellectual Disability. And also, 5-6 years old group showed better performance than 4-6 years old group (in both normal and ID). The results of the present study is in accordance with the study done by Subba Rao (1995) where he says that acquisition of Morphophonemic structures increase with age.

Introduction

Human beings express their thoughts and ideas by using a code which can be named as language. Language is a complex system of arbitrary symbols which is used for human communication. (American Speech and Hearing Association, ASHA, 1982)
There are mainly five components of language:

Phonology: the system of the sound segment that humans used to build up words
Morphology: the system which can be described as the smallest segment of speech that carries meaning.

Syntax: the system of rules by which words and phrases arranged to a meaning full segment.

Semantics: the system of meanings that expressed by words or phrases.

Pragmatics: the system of patterns that determine how humans can use language in particular social setting for particular conversational purpose.

The interface between phonology and morphology lies in the area covered by the terms morph-phonemics, morph- phonology or lexical rules. (Kiparsky, 2000)

Morpho-phonology (Morphophonemic) is known as 'Sandhi' in Malayalam language. Morphology is a branch of morpheme which studies the phonological structure of morpheme.

In Indian languages, Sandhi (joining) is a cover term for a wide variety of phonological processes that occur at morpheme or word boundaries well called as Morpho-phonology. And it denotes the changes that occur in sounds when two words or separate morphemes come together to form a new word, or when they are adjacent in a sentence. Examples include the fusion of sounds across word boundaries and the alteration of the sounds due to neighboring sounds or due to grammatical function or adjacent words. Morphophonemic variation is characterized by two signposts, it tends to occur at morpheme boundaries, and it involves sounds that are associated with separate phoneme.

Subba Rao (1995) revealsthat there is a delay and deviance in development of several language structures including Morpho-phonemic structures in individuals with intellectual disability. Theresult shows that children with Intellectual Disability with higher mental age (5-6 years)performed significantly better than Intellectual Disability with lower mental age(4-5years) on certain morphophonemic structures.

Lahey, Liabergott, Chesnick, Menyuk, & Adam (1992) (cited by D'Souza, 2001) have shown that there is a good deal of variability in normally English speaking children during the early stages of morpheme acquisition.

Monteiro & Kumaraswamy (2013) revealed that syntax acquisitions as well as acquisition of morphophonemic structures were incomplete even by 8 years of age.

Research on language acquisition in India has been carried out mostly through thesis and dissertation (Suba Rao, (1995),Sucharitha, Sujatha &Karanth,1993). Large scale data in any one language for different age rangeis unavailable. Hence it is difficult to visualize and describe language acquisition in many Indian languages. Literature review in different Indianlanguages shows that even though several syntax structures are assessed in both typical children and children with Intellectual Disability, few or limited studies were done on morphophonemic aspects inMalayalamlanguage. The present study emphasizes on studying acquisition of Morphophonemic structures in children with Intellectually Disability and Malayalam speaking children, mental age from 4-6 years,which enable speech language pathologist for a focused assessment, better intervention and monitoring progress in therapy.

Review of Literature

Language is a complex and dynamic system of conventional symbols that is used in various modes for thought and communication. Contemporary views of human language hold that Language is a rule based behavior which evolves within specific historical, social, and cultural context and is described by at least five parameters –phonology, morphology, syntax, semantics and pragmatics. Language learning and use are determined by the interaction of biological, cognitive, psychological and environmental factors. Effective use of language for communication requires a broad understanding of human interaction including such associated factors as nonverbal cues, motivations, and sociocultural rules (ASHA, 1982).

In normal speech and language development, soon after the acquisition of first words, approximately 18 months of age toddlers begin to combine words into two word phrases. By the age of 2 years,the young children begin to produce three word utterances. Between 2 to 5 years of age, children will develop the ability to use grammatical morpheme, produce basic grammatical sentence types, and combine those into even more advanced grammatical constructions. As children produce longer sentences, they begin to build sentences according to the syntactic rules.

The American Association on Intellectual and Developmental Disabilities (AAIDD) in 2009 defines Intellectual Disability(ID) as a disability characterized by significant limitations in both intellectual functioning and in adaptive behavior, which covers many everyday social and practical skills. This disability originates before the age of 18.

American Speech-Language and Hearing Association (ASHA) in 2012 supported the change from “Mental Retardation” to “Intellectual Disability.” ASHA recommended the elimination of classification by Intellectual Quotient (IQ) and severity level and recommended to use of the AAIDD

definition of Intellectual Disability. ASHA strongly urges the use of the term Intellectual Disability in the DSM-V, which would be consistent with the AAIDD definition.

Children with Intellectual Disability have deficits in syntax along with other components of language in varying degrees throughout their lives. Within the field of speech language pathology several attempts at studying the language disorders are seen in the past 2 decades. Studies have shown that, more than 80% of children with Intellectual Disability show Language delays and requires professional intervention (Subba Rao and Srinivas 1989; Bharat Raj 1987; Prabhu 1968) and others (as cited in Selvi,1999).

Malayalam is a language of the Dravidian family and is one of the four major languages of this family. Since Malayalam can be writtencontinuously within a phrase without a pause or any space, it may undergo Sandhi modification. Sandhi is defined as the intimate conjugation of letters. When letters join according to grammatical rules new changes occur. The sandhi rules in Malayalam are not regularly applicable to all forms, even though they may have similar phonological characteristics.

Sandhi is divided in to 4 with reference to the vowels and consonants involved in it.

1) **Svara sandhi (vowel+vowel)**

Example: caaya (tea) + illa (no)> caayilla (‘there is no tea’, y appears in the middle)

2) **Svara vyanjana sandhi (vowel+consonant)**

Example: taamara+kulam> tamarakkulam (‘the lotus pond’.k doubles)

3) **Vyanjan svara sandhi (consonant+vowel)**

Example: kan+illa > kannilla (‘there is no eye’,n doubles)

4) **Vyanjana sandhi (consonant+ consonant)**

Example: nel + mani > nenmani (‘grain of paddy’,l > n)

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Western Studies

Brown & Bellugi (1964) and Brown (1973) (cited by Fernandes 2009) reported that the early word utterances are telegraphic because the utterances contain only the content words such as nouns, verbs, and adjectives but miss out inflection and grammatical function words.

Lahey, Liabergott, Chesnick, Menyuk & Adam (1992) cited by D’Souza (2001) have shown that there is a good deal of variability in normally English speaking children during the early stages of morpheme acquisition. It was found that when children reach two word stage, they start adding

function words. They gradually acquire articles, prepositions, auxiliary verb and also begin to acquire syntactic markers for plurals.

Jia & Fuse (2007) investigated the acquisition of 6 English grammatical morphemes (i.e., regular and irregular past tense, 3rd person singular, progressive aspect-ing, copula BE, and auxiliary DO) by 10 native Mandarin-Speaking children and adolescents in the United States (arrived in the United States between 5 and 16 years of age). Morphological proficiency was measured by the accuracy of these morphemes in obligatory contexts during spontaneous speech. The results indicate that the acquisition of some grammatical morpheme by school-aged immigrants take several years to complete and as L2 learners they exhibit some error types similar to mono-lingual children with Specific Language Impairment.

Tomas, Demuth, Smith-Lock & Petocz (2015) investigated on Phonological and Morpho-phonological effects on grammatical development in children with Specific Language Impairment(5-6 years).The predictors included: (1) utterance position of the target word, (2) phonological complexity of its coda, (3) voicing of the final stem consonant, (4) syllabicity (allomorph type) and (5) participant accounting for the individual differences in the responses. The results showed a robust effect of syllabicity on the correct morpheme production, specifically syllabic allomorphs (e.g., She dresses) were significantly more challenging than the segmental ones (e.g., He runs) for all three morphemes. The effects of other factors were observed only for a single morpheme: coda complexity and voicing helped to explain variability in past tense production and utterance position significantly affected children's performance with the possessive. The participant factor also had a significant effect, indicating high within-group variability in Specific Language Impairment population.

Indian Studies

Indian studies on language acquisition are very limited. Most of the studies mainly include master's dissertation with few doctoral studies.

Rao (1995) investigated on use of regular plural forms, unmarked and marked nouns during natural conversation in children with intellectual disability and typically developing Kannada speaking children in the age range of 4-6 years. The results reveal that children with intellectual disability (same mental age) performed poorly when compared with typically developing children. Overall, the delay in development of syntax was seen.

George (1998) conducted a study on Mean length of utterance (MLU) and syntactic complexity in children with Intellectual Disability. He mainly focused on morpheme, grammatical categories and their arrangement in their utterances. The results reveal that speech language deficits are present in children with Intellectual Disability. Though all the grammatical categories are acquired, it is not used to their maximum extend. Children with Intellectual Disability are able to convey their ideas, but their verbal construction lacks the complexity of typically developing children.

Rajalakshmi and Rao (2003) did a study to analyze the syntactic abilities in children with Down syndrome by administering Linguistic Profile Test (Malayalam) and Malayalam Language Test (Rukmini1994). The results indicated that children with Down syndrome have greater deficits on syntax when compared with mental age matched normal subjects, they have more deficits on syntactic expression than syntactic reception and they also follow the usual pattern of language development.

Ranjan and Rao (2005) did a study on syntactic skills in Hindi speaking children with Intellectual Disability of 3-7 years of mental age. He found that children with Intellectual Disability (3-5 years) used regular plurals more than other plural forms.

Radhika and Kumaraswamy (2010) did a comparative study of development of plural markers in Malayalam speaking typically developing children and children with Intellectual Disability. The results suggested both the groups used all the 4 plural markers given to them. The frequency of occurrence of all plural markers was less in children with Intellectual Disability when compared to typically developing children.

Nitha and Rao (2010) performed a comparative study of development of present tense markers in Malayalam speaking typically developing children and children with Intellectual Disability. The results revealed that in children with intellectual disability, the usage of present tense marker is poor when compared to typically developing children.

Shasthry and Rao (2011) reported a study on acquisition of tense markers in 5-8 year old Kundapura Kannada speaking typically developing children. The result shows that the frequency of occurrence of present tense markers was more when compared to other tense markers. There were dialectal variations which were frequently observed in present tense forms which were simplifications of CVs was significant followed by vowel shortening, syntactic deviations and semantic deviations. She concluded that the result of the study is in agreement with Subbarao (1995) who reported that the usage of present tense markers was maximum in 4-6 year old developing children.

Monteiro & Kumaraswamy (2012) investigated on development of morphophonemic structures in typically developing Konkani speaking children. The result reveals that syntax acquisitions as well as acquisition of morphophonemic structures were incomplete even by 8 years of age. Hence children with delayed language who require intervention in Konkani language need to be scrutinized for strengths and weakness in Morpho- phonemic acquisition based on the present data.

Nandu & Kumaraswamy(2015) investigated on acquisition of case markers in Malayalam speaking Down syndrome children of mental age range of 3-8 years and the results showed that there

is a general increase in the acquisition as well as frequency of usage of some type of case markers with increase in the mental age of the children.

Renji, Shetty and Gupta (2016) performed a comparative study on participle construction in Malayalam speaking children with Intellectual Disability (mental age 4-6years) and age matched typically developing children. The results show that there is general increase in the usage of participle construction with the increase in the mental age of the children.

Need of the Study

Research on language acquisition in India has been carried out mostly through dissertation (Subba Rao,1995, Sucharitha, Sujatha, and Karanth, 1993). Large scale data in any one language for different age range is unavailable. Hence it is difficult to visualize and describe language acquisition in many Indian languages. Literature review in different Indian languages shows that even though several syntax structures are assessed in both typical children and children with Intellectual Disability, few or limited studies were done on morphophonemic aspects in Malayalam language. The present study emphasizes on studying acquisition of Morphophonemic structures in children with Intellectually Disability and Malayalam speaking children, mental age from 4-6 years, which enable speech language pathologist for a focused assessment, better intervention and monitoring progress in therapy.

Aim of the Study

The aim of the present study was to study the acquisition pattern of Morpho-phonemic structures in children with Intellectual Disability mental age (4-6 years) and Malayalam speaking mental age matched children.

Methodology

The aim of the present study was to study the acquisition pattern of Morpho-phonemic structures in children with Intellectual Disability mental age (4-6 years) and Malayalam speaking mental age matched children.

Subject Selection

20 typical Malayalam speaking children in the age range of 4-6years who were further classified into 4-5years (10 members) and 5-6 years (10 members).

60 Malayalam speaking children with Intellectual Disability mental age 4-6 years were further classified into4-5 years (30 members) and 5-6 years (30 members).

The mental age details were obtained from their school records. Children who were diagnosed with mild to moderate Intellectual Disability, as per school records participated in the present study.

Inclusion Criteria

1) Malayalam as a native language.
2) Children who were attending special school for at least 3-4 years and with a mental age 4-6 years.
3) Children with intellectual disability with mild to moderate severity.

Exclusion Criteria

1) Children with severe Intellectual Disability.
2) Children with any physical or sensory handicap.
3) No history of any Speech, Language, cognition and neuropathology in normal population.

Stimuli Used

Morpho-phonemic structures used for the present study.

Svarasandhi (Vowel + vowel)	**Examples**
a +a & a + aa a + i a + e a + u i + a & i +aa i + i i + e	Vahzayalla (/v ɑ: z eɪ aɪ ə l ə/) anayiragi (/ æ n eɪ ɪ r æ dʒ ɪ/) Valayedukunnu (/v æ l eɪ d j k u: n j j /) Thathayunde(/θ æ θ eɪ ʌ n d/) Kiliyalla (/ k ɪ l aɪ j ə l ə/) Eliyilla (/e l aɪ j ɪ l ə/) Kudayedukunnu (/k u: t eɪ d j k u: n j j/)
Svara vyanjana sandhi	
Vowel + consonant	Thalakette (/θ ɔ: l eɪ k ɪ t/) Veelikabe (/ v i: e l aɪ k ə b/) Padikettea (/ p æ d aɪ k ɪ t/)
Vyanjan svara sandhi	
(consonant + vowel)	Kannilla (/k æ n aɪ l ə/) kalalla(/k ə l l ə/)
Vyanjana sandhi	

Consonant + consonant	Kalpade (/k ə l p æ d /) palpada (/ p ɑ: l p æ d ə/)

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Test Environment

Samples were collected in a quiet room in the school with one to one interaction between the examiner and the client. The entire session was audio recorded using microphone attached to Acer laptop.

Procedure

Initially examiner interacted for few minutes to build a rapport with the children. Detailed instruction was given in a simplified form. The data was collected from each individual by presenting picture stimuli via power point presentation through laptop and were instructed to answer the questions. The responses were recorded using microphone attached to laptop. Response with appropriate Morpho-phoneme was considered as correct response. Inappropriate Morpho-phonemes were considered as incorrect response.

Analysis

The audio recorded samples were analyzed by focusing on the target Morpho-phonemes. The presence correct Morpho-phonemes was noted and marked as '1' and absence of Morpho -phonemes was noted and marked as '0'. The total number of Morpho-phonemes was tabulated and further statistically analyzed for significant difference.

Results and Discussion

The aim of the present study was to study the acquisition pattern of Morpho-phonemic structures in children with Intellectual Disability mental age (4-6 years) and Malayalam speaking mental age matched children. The obtained data was analyzed for the presence of Morpho-phonemes and results are discussed below.

Parameter	Age group	Group	Present freq	Present %	Testing proportions Z value	Testing proportions p value	
a+a and a+aa	4 - 5yrs	Normal	9	90.0%	1.91	.028	sig
		ID	17	56.7%			
	5 - 6yrs	Normal	10	100.0%	1.97	.025	sig
		ID	21	70.0%			
a+e	4 - 5yrs	Normal	10	100.0%	2.39	.008	HS
		ID	18	60.0%			
	5 - 6yrs	Normal	10	100.0%	1.04	.149	
		ID	27	90.0%			
a+i	4 - 5yrs	Normal	8	80.0%	1.49	.068	
		ID	16	53.3%			
	5 - 6yrs	Normal	10	100.0%	2.39	.008	HS
		ID	18	60.0%			
a+u	4 - 5yrs	Normal	10	100.0%	1.83	.034	sig
		ID	22	73.3%			
	5 - 6yrs	Normal	10	100.0%	1.04	.149	
		ID	27	90.0%			
consonant+consonnt	4 - 5yrs	Normal	2	20.0%	2.51	.006	HS
		Metal	0	.0%			
	5 - 6yrs	Normal	4	40.0%	3.65	.000	HS
		ID	0	.0%			
i+a and i+aa	4 - 5yrs	Normal	10	100.0%	2.98	.001	HS
		ID	14	46.7%			
	5 - 6yrs	Normal	10	100.0%	1.97	.025	sig
		ID	21	70.0%			
i+e	4 - 5yrs	Normal	10	100.0%	1.68	.046	sig
		ID	23	76.7%			
	5 - 6yrs	Normal	10	100.0%	1.04	.149	
		ID	27	90.0%			
i+i	4 - 5yrs	Normal	9	90.0%	1.26	.103	
		ID	21	70.0%			
	5 - 6yrs	Normal	10	100.0%	1.04	.149	
		ID	27	90.0%			
vowel +consonant	4 - 5yrs	Normal	1	10.0%	1.75	.040	sig
		ID	0	.0%			
	5 - 6yrs	Normal	4	40.0%	3.65	.000	HS
		ID	0	.0%			

Table4.1:Showing the percentile of acquisition of Morpho-phonemes in Intellectual Disability and age matched typical children (4-5&5-6 years).

4-5 YEARS: Highly significant difference was seen for a+e(p=.008),i+a&i+aa(p=.001), and consonant+consonant(p=.006)

Significant difference was noted for a+a&a+aa(p=0.028),a+u(p=.034),i+e(p=.048), and vowel+consonant(p=0.040)

No significant difference was noticed for a+i (p=.068) & i+I (p=.103)

5-6 YEARS: Highly significant difference was noticed for a+i (p=.008), consonant+ consonant& vowel + consonant (p=0.00).

Significant difference was noticed for a+a & i+a (p=0.025).

No significant difference was noticed for a+e, a+u, i+e, & i+i (p>0.05)

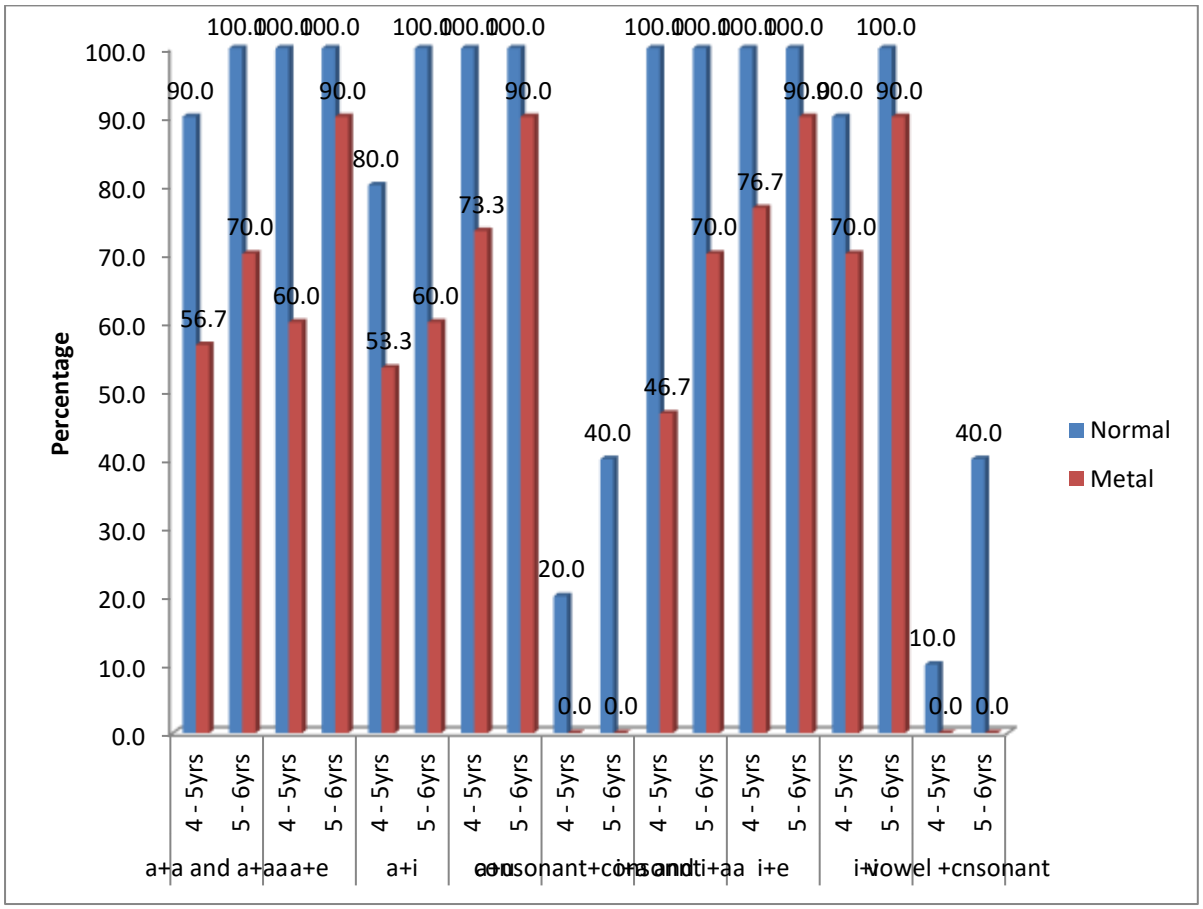

Fig4.1: showing the percentile of acquisition of Morpho-phonemes in Intellectual Disability and age matched typical children (4-5 &5-6 years).

Table4.2: showing the comparison between Morpho-phonemic structures across Normal and Intellectual Disability.

a+a vs a+e: No significant difference was noticed for 4-5 &5-6 normal and 4-5 years mental age (p>0.05)

Significant difference was seen for mental age 5-6 years (p=0.026).

a+a vs a+i: No significant difference was noticed across group (p>0.05)
a+a vs a+u: No significant difference was noticed for 4-5 &5-6 normal and 4-5 years mental age (p>0.05)

Significant difference was seen for mental age 5-6 years (p=0.026).
a+a vs consonant + consonant: Highly significant difference was noticed across the age group (p=0.00)

a+a vs i+a: No significant difference was noticed across group (p>0.05).

a+a vs i+e: No significant difference was noticed for 4-5 &5-6 normal and 4-5 years mental age (p>0.05).

Significant difference was seen for mental age 5-6 years (p=0.026).

a+a vs vowel + consonant: Highly significant difference was noticed across the age group (p=0.00).

a+e vs a+i: No significant difference was noticed for 4-5 &5-6 normal and 4-5 years mental age (p>0.05).

Highly significant difference was seen for mental age 5-6 years (p=0.004).

a+e vs a+u: No significant difference was noticed across group (p>0.05).

a+e vs consonant+consonant: Highly significant difference was noticed across the age group (p=0.00)

a+e vs i+a: No significant difference was noticed for 4-5 &5-6 normal and 4-5 years mental age (p>0.05).

Significant difference was seen for mental age 5-6 years (p=0.026).

a+e vs i+e: No significant difference was noticed across group (p>0.05)

a+e vs vowel + consonant: Highly significant difference was seen for mental age 5-6 years (p=0.004).

a+i vs a+u: Significant difference was noticed for 4-5 &5-6 normal and 4-5 years mental age (p>0.05).

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Highly significant difference was seen for mental age 5-6 years (p=0.004).

a+i vs consonant + consonant: Highly significant difference was noticed across group (p=0.00).

a+i vs i+a: No significant difference was noticed across group (p>0.05)

a+i vs i+e: No significant difference was noticed for 4-5 &5-6 normal and 5-6 years mental age (p>0.05)

Significant difference was seen for mental age 4-5 years (p=0.029)

a+i vs vowel+ consonant: Highly significant difference was noticed across group (p=0.00).

a+i vs i+i: No significant difference was noticed across group (p>0.05).

a+u vs consonant + consonant: Highly significant difference was noticed across group (p=0.00).

a+u vs i+a: Significant difference was seen in 4-5 &5-6 years mental age (p=0.018), (p=0.026).

No significant difference was noticed for 4-5 &5-6 normal(p>0.05).

a+u vs i+e: Significant difference was noticed across group (p>0.05).

a+u vs i+i: Significant difference was noticed across group (p>0.05).

a+u vs vowel+ consonant:

consonant +consonant vs i+a: Highly significant difference was noticed across group (p=0.00).

consonant + consonant vs i+e: Highly significant difference was noticed across group (p=0.00).

consonant + consonant vs i+i: Highly significant difference was noticed across group (p=0.00).

consonant +consonant vs vowel + consonant: No significant difference was noticed across group (p>0.05).

i+a vs i+e: Highly significant difference was seen in 4-5 years mental age (p=0.00).

Significant difference was seen in 5-6 years mental age (p=0.026).

i+a vs i+i: Significant difference were noticed for 4-5 & 5-6 years mental age (p=0.033), (p=0.026).

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No significant difference was noticed for 4-5 &5-6 years normal (p>0.05)

i+a vs vowel+consonant: Highly significant difference was noticed across group (p=0.00).

i+e vs i+i: No significant difference was noticed across group (p>0.05)

i+e vs vowel+consonant: Highly significant difference was noticed across group (p=0.00).

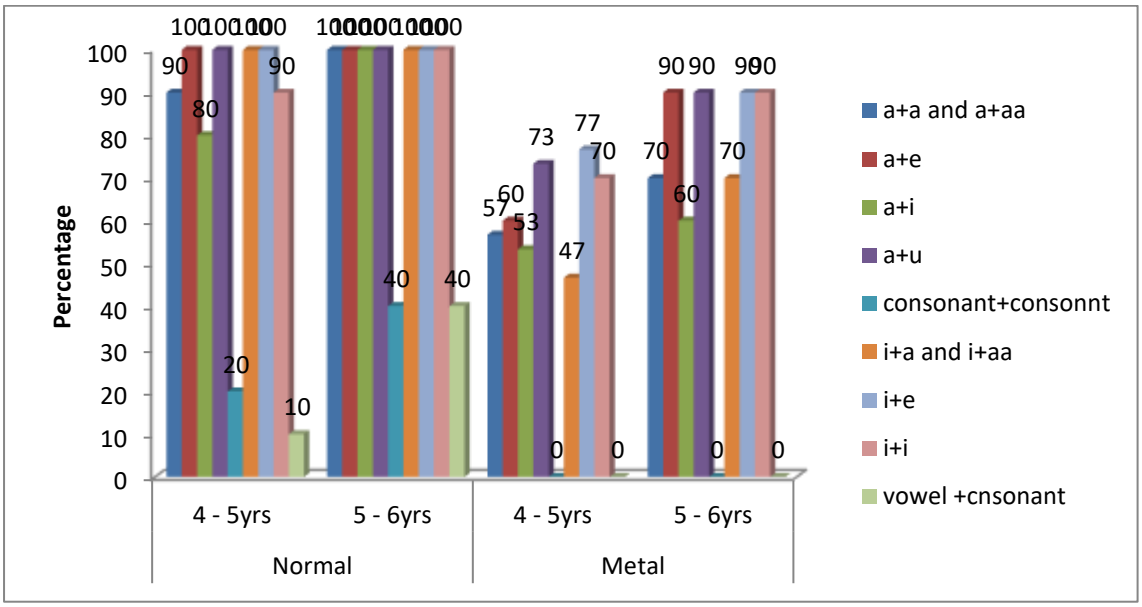

Fig4.2 showing the comparison between Morpho-phonemic structures across Normal and Intellectual Disability.

Discussion

Results reveal that Svara sandhi(vowel + vowel) combination such as (a+i), (i+i), (a+u), (a+e), & (i+e) are the Morpho-phonemic structures that are primarily acquired in both typically developing children and children with Intellectual Disability. Svara vyanjanan sandhi (vowel+consonant), vyanjana Svara andhi (consonant +vowel) and vyanjana sandhi (consonant + consonant) were the least developed structures in both group age range of 4-6 years and are likely to develop above 6years. Typically developing children performed significantly better when compare to children with intellectual disability matched on mental age. And also, 5-6 years old group showed better performance than 4-6 years old group (in both normal and ID). The results of the present study is in accordance with the study done by Subba Rao (1995) reveal that as the age increases the performance of the usage of language increases it also reveal a delay and deviance in development of several language structures including Morpho-phoneme.

Summary and Conclusion

Language is a complex and dynamic system of conventional symbols that is used in various modes for thought and communication. ASHA (1982)

The children with Intellectual Disability (ID) have deficits in syntax along with other components of language in varying degrees throughout their lives. Studies have shown that, more than 80% of children with Intellectual Disability show Language delays and requires professional intervention (Subba Rao and Srinivas, 1989; Bharat Raj, 1987; Prabhu,1968 and others, (cited by Selvi, 1999). The present study described about acquisition of Morpho-phonemic structures in Malayalam children with Intellectual Disability of mental age 4-5 and 5-6 years and mental age matched typical children.

20 typical Malayalam speaking children in the age range of 4-5 and 5-6 years (10 members in each group) and 60 children with intellectual disability mental age 4-5 and 5-6years (30 members in each group) participated in present study. Morpho-phonemic structures were selected with suitable examples. The responses were collected from everyone by presenting picture stimuli and transcribed for analysis.

Results reveal that Svara sandhi (vowel + vowel) are the Morpho-phonemic structures that are primarily acquired in both typically developing children and children with Intellectual Disability. Morpho-phonemic structures, Svara vyanjana sandhi (vowel + consonant), vyanjana svara sandhi (consonant + vowel) and vyanjana sandhi (consonant + consonant) were the least developed structures in the age range of 4-6 years and are likely to develop above 6years. Typical children performed better when compare to children with Intellectual Disability. And also, 5-6 years old group showed better performance than 4-6 years old group (in both normal and ID). The results of the present study is in accordance with the study done by Subba Rao (1995) where he says that acquisition of Morphophonemic structures increase with age.

Clinical Implication

Typically developing children performed better when compare to children with Intellectual Disability matched on mental age. As the age increases the performance of language usage increases. The obtained data is useful for speech language pathologist for a focused assessment, better intervention and monitoring progress in therapy.

Limitations of the Present Study

- Lesser sample size
- Age range of 4-5 and 5-6 only were taken for the study.
- Few Morpho-phonemic structures were selected as stimuli

Future Implications

- Study can be done in different age group.

- Study can be conducted on other dialects in Malayalam.
- Detailed research work can be conducted in other disordered population.

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