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Field testing of Manual for Adult Non-Fluent Aphasia Therapy in Kannada (MANAT-K)

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CHAPTER I

INTRODUCTION

Aphasia is described as a “multimodality reduction in the capacity to decode (interpret) and encode (formulate) meaningful linguistic elements. It is manifested as difficulties in listening, reading, speaking and writing’’ (Darley, Aaronson & Brown, 1975, as cited in Benson & Ardila, 1996).

The management of persons with aphasia is a complicated task that involves the coordinated efforts of a rehabilitation team representing several disciplines. The speech language pathologist (SLP) being one of the key members of the team, faces a number of challenges while planning the management program for persons with aphasia. The reason is mainly due to the varied nature of the disorder, manifesting impairment in all the aspects of language. Thus, it has been stated by the researchers that the speech language pathologists must use language treatment programs that have been described in detail and proved to be effective (Shewan & Bandur, 1986). There are various authors who have proposed a number of therapy techniques for the treatment of non-fluent aphasia such as Language Orientated Treatment, Helm Elicited Program for Syntax Stimulation, Response Elaboration Training and so on. However, the effectiveness of these techniques depends on the usage of the linguistic material.

The management of persons with aphasia is an obscure task that involves the coordinated efforts of professionals representing several disciplines (Shewan, 1986). Hence, speech language pathologists must use language treatment programs that have been proved to be effective, so that these can be reliably utilized by practicing

clinicians (Shewan & Bandur, 1977). Clinically, no two persons with aphasia will exhibit an identical symptom profile. Thus, it is important that the treatment programs are tailor made to suit the needs of a person with aphasia.

Authors have proposed a number of therapy techniques and manuals for the treatment of aphasia but, majority of them refer to the Western population (English language), for example, the Manual for Aphasia Therapy developed by Longerich (1968), An Auditory and Verbal Task Hierarchy by Ross and Spencer (1980). In the Indian context, Manual for Adult Non-Fluent Aphasia Therapy- in Hindi (MANAT-H, Deshpande & Goswami, 2004), Manual for Adult Non-Fluent Aphasia Therapy- in Kannada (MANAT-K, Venugopal & Goswami 2005) have been developed. These manuals have focused mainly on developing materials for therapy purposes, but have not been field tested. By using a field tested manual, speech language pathologists can provide better and effective rehabilitation for persons with aphasia. Hence, a need was felt to field test the Manual for Adult Non-Fluent Aphasia Therapy- in Kannada.

AIM OF THE STUDY

To field test the Manual for Adult Non-Fluent Aphasia Therapy- in Kannada (MANAT-K).

CHAPTER II

REVIEW OF LITERATURE

Aphasia is a language disorder which results from damage to regions of the brain which sub-serve the formulation and understanding of language and its elements (i.e. phonological, semantic, morphological, and syntactic knowledge) as defined by Helm-Estabrooks and Albert, 2004.

There are many different approaches to aphasia therapy reflecting the variety of viewpoints about both the nature of impairment in aphasia and the aims of the therapy process (Howard & Hatfield, as cited in Whitworth, Webster & Howard, 2005). The approaches are characterized by a number of broad perspectives, some of which are traditional while the contributions of others are yet to be determined. The diversity also reflects a great variety of symptoms present in persons with aphasia. The varying severity and impact of language impairments have been reported in persons with aphasia and their communication partners. Further on, Elman (2007) reported that aphasia treatment has typically targeted linguistic and communication deficits in an individualized clinical setting.

Various other investigators like Albert, Goodglass, Helm, Rubens, & Alexander, 1981; Seron, 1984) have classified therapy approaches into two main groups. First is the belief that aphasia reflects an impairment of access to language, or damage to language processes or representations. Therefore, with therapy, language functions can be restored, relearned or retained. The second approach is based on the assumption that the impaired processes are themselves irremediable. In this case therapy must be drawn on compensatory strategies to take over those impaired functions.

Two broad approaches have been documented in the literature to improve and restore the deficits in persons with aphasia namely restoration and compensatory approaches.

Restoration approach

Traditionally, the aim of aphasia intervention is to restore language functions and curb the effects of aphasia (Beukelman, Fager, Ball, & Dietz, 2007; Dietz, McKelvey, & Beukelman, 2006; Dietz, McKelvey, Beukelman, Weissling, & Hux, 2006; McKelvey, Dietz, Hux, Weissling, & Beukelman, 2007). A review of literature revealed the effectiveness of restorative intervention strategies, especially during the acute stages of recovery (Holland, Fromm, DeRuyter, & Stein, 1996; Horner, Loverso, & Gonzalez-Rothi, 1994; Poeck, Huber, & Williams, 1989; Robey, 1998). However, there is a fundamental problem with the restoration approach; it is typically ineffective in fully restoring the linguistic system. That is, 40% of people with aphasia eventually plateau in their ability to re-establish their linguistic system and must live with aphasia as a chronic condition (Helm-Estabrooks, 1984). In short, they have a linguistic system that leaves them unable to interact fully during daily communicative activities (Garrett & Lasker, 2005a; 2005b; McKelvey, Dietz, Hux, Weissling, & Beukelman, 2007).

Compensatory approach

An alternative to the restoration approach is to compensate for the residual linguistic deficits of chronic aphasia. Clinicians often accomplish this through the implementation of augmentative and alternative communication (AAC) devices and techniques. These include the use of remnant materials, drawing, gestures, written words, and written choices as well as low technology communication books and

boards (Beukelman, Yorkston, & Dowden, 1985; Garrett, 1993; Garrett & Huth, 2002; Garrett & Lasker, 2005b; Ho, Weiss, & Garrett, 2005; Lasker, Hux, Garrett, Moncrief & Eischoid, 1997; Lyon & Estabrooks, 1987; Lyon, 1992; 1995; 1998).

Therapeutic considerations

There are different schools of thoughts which view the whole aphasia syndrome in various ways. A person with aphasia rarely presents a clear-cut deficit in just one tapered domain of language. Hence, it is not advocated to use analogous therapeutic programs on persons with aphasia even though the diagnoses are on similar lines.

There are several therapy techniques to improve the communication skills of persons with non-fluent aphasia reported in the literature. In order to use these therapy techniques effectively, apposite stimulus material has to be used by the clinician. Therefore, the outline of the therapy program has to be planned in such a way that the activities included be discrete, structured and should progress with appropriate documentation in every session. Documenting the responses of the persons with aphasia not only gives the speech- language pathologists a feedback about the performances, but also to the person with aphasia himself and the caregivers.

The therapy techniques used to improve the communication abilities of persons with non-fluent aphasia are presented in Table 1.

Table 1. *Different therapy techniques used for improving communication abilities in persons with non-fluent aphasia.*

Sl. No	Name of the therapy technique	Given by	Rationale
1	Melodic intonation therapy	Albert, Sparks and Helm (1973)	It was hypothesized that functions associated with the right hemisphere might be exploited for the purpose of rehabilitating speech in left hemisphere damaged individuals.
2	Helm Elicited Program for Syntax stimulation (HELPSS)	Helm (1981)	Developed to improve an agrammatic person produces a wide variety of syntax for the purpose of communication.
3	Voluntary Control of Involuntary Utterances (VCIU)	Helm and Barresi (1980)	It was developed based on the belief that virtually all the persons with aphasia have the ability to utter a real word under certain circumstances. Hence, the clinician identifies involuntary utterances/vocabulary and helps the person with aphasia bring it under voluntary control.
4	Response Elaboration Training (RET)	Kearns (1990)	The main idea behind developing this technique is to increase the length and information content of verbal responses. This technique is particularly useful in persons with Broca's aphasia.
5	De-blocking	Weigl (1968)	This particular technique is a special kind of stimulation which uses the intact channel and eliminates a block in understanding, or expression. The responses are evoked via other channels by presenting the stimuli through the intact channel.
6	Language oriented treatment (LOT)	Shewan & Bandur ,1986	To provide person with aphasia a language processing system that operates at its maximum functional level of applying neuro-linguistic findings to Treatment. It is a psycholinguistic approach to the treatment of aphasia. Treatment of language content is emphasized
7	Promoting Aphasic's Communicative Effectiveness (PACE)	Davis and Wilcox (1991)	To facilitate persons with aphasia to deal with everyday situation

The Manual for Adult Non-fluent Aphasia Therapy in Kannada (MANAT-K) consists of five broad domains. Therefore, the review of literature is discussed under the headings of these five domains.

a) Functional communication domain

b) Repetition domain

c) Comprehension and Expression domain

d) Naming domain

e) Reading and writing domain

a) Functional communication domain

Functional communication problems in different areas like language, behavioral and physical skills lead to restrictions in social involvement. Consequences of difficulty in communication can impinge on their participation in society and may lead to social isolation, mental and emotional changes (behavioral problems like depression, apathy), problems in adjustments of interpersonal relations, lack of independence and failure to return to their workplace (Cruice, Worrall, Hickson & Murison, 2003).

Treatment should focus on "bridging language skills and adaptations into the real-life needs of the person with aphasia" (La Pointe, 2005). The treatment for aphasia by the speech-language pathologists often depend on the needs and preferences of persons with aphasia and their family members, the time (post-onset of stroke) and other variables which will vary from individual to individual. It is essential that the speech-language pathologist incorporate these tasks which are

functional for each person with aphasia. For example, a bank employee may be given a word retrieval task which requires him to name various activities needed for his job.

b) Repetition domain

Repetition refers to the ability to reproduce patterns of familiar speech sounds from the auditory presentation. It is the most elementary mechanism at the core of spoken language. Goodglass and Kaplan (1983) reported that repetition phenomenon in persons with aphasia could be distributed at three points in the process:

- May fail at the level of recognition. May fail to grasp the sounds as words.
- Failure at the level of articulation in spite of a person's ability to demonstrate that the person knows the meaning of the test word.
- Failure due to selective disassociation between auditory input and speech output system.

It is observed that in persons with non-fluent aphasia, especially in the Broca's aphasia group, repetition of spoken language tends to be abnormal. In persons with Broca's aphasia phonetic and phonemic distortions, omissions, iterations and simplification of syllable clusters regularly occur. It is also seen that there is selective impairment in repetition of syntactic grammatical and linguistic structures. These errors are more marked when the stimuli presented are at the sentence level. On the other hand, persons with transcortical motor aphasia show remarkably intact repetition skills in contrast to their poor verbal output.

Bacon, Potter and Seikel (1992) administered four different types of auditory-verbal "yes-no" questions (egocentric, environmental, pictorial & relationship items)

on two groups of persons with aphasia. They reported that the group which received consistent presentation of these questions performed somewhat superiorly than the group which received the same in random order. They also established support for the presence of a hierarchy of difficulty among the types of auditory-verbal "yes-no" questions.

Thus, the role of including automatic, egocentric and environmental stimuli at various levels of difficulty in improving one of the basic schemes of spoken language is pivotal.

c) Comprehension and Expression domain

It is observed that the auditory comprehension is better preserved in persons with non-fluent aphasia in comparison to the fluent type. Comprehension is relatively better than the verbal output. Comprehension deficits in persons with non-fluent aphasia can range from difficulty in comprehending a specific sequence of commands, pointing to a serially named object/picture. They might often have difficulty in understanding of syntactic structures and words omitted in the verbal output are difficult to comprehend Caplan and Hildebrandt (as cited in Benson & Ardila, 1996). Comprehension of spoken language is usually considered to be good in persons with transcortical motor aphasia at least at the level of routine conversation. There might be some difficulty in complex material and relational words Rothi and Heilman, (as cited in Benson & Ardila, 1996).

Caramazza, Capasso, Capitani and Miceli (2005) conducted a study on using active and passive sentences in 38 persons with Broca's aphasia and the lesion of these participants were in the pre frontal (Broca's Area 44 and 45 of Broadman) and was

heterogeneous in nature. They reported that there was no simple appearance of comprehension deficits in these participants and they attributed this to the variation in comprehension level of participants and large linguistic and cognitive heterogeneity of the tasks they used.

It is seen that the speech of non-fluent aphasia is characterized by loss of grammar and syntax. According to Goodglass and Berko (as cited in Benson & Ardila, 1996), agrammatism describes a disruption of grammatical structure within language output. Persons with agrammatic aphasia have maximum difficulty in using and understanding grammatical morphemes (connectors & affixes) and lesser difficulty in lexical morphemes. The output often appears to be telegraphic due to the omission of functional grammatical markers. Although phrase length is reduced, semantic content is maintained. According to Benson and Ardila, 1996, nouns are the most frequent and best preserved language elements in agrammatic output.

Hence, it is important to incorporate the various activities to improve the auditory comprehension skills.

d) Naming domain

Naming is a major speech production target for most persons with aphasia. Hence, treatment for naming deficits depends on the type of errors presented by a person with aphasia. Generally, persons with frontal lobe lesions including the Broca's area present with word production anomia. This type results from motor problems that are consequence of the anterior lesions. This type of word production anomia is further classified into several types. *Articulatory reduction anomia* is most commonly found in persons with Broca's aphasia. Due to the reduction in articulatory competency, naming problems arise which is characterized by deletion of syllables in

clusters and phonemic assimilation. *Prefrontal anomia* characteristic of transcortical motor aphasia where the typical problem lies in fragmentation or whole-part errors, incorrect perseveration of previously correctly produced name. Persons with non-fluent (Broca's & transcortical motor aphasia) also have *articulatory initiation anomia* in which they have extreme difficulty in initiation of articulatory gestures in the production of words and phrases (as cited in Hegde, 1998).

Howard, Patterson, Franklin, Orchard-Lisle, and Morton (1985 b) conducted a study on 12 persons with acquired aphasia who demonstrated word-finding deficits. They compared the effect of two therapy techniques in the treatment of picture naming deficits. The two therapy techniques were semantically and phonologically-based treatments and each participant took part in both types of treatments. The participants, for each technique, either attended four sessions per week or eight sessions per two weeks. Results indicated that after one week following the end of the treatment, significant amount of improvement was reported for semantic therap. The researchers attributed this to the improvement that generalized to the untreated items. They have concluded that precise and theoretically driven therapy methods will bring about significant improvement in the word retrieval abilities in persons with aphasia.

In another study, Henaff Gonon, Bruckert and Michel (1989) reported a single participant study with "parasemia". They concluded that graphical cueing helps overcoming circumlocutory errors. Pring, White-Thomson, Pound, Marshall, and Davis in 1990 support the view that use of picture to word matching tasks aids treating naming errors in persons with aphasia. Treatment for naming also gets evidence from the research report by Basso, Marangolo, Piras and Galluzzi (2001). They explored the efficacy of their new methods for treating naming deficits. The

techniques used were repetition, reading aloud and orthographic cueing method. They conducted this study on 30 normals and also on two persons with aphasia. They concluded that in both the conditions, orthographic cueing was significantly more efficacious than the other two methods.

In a more recent study by Kiran and Bassetto (2008) have reported that the treatment focus of word retrieval deficits can be categorized into two approaches namely the *restitutive* and *substitutive* strategies. Restitutive strategies basically include the relearning of certain features of language, such as naming, that are thought to be lost. An example of restitutive therapy includes semantic cueing treatment which involves the person with aphasia engaging in a verbal description-to-picture matching activity that helps the person with aphasia attempting to name the picture.

On the other hand, substitutive strategies as the name suggests are treatment techniques that utilize intact, alternative pathways as a substitute of damaged normal pathways. Exemplars of substitutive therapy include orthographic mechanisms, in which the person with aphasia utilizes the modality of writing to overcome the deficit in verbal naming through self-cueing or print-to-sound conversion processes; and, gesture mechanisms, in which gestural-processing mechanisms are activated through pantomime, or the conveyance of emotions, actions, etc. through gestures without speech.

Chapey (2008) reported that if a person with aphasia is unable to name the picture, he/she undergoes a sequence of semantically involved cues to induce naming of the target word.

e) Reading and writing domain

In persons with non-fluent aphasia reading deficits may present itself as a difficulty (often total failure) in reading aloud. Most of the persons with non-fluent aphasia (especially the Broca's aphasia) have difficulty in comprehending written material (as cited in Benson & Ardila, 1996). However, reading comprehension may be better preserved than reading aloud. On the other hand, persons with transcortical motor aphasia both reading aloud and comprehension is better preserved than their writing skills. Also the reading comprehension is reported to be at near normal levels except for syntactically complex materials.

Writing deficits in persons with non-fluent aphasia do exists as they have paresis/paralysis on the right side. Further, writing is a motoric activity which also gets affected and requires remediation program to improve the writing skills. Grammatical functional words are routinely misspelled and omitted; letters are poorly formed with multiple misspellings. These errors are more pronounced on dictation tasks. As reported by Benson and Ardila (1996) spontaneous writing is virtually impossible.

Reading and writing deficits may be more or less important for a person with aphasia. Hence, the clinician working to improve one's reading and writing skills should take in to consideration the pre-morbid literacy level, current need and interest in reading and writing.

To sum up, from the literature reports one can derive that the persons with aphasia exhibit deficits in various linguistic domains. Thus, it is of utmost importance that speech language pathologists plan activities using materials/ stimuli which are field tested and are directed to improve the skill deficit areas.

CHAPTER III

METHOD

The present study aimed at field testing the Manual for Adult Non-Fluent Aphasia Therapy- in Kannada (MANAT-K). The modifications of the existing manual and field testing of same was carried out on persons with non-fluent aphasia between the age range of 28-73 years. The details of the participants and procedure are elucidated in this chapter.

Participants

A total of ten persons with non-fluent aphasia served as participants for the study. Persons with aphasia were identified through hospitals, neurological clinics and/ or speech and hearing institutes/centers. They were diagnosed using adapted version of Western Aphasia Battery in Kannada (Chengappa & Vijayashree, 2007) by experienced speech language pathologist. The age range of the participants ranged from 28-73 years with a mean age of 51.4 years. The non-fluent aphasia group consisted of one person with global aphasia, six persons with Broca's aphasia and three persons with trans-cortical motor aphasia. Participants were selected by adhering to the appropriate ethical procedures. Participants and the family members were explained about the purpose and procedures of the study, and an informed verbal and/or written consent was taken.

Inclusionary criteria

All participants were native speakers of Kannada and had aphasia following stroke and the lesion was confined to left hemisphere. There was no known history of pre-morbid neurological illness, psychiatric disorders and/or cognitive decline, and no

other significant sensory and/or cognitive deficits. The demographic details of the participants are presented in Table 2.

Table 2. *Demographic details of persons with aphasia.*

Sl.No	**Age (years)**	**Gender**	**Time Post Onset**	**Type of aphasia**	**Pre-morbid vocation**
1	65	Male	Seven months	Global aphasia	Business
2	40	Male	Eight months	Broca's aphasia	Auto driver
3	28	Male	Three years	Broca's aphasia	Animation designer
4	52	Male	11 months	Broca's aphasia	Factory worker
5	56	Male	Four years	Trans-cortical motor aphasia	Bank employee
6	49	Male	Six months	Broca's aphasia	Bank employee
7	46	Male	Four months	Broca's aphasia	Daily wager
8	73	Male	Three months	Trans-cortical motor aphasia	Retired Sub-Inspector of Police
9	45	Male	Eight months	Broca's aphasia	Bus Driver
10	60	Male	One month	Trans-cortical motor aphasia	Group D employee

Procedure

The present study was carried out in two phases. The phase I included reviewing the Manual for Adult Non-fluent Aphasia Treatment in Kannada (MANAT-K). This manual was developed by Venugopal and Goswami (2004). Phase II included the field testing of the MANAT-K. In this phase persons with non-fluent aphasia were given treatment using this manual. Each participant attended a total of

15 speech and language therapy sessions, each session lasting for duration of 45 minutes.

Phase I: Modification of the Manual

Preparation of stimuli: Manual for Adult Non-fluent Aphasia Treatment in Kannada (MANAT-K) by Venugopal and Goswami (2004) was reviewed. After reviewing MANAT-K (2004), the documented principles and guidelines prescribed in the literature for the treatment of persons with non-fluent aphasia were compiled and organized. The illustrations of various activities in the different domains were based on the principles of aphasia management. The activities of each sub-section have been arranged in hierarchical order along with its stimulus and response mode hierarchy. Scoring pattern and progress criteria are provided in the beginning of each sub-section. Overall progress criterion is also provided for each domain and its sub-sections.

The broad domains as listed below were finalized:

•Functional communication (FC)

• Repetition (R)

•Comprehension and Expression (C&E)

• Naming (N)

• Reading and writing (R&W)

Each of these domains is further sub-divided into several sub-sections:

Functional Communication (FC)

In this domain, aspects related to daily living like nouns, common verbs which are basic and applicable in day-to-day life were considered. The eight aspects covered under functional skills are:

1. Responding to own name
2. Recognition of family members
3. Recognition of familiar objects
4. Comprehension of simple Verbal commands
5. Comprehension of action verbs
6. Functional verbal language
7. Activities of daily living
8. Activities of independence

Repetition (R)

This domain is sub-divided into five sub-sections:

1. Equivocal response
2. Automatic speech
3. Egocentric stimuli
4. Environmental stimuli
5. Phrases and sentences

Comprehension and Expression (C&E)

The focus of this section is to improve comprehension and expressive abilities at various linguistic levels. These levels are:

1. Semantic level
2. Syntax level
3. Discourse level

1. Semantic level

A. Gross phonemic level

B. Finer phonemic level

C. Word level

i. Vocabulary

ii. Antonyms

iii. Synonyms

iv. Syntagmatic and paradigmatic relations

v. Semantic similarity

vi. Semantic contiguity

vii. Semantic anomaly

2. Syntax level

A. Person Number Gender (PNG) markers

B. Tenses

C. Answering yes-no (polar) questions

i) Egocentric ii) Environmental

D. Following body part command

i) One-step

ii) Two step and

iii) Multi-step commands

E. Following commands with visual stimuli

i) One-step

ii) Two step and

ii) Multi-step commands

F. Identification of objects described by function

G. Identification of objects named serially

H. Sentence types

i) Imperative iv) Exclamation vii) Case markers

ii) Declarative v) Comparatives viii) Clauses

iii) Negation vi) Voice

3. Discourse level

A. Listening comprehension

B. Reading comprehension

Naming (N)

This domain is sub-divided into three sub-sections as listed below:

1. Confrontation naming
2. Lexical generative naming: Phoneme fluency, word fluency, category specific
3. Responsive naming

Reading and Writing (R & W)

This domain is sub-divided into four sub-sections as listed below:

1. Functional reading and writing
2. Advanced reading
3. Advanced writing
4. Arithmetic skills

Stimuli and activities incorporated in MANAT-K under the above mentioned sections were framed keeping in mind the semanticity, familiarity and usage. Appropriate picture stimuli wherever necessary for the manual were drawn by a professional artist. A feedback rating questionnaire (Appendix I) was developed containing 20 parameters, consisting of a 5-point rating scale in order to rate the stimuli and activities illustrated in the various sub-sections of modified MANAT-K. Twelve Speech Language Pathologists (SLPs) who were native speakers of Kannada were asked to judge the manual based on this feedback questionnaire. The responses of the judges about the manual are shown in Table 3a.

Table 3a. *Responses of the judges regarding the manual.*

Sl. No	Parameters	Very Poor	Poor	Fair	Good	Excellent
1	Simplicity			1	9	2
2	Familiarity			2	7	3
3	Size of the picture			2	5	5
4	Color and appearance			5	2	5
5	Arrangement			4	5	3
6	Presentation		2	2	8	
7	Volume			3	8	1
8	Relevancy				9	3
9	Complexity			3	7	2
10	Iconicity			5	6	1
11	Accessibility			4	6	2
12	Flexibility				8	4
13	Trainability			1	4	7
14	Stimulability			1	7	4
15	Feasibility			1	8	3
16	Generalization		2	3	4	3
17	Scope of practice			2	6	4
18	Scoring Pattern			7	3	2
19	Publications, Outcomes and Developers (professional background) *	Yes	2			
		No	10			
20	Coverage of parameters (Reception and expression)			1	9	2

**The SLPs were asked to rate this parameter in terms of "Yes" or "No"*

There were few other suggestions given by the SLPs regarding the correction of syntactic structures/sentence formation to be followed in Kannada, clarity and color of the topic representation in the picture stimuli, arrangement of stimuli in random order under the "tenses" section of "syntax level". The suggestions given by the judges were incorporated and a final form of MANAT-K was prepared.

Additionally, to get a feedback about the expediency of the manual from the caregivers of the participants, a feedback questionnaire was developed. This questionnaire was distributed to them at the end of the 15th therapy session (Appendix II).

Phase II: Field testing

In phase II, the field testing of MANAT-K was carried out. Ten persons with different types of non-fluent aphasia (one-global; six-Broca's & three- trans-cortical motor aphasia) were subjected to MANAT-K. Using this manual, speech-language therapy was given by a speech language pathologist for 15 sessions each session lasting for duration of 45 minutes.

However, during the speech language therapy sessions, a need was felt to incorporate tailor made activities for each person with non-fluent aphasia, since the group was heterogeneous in nature. Hence, additional activities were integrated in the manual to provide a broader view keeping in mind some other deficits. These are:

- Treatment for Apraxia of Speech (AOS) - Eight Step Continuum (Rosenbek et al. 1973) (Appendix III) - This treatment program was developed by Rosenbek et al. 1973 as cited in Freed, 2000). It is an eight-step sequence of structured activities that moves the person from repeating target phonemes with the clinician to independence productions of utterances in role-playing situations.

- Oro-motor exercises (Appendix IV)–A wide range of activities are included to improve the oro-muscular strength (As cited in Freed, 2000).

- Written alphabet and word cards (for each stimulus) -Each stimulus card measuring approximately 6 ½ x 5 inches.

- Individual picture cards- Each stimulus card measuring approximately 6 ½ x 5 inches**.**

Response and recording

Each session of speech language therapy was video recorded. The video recorded sample was analyzed for the number of correct, partial/intelligible and incorrect/no responses for each participant in different sub-sections of MANAT-K. A score of '1', '1/2' 'and '0' was given for every correct, partial/intelligible and incorrect/no responses respectively.

The raw scores of each participant for different activities were converted to percentage. Further these scores were subjected to statistical analysis using SPSS software(version16.0)package.

CHAPTER IV

About Manual for Adult Non-fluent Aphasia Therapy in Kannada–(MANAT-K)

MANAT- K consists of five main domains: These domains are being presented in six booklets. The contents of the booklets are:

- Booklet 1- Details of the manual and the activities.
- Booklet 2- Picture stimuli of functional communication, comprehension and expression and naming domains at semantic level.
- Booklet 3- Picture stimuli of comprehension and expression domain at syntax level.
- Booklet 4a- Written alphabet and word cards for each stimulus in the repetition domain (automatic speech). This will aid in orthographic cueing.
- Booklet 4b- Written word cards for each stimulus at (word level-vocabulary) semantic level. This will aid in orthographic cueing.
- Booklet 5- Picture card for each stimulus at semantic level (It can be used for activities like multi-step commands, confrontation naming and also in persons with aphasia who find it difficult to select the stimuli from an array of pictures).

Following are the five domains of MANAT- K

Functional communication

This domain aims at enabling the person with aphasia to use language required in his/her daily life. It also includes a sub-section on activities of daily living

(ADL) and activities of independence (AOI) to help the person with aphasia to cope up with everyday situation. Pictures are provided where required.

Comprehension and Expression

This domain aims at improving auditory comprehension through intensive training at various linguistic skills like semantic, syntactic and discourse levels and improving the communication of persons with aphasia through verbal/nonverbal mode, by reducing apraxic errors, perseverative errors, jargon utterances and paraphasias. Treatment hierarchy is provided, keeping the specific therapy techniques as base.

Repetition

There are no pictures provided for this domain. However, clinician is free to use pictures in this domain from the vocabulary. The person with aphasia is expected to repeat using auditory and graphic cues.

Naming

Pictures are provided only for the confrontation naming activities.

Reading and writing

This domain aims at improving the reading and writing skills of persons with aphasia at both functional and advanced levels. A sub-section on arithmetic skills has also Reading and writing: This domain aims at improving the reading and writing skills of persons with aphasia at both functional and advanced levels. A sub-section on arithmetic skills has also been included through which the concept of money and its usage can be worked upon.

Cueing hierarchies are provided for each sub-section.

Treatment for Apraxia of Speech (AOS) - Eight Step Continuum (Rosenbek et al, 1973)

It is an eight-step sequence of structured activities that moves the patient from repeating target phonemes with the clinician to independence productions of utterances in role-playing situations.

Oro-motor exercises

A wide range of activities are included to improve the oromuscular strength.

Treatment recording sheet

The treatment recording sheets (adapted from "Manual for Adult Fluent Aphasia Therapy- Kannada, Chaitra & Goswami 2009) has been included. It is expected that the clinician follows these sheets to record the target activity, mode of presentation of the stimuli, mode of responses, target skills, number of trials and percentage of the correct responses for each domain and sub-section (Appendix V). An exemplar of the same is depicted in Table 3b.

Profile analysis

A profile analysis can be made by the clinican regarding the overall communication skills. The improvement (in percentage) over a period of time can be documented by shading the respective domains in which the improvement is observed and this reflects on the overall performance of the person with apahsia across various domains

of MANAT-K. The profile analysis form is depicted in Appendix VI. As comprehension and expression domain has same activities the domains are depicted in the same column. However the shading is to be made separately.

Table 3b. *An exemplar depicting the use of treatment recording sheet.*

Name of the person with aphasia: XX Case No. : XX
Age/gender 60yrs/M Date: 14/5/2010
Provisional Diagnosis: Transcortical motor aphasia Session No. : 1 Clinician: XX

Activity	Stimulus number	Stimulus mode	Response mode	Target response	No. of trials										% correct responses
					1	2	3	4	5	6	7	8	9	10	
Functional Communication-ADL-Brushing (Level-2)	2	*A+V	Verbal	/pe:stu/	1/2	1/2	1/2	1							62.5%
Coprehension at Semantic Level-Gross Phonemic Level (Level-1)	1-10	A+V	Pointing	To point the named item	1	-	-	-	-	-	-	-	-	-	100%
Expression-Semantic Level-Vocabulary (food items)	1	A+V	Verbal	/idli/	0	0	0	0	1/2	1					25%
Naming to picture-Animals	3	A+V	Verbal	/bekku/	0	0	0	1							25%
Expression-Syntactic level-Casemarkers (Nominatives)	8	A+V	Verbal	/a:ne/	0	1/2	1/2	1/2	1						50%

Note: *A+V =Auditory +Visual node

Points to consider (Adapted from: MANAT-H)

• Creating a good communicative environment

• Communicate in a quiet, well lit and ventilated room.

• Limit the number of people, avoid large groups.

• Encourage the person with aphasia to communicate.

• Recognize and reinforce communication gains.

• Do not ask the person with aphasia to talk and do something else at the same time.

• Respect the privacy of the person with aphasia.

• Keep the person with aphasia informed about what is happening.

• Be aware of fatigue.

• Encourage the person with aphasia to be independent.

• Keep the person with aphasia occupied.

• Be sensitive to the person with aphasia

As a speaker

• Talk slowly.

• Avoid rising your voice.

• Use appropriate language in the form of:

- Short sentences

- Simple sentences

- Familiar words

- Do not bombard the person with aphasia with too many questions.

• Stress the important words in sentences.

• Accompany a message with gestures or repeat if the person with aphasia does not understand.

As a listener

• Listen and do not interrupt.

• Be patient.

• Enough time should be given to the person with aphasia to respond.

• Accept language errors.

Repair Strategies

The various repair strategies that the clinician can use to improve the overall communication skills for persons with aphasia are:

1. Vocal/sub vocal rehearsal: In this strategy persons with aphasia are requested to repeat the command loudly or by whispering while or before performing the task.

2. Self- correction: In the self monitoring strategy person with aphasia is asked to correct him/herself, if the response with reference to the stimuli is incorrect.

The clinician should provide realistic feedback and also encourage him/her to monitor their response.

3. Repetition: It is a repair strategy in which person with aphasia is encouraged to ask for the repetition of the presented stimuli when he/she does not comprehend.

4. Cue: Certain clues provided by the clinician/communication partner which facilities persons with aphasia to produce the target response. Hierarchy of six cues given by Pease and Goodglass (1978) can be used which is as listed below:

    a. Providing the first sound or sound combination

    b. Providing a super ordinate (animal to cue as a dog)

    c. Providing an environmental context or location of the target

    d. Providing a rhyming word

    e. Providing a statement of function

    f. Providing a sentence completion cue

The following steps involve organized way from most to least facilitating based.

- Step one: First sound or sound combination
- Step two: Sentence completion
- Step three: Rhyme
- Step four: Super ordinate, function, location

The other cues such as graphic, combination of auditory, visual, graphic can also be

used.

5. Rephrasing: It is a repair strategy which either a clinician or a person with aphasia can use. In this strategy the complex stimuli is simplified or is broken down into several parts.

6. Reducing the presentation of the rate of stimuli: The clinician is expected to slow down the presentation of the stimulus in order to facilitate the comprehension ability of persons with aphasia.

7. Reducing the rate of speaking: This strategy can be used either by the clinician or by persons with aphasia where the rate of speaking is slowed down. This will improve the self monitoring and also intelligibility of speech.

8. Feed back: It is a repair strategy in which the clinician or communication partner gives feedback through auditory / visual modality to the person with aphasia to let him/her know whether the response was as expected or not.

9. Usage of alternative communicative strategy: All possible modes of communication should be considered to improve overall communication of persons with aphasia.

It is expected that the clinician demonstrates, illustrates or instructs to adhere to these strategies for improving the overall communication skills. Further the clinician is also expected to provide appropriate model, realistic feedback and communication opportunities. These above mentioned strategies can be used either in isolation or in combination. Clinicians are free to add any other strategy which they feel will facilitate the communication.

Progression criterion list

- Begin with functional communication and comprehension domains simultaneously. Only when the total score in each of these domains reaches 50%, move to the next level.
- The activities of the repetition and activities of functional reading and writing domain should be introduced now. When a score of 25% in repetition, functional reading and writing is achieved and 75% in functional communication and comprehension, each, proceed to the next level.
- When the person with aphasia scores 100% on both functional communication and comprehension and 50% on repetition, functional reading and writing move to the next level.
- The activities in expression should be introduced now. When 25% score in the expression domain, 75% in repetition and 100% on functional reading and writing is reached move to the next level.
- The activities in expression should be continued till a score of 75% is achieved. Naming should be introduced and worked on till 75% score is achieved. Move to the next level.
- The advanced reading, writing and arithmetic skills should be introduced now and worked upon till 75% of the score is achieved.
- At the end of the manual it is expected that in each domain the performance of person with aphasia is 75% or above and in overall 90% and above.

Note: To generalize the learnt skills, it is advised that in every session clinician should take up activities from each domain eventhough he/she would have achived a score of 75% or more in that particular domain.

MANUAL FOR ADULT NON-FLUENT APAHSIA THERAPY–IN KANNADA

(MANAT-K)

CONTENTS

Functional Communication (FC)

In this domain, aspects related to daily living like nouns, common verbs which were basic and applicable in day-to-day life were considered. The eight aspects covered under functional skills are:

1. Responding to own name
2. Recognition of family members
3. Recognition of familiar objects
4. Comprehension of simple verbal commands
5. Comprehension of action verbs
6. Functional verbal language
7. Activities of daily living
8. Activities of independence

Repetition (R)

This domain was sub-divided into five sub-sections:

6. Equivocal response
7. Automatic speech
8. Egocentric stimuli

9. Environmental stimuli
10. Phrases and sentences

Comprehension and Expression (C&E)

The focus of this section was to improve comprehension and expressive abilities at various linguistic levels. These levels were:

1. Semantic level
2. Syntax level
3. Discourse level

1. Semantic level

A. Gross phonemic level

B. Finer phonemic level

C. Word level

i. Vocabulary

ii. Antonyms

iii. Synonyms

iv. Syntagmatic and paradigmatic relations

v. Semantic similarity

vi. Semantic contiguity

vii. Semantic anomaly

2. Syntax level

A. Person Number Gender (PNG) markers

B. Tenses

C. Answering yes-no (polar) questions

i) Egocentric ii) Environmental

D. Following body part command

i. One-step

ii. Two step and

iii. Multi-step commands

E. Following commands with visual stimuli

i. One-step

ii. Two step and

iii. Multi-step commands

F. Identification of objects described by function

G. Identification of objects named serially

H. Sentence types

i. Imperative

ii. Declarative

iii. Negation

iv. Exclamation

v. Comparatives

vi. Voice

vii. Case markers

viii. Clauses

III. Discourse level

1. Listening comprehension
2. Reading comprehension

Naming (N)

1. Confrontation naming
2. Responsive naming
3. Lexical generative naming: Phoneme fluency, word fluency, category specific

Reading and Writing (R & W)

This domain is sub-divided into four sub-sections as listed below:

1. Functional reading and writing
2. Advanced reading
3. Advanced writing
4. Arithmetic skills

FUNCTIONAL COMMUNICATION (FC)

This section is subdivided into:

1. Responding to own name
2. Recognition of family members
3. Recognition of familiar objects
4. Comprehension of action verbs
5. Comprehension of simple verbal commands
6. Functional verbal language
7. Activities of daily living
8. Activities of independence

Scoring

- 0 = No response/ incorrect response/ unintelligible response
- 1/2= Partially correct and intelligible response
- 1 = Fully correct and intelligible response

Progress criteria: 75% of the total score

Repair strategies: Repair Strategies

The various repair strategies that the clinician can use to improve the overall communication skills for persons with aphasia:

a) **Vocal/sub vocal rehearsal:** In this strategy persons with aphasia are requested to repeat the command loudly or by whispering while or before performing the task.

b) **Self- correction:** In the self monitoring strategy person with aphasia is asked to correct him/herself, if the response with reference to the stimuli is incorrect. The

clinician should provide realistic feedback and also encourage him/her to monitor their response.

c) **Repetition**: It is a repair strategy in which person with aphasia is encouraged to ask for the repetition of the presented stimuli when he/she does not comprehend.

d) **Cue**: Certain clues provided by the clinician/communication partner which facilities persons with aphasia to produce the target response. Hierarchy of six cues given by Pease and Goodglass (1978) can be used which is as listed below:

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2. Providing a super ordinate (animal to cue as a dog)
3. Providing an environmental context or location of the target
4. Providing a rhyming word
5. Providing a statement of function
6. Providing a sentence completion cue

Step involves organized way from most to least facilitating based

Step one: first sound or sound combination

Step two: sentence completion

Step three: rhyme

Step four: super ordinate, function, location

The other cues such as graphic, combination of auditory, visual, graphic can also be used.

e) **Rephrasing:** It is a repair strategy which either a clinician or a person with aphasia can use. In this strategy the complex stimuli is simplified or is broken down into several parts.

f) **Reducing the presentation of the rate of stimuli:** The clinician is expected to slow down the presentation of the stimulus in order to facilitate the comprehension ability of persons with aphasia.

g) **Reducing the rate of speaking:** This strategy can be used either by the clinician or by persons with aphasia where the rate of speaking is slowed down. This will improve the self monitoring and also intelligibility of speech.

h) **Feed back:** It is a repair strategy in which the clinician or communication partner gives feedback through auditory / visual modality to the person with aphasia to let him/her know whether the response was as expected or not.

i) **Usage of alternative communicative strategy:** All possible modes of communication should be considered to improve overall communication of persons with aphasia.

It is expected that the clinician demonstrates, illustrates or instructs to adhere to these strategies for improving the overall communication skills. Further the clinician is also expected to provide appropriate model, realistic feedback and communication opportunities. These should be in par with techniques such as PACE and De-blocking. These above mentioned strategies can be used either in isolation or in combination. Clinicians are free to add any other strategy which they feel will facilitate the communication.

1. Responding to own name

The main goal is to encourage the person with aphasia to respond to his/her name call using any response modality and also to indicate that name has been recognized.

Stimulus hierarchy

- Combination of auditory and gesture (A + G)
- Auditory (A)

Response mode: Could be in the form of;

- Eye blinking (EB)
- Head nod (HN)
- Hand movement (HM)
- Verbal utterances: Partially or complete meaningful (VU)

2. Recognition of names of family members

Level 1 and 2

Stimulus hierarchy

- Combination of Visual and auditory (V+A)

Response hierarchy

- Pointing/ Gesture (P/G)

Level 3

Stimulus hierarchy

- Combination of visual, auditory and pointing/gesture (V+A+P/G)
- Combination of visual and pointing/gesture (V+P/G)

Response hierarchy

- Combination of verbal and pointing/gesture (V+P/G)
- Verbal only (V)

Level 1: By placing the photograph of the family members on the table, ask the person with aphasia to point to each as they are named one by one.

Level 2: Ask the person with aphasia to point to the photograph of each family member as the relations are named.

E.g., ನಿಮ್ಮ ಮಗನನ್ನು ತೋರಿಸಿ? /nimma maganannu ʈo: risi? /

Level 3: Ask the person with aphasia to name the family members name and how they are related to them as the clinician points to the photographs.

E.g. ಇವರು ಯಾರು? /ivaru ja: ru? /

3. Recognition of familiar objects (15 stimuli)

Stimulus hierarchy: Combination of visual and auditory (V+A)

1	ಕುರ್ಚಿ	/kurʧi/	9	ಪೆನ್ನು	/pennu/
2	ಬಾಗಿಲು	/ba:gilu/	10	ಪೇಪರ್	/pe:par/
3	ಕಿಟಕಿ	/kiʈaki/	11	ಬ್ರಷು	/braʃʰu/
4	ಮೇಜು	/me:dʒu/	12	ಚಾಚಣಿಗೆ	/ba:tʃaɳige/
5	ಫ್ಯಾನು	/fænu/	13	ಶರ್ಟು	/ʃarʈu/
6	ಫೋನು	/fo:nu/	14	ಸೀರೆ	/si:re/
7	ತಟ್ಟೆ	/ʈaʈʈe/	15	ಪ್ಯಾಂಟು	/pa:nʈu/
8	ಲೋಟ	/lo:ʈa/			

Response hierarchy: Pointing/gesture (P/G)

Level 1: Pictures of familiar objects should be shown and the person with aphasia is expected to point to each one as they are named.

Note: For pictures, refer vocabulary sub-section of semantic level under comprehension and expression domain.

Level 2: Ask simple questions to the person with aphasia regarding the items targeting a gestural response.

Stimuli (5 stimuli)

1. ನೀವು ವಾಚನ್ನು ಕಟ್ಟಿಕೊಂಡಿದ್ದೀರಾ?

   /ni:vu va:tʃannu kaʈʈ̣ikonɖiɖ̤i:ra?/

2. ನಿಮ್ಮ ಕೈಯಲ್ಲಿ ಪೆನ್ನು ಇದೆಯಾ?

   / nimma kaijalli pennu iɖ̤eya?/

3. ಈ ರೂಮಲ್ಲಿ ಫ್ಯಾನು ಇದೆಯಾ?

   /i: ru:malli fa:nu iɖ̤eya?/

4. ನೀವು ಕುರ್ಚಿ ಮೇಲೆ ಕೂತಿದ್ದೀರಾ?

   /ni:vu kurtʃi me:le ku:ʈ̣iɖɖ̤i:ra:?/

5. ನೀವು ಶರ್ಟು ಹಾಕಿದ್ದೀರಾ?

   /ni:vu ʃar ʈ u ha:kiɖ̤i:ra:?/

Note: Along with these examples, add at least 10 more questions which are relevant to the person.

5. **Understanding action verbs (15 stimuli):** The picture stimuli for this task are enclosed in booklet-2 seperately.

Stimulus hierarchy

- Combination of visual and auditory (V+A)
- Auditory only (A)

Response hierarchy

- Pointing (P)
- Gesture/action (G)

1.	ತಿನ್ನುವುದು	/ʈinnuvuɖu/	9	ನಿಲ್ಲುವುದು	/nilluvuɖu/
2.	ಕುಡಿಯುವುದು	/kuɖijuvuɖu/	10	ನಡೆಯುವುದು	/naɖejuvuɖu/
3.	ಮಲಗುವುದು	/malaguvuɖu/	11	ಜಿಗಿಯುವುದು	/dʒigijuvuɖu/
4.	ಓದುವುದು	/o: ɖvuɖu/	12	ಓಡುವುದು	/o:ɖuvuɖu/
5.	ಬರೆಯುವುದು	/barejuvuɖu/	13	ಆಟವಾಡುವುದು	/a:ʈava:ɖuvuɖu/
6.	ನಗುವುದು	/naguvuɖu/	14	ಕಡಿಯುವುದು	/kaɖijuvuɖu/
7.	ಅಳುವುದು	/aɭuvuɖu/	15	ತೆಗೆಯುವುದು	/ ʈegejuvuɖu/
8.	ಕೂರುವುದು	/ku:ruvuɖu/			

Level 1: Show pictures of different action verbs and the person with aphasia is expected to point to the picture named by the clinician.

Level 2: Ask the person with aphasia to perform or act out an action (gesture) to the action verb named by the clinician.

5. Understanding simple verbal commands

Task: Ask the person with aphasia to move according to your directions in the room

Stimuli (10 stimuli)

1.	ನೇರ ನಡೆಯಿರಿ	/ne:ra naḍejiri/	6.	ದಾರಿ ಬಿಡಿ	/ḍa:ri biḍi/
2.	ಎಡಗಡೆಗೆ ತಿರುಗಿ	/jeḍagaḍege ṭirugi/	7.	ಬನ್ನಿ	/banni/
3.	ವಾಪಸ್ಸು ಬನ್ನಿ	/va:passu banni/	8.	ಕೂರಿ	/ku:ri/
4.	ಬಲಗಡೆ ತಿರುಗಿ	/balagaḍege ṭirugi/	9.	ಎದ್ದೇಳಿ	/eḍḍ:eḷi/
5.	ನಿಲ್ಲಿ	/nilli/	10.	ನಡೆಯಿರಿ	/naḍejiri/

6. Verbal language

Language for functional communication

Language for social conduct

A.Saying own name

Level 1: Instruct the person with aphasia to initiate the oro-motor movements for sounds in his/her name. Physical assistance may be required.

Level 2: Drill combinations of sounds into the person with aphasia's name.

B. Saying yes/no: Use the technique of equivocal response

C. Saying names of family members

Level 1: Drill sounds and initiate combinations of sounds into names

Level 2: Point to the photograph and ask ‘’who is this?’’

D.Saying names of familiar or personal items

Level 1: Drill the production of familiar items given in the section-3 (recognition of familiar objects).

Level 2: Show the pictures of the same items and ask “what is this?’’. Drill till a consistent response is achieved.

E. Saying verbs

Level 1: Ask the person with aphasia to initiate oro-motor movements for verbs given in section-4 (understanding action verbs).

Level 2: point to the action pictures and ask “what is going on here?’’. Drill till an accurate response is achieved consistently.

F. Saying noun-verb combination

Level 1: Present action pictures and motivate the person with aphasia to use two word descriptions for each.

(e.g., /u:ʈa ma: ɖu/)

Level 2: Write a verb and noun in separate cards and present them together. Drill till an accurate response is achieved.

G.Saying small phrases

Drill 2-3 word phrases contextually

e.g., /illi banni/, /na:ɭe barʈ̪ini/

H.Saying short complete sentences:

Combine short phrases contextually to make short complete sentence.

e.g., /na: nu ʧenna: giḍini/, /ni: vu ʧenna:giḍira?/

I.Saying the day and time:

Ask the person with aphasia to say the day and time every session he/she attends therapy.

7. Activities of Daily Living (ADL)

ADL includes routine activities like brushing, bathing, dressing, eating, drinking and sleeping.

General instructions: First, familiarize the person with aphasia with all the objects required for each activity.

Level 1: Describe the entire activity step by step using the flow chart. Then, to check whether the person with aphasia has comprehended the activity, ask yes/no questions.

Level 2: Ask questions regarding the activity. The person with aphasia is expected to answer in a word or a phrase or a simple sentence.

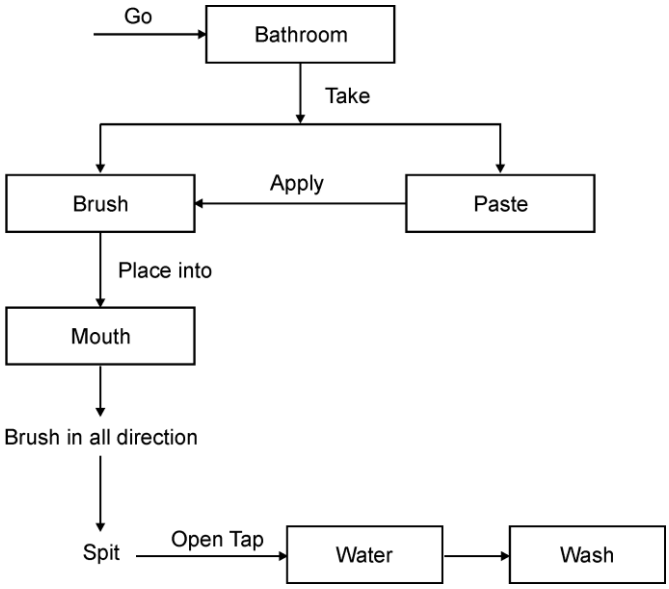
Level 3: Ask the person with aphasia to describe the entire activity in complete sentences.

Note: The flow chart illustrated for the various activies of dailiy living and independence helps the clinican to explain the person with aphasia the various steps involved in different activities.

A. Brushing

Materials required: tooth brush, tooth paste, water

Level 1: Flow chart



Yes/No questions (5 stimuli)

1. ನೀವು ಟೂತ್‌ಬ್ರಷ್ ನಿಂದ ಹಲ್ಲು ಉಜ್ಜುತ್ತೀರಾ?

   /ni:vu ʈu:ʈ braʃninda hallu udʒuʈʈi:ra:?/

2. ನೀವು ಬ್ರಷ್ ಮೇಲೆ ಪೇಸ್ಟ್ ಹಾಕುತ್ತೀರಾ ?

   /ni:vu braʃ me:le pe:stu ha:kuʈʈi:ra:?/

3. ಬ್ರಷ್ ಮಾಡಿದ ಮೇಲೆ ನಿಮಗೆ ನೀರು ಬೇಕೆ?

   / braʃ ma:ɖiɖa me:le nimage ni:ru be:ke?/

4. ನೀವು ಬಾಯಿ ಮುಚ್ಚಿಕೊಂಡು ಬ್ರಷ್ ಮಾಡುತ್ತೀರಾ?

   /ni:vu ba:ji mutʃikondu braʃ ma:duʈʈi:ra:?/

5. ಬ್ರಷ್ ಮಾಡಿದ ಮೇಲೆ ನೀವು ಪೇಸ್ಟ್ ನುಂಗುತ್ತೀರಾ?

   / braʃ ma:ɖiɖa me:le ni:vu pe:st nuŋuʈʈi:ra:?/

Level 2: Questions (5 stimuli)

1. ನೀವು ಬ್ರಷ್ ಮಾಡಲು ಎಲ್ಲಿಗೆ ಹೋಗುತ್ತೀರಾ?

   / ni:vu braʃ ma: ɖalu ellige ho:guṯṯi:ra:?/

2. ನಿಮ್ಮ ಹಲ್ಲನ್ನು ಬ್ರಷ್ ಮಾಡಲು ಏನು ಉಪಯೋಗಿಸುತ್ತೀರಿ?

   /nimma hallannu braʃ ma: ɖalu e:nu upajo:gisuṯṯi:ri:?/

3. ಬ್ರಷ್ ಮೇಲೆ ಏನು ಹಾಕುತ್ತೀರಿ?

   / braʃ me:le e:nu ha:kuṯi:ri:?/

4. ಬ್ರಷ್ ಮಾಡಿದ ಮೇಲೆ ಏನು ಮಾಡುತ್ತೀರಿ?

   /braʃ ma: ɖiɖa me:le e:nu ma: ɖuṯṯi:ri?/

5. ನಿಮ್ಮ ಬ್ರಷ್‌ನ್ನು ಹೇಗೆ ತೊಳೆಯುತ್ತೀರಿ ?

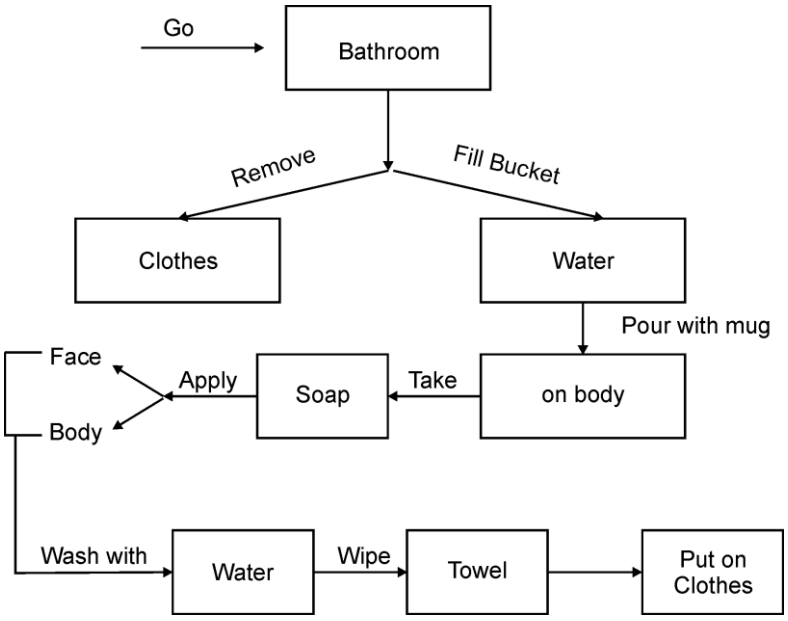
   /nimma braʃannu he:ge toɭejuṯṯi:ri?/

Level 3: Ask the person with aphasia to describe the process of brushing (the flow chart can be used as the cue)

B. Bathing

Materials required: water, bucket, mug, soap, and towel

Level 1: Flow chart



Yes/no questions (5 stimuli)

1. ನೀವು ಸ್ನಾನ ಮಾಡಲು ಬಚ್ಚಲು ಮನೆಗೆ ಹೋಗುತ್ತೀರಾ?

   /ni:vu sna:na ma: ɖalu batʃalu manege ho:gu̱tti:ra:?/

2. ನೀವು ಬಟ್ಟೆ ಹಾಕಿಕೊಂಡು ಸ್ನಾನ ಮಾಡುತ್ತೀರಾ?

   / ni:vu ba̱ṯṯe ha:kikonɖu sna:na ma:ɖu̱tti:ra:?/

3. ನೀವು ಬಕೆಟ್‌ನಲ್ಲಿ ನೀರು ತುಂಬಿಸುತ್ತೀರಾ?

   / ni:vu bake̱ṯnalli nir:u ṯ̱umbisu̱tti:ra:?/

4. ನಿಮಗೆ ಸೋಪು ಬೇಕೆ?

   / nimage so:pu be:ke?/

5. ಸ್ನಾನ ಮಾಡಿದ ಮೇಲೆ ನೀವು ಟವಲ್‌ನಲ್ಲಿ ಒರೆಸಿಕೊಂಡು ಬಟ್ಟೆ ಹಾಕಿಕೊಳ್ಳುತ್ತೀರಾ?

/sna:na ma:ḍiḍa me:le ni:vu ṭavalnalli oresikonḍu baṭṭe hakikoḷḷuṯṯi:ra:?/

Level 2: Questions (4 stimuli)

1. ಸ್ನಾನ ಮಾಡಲು ಎಲ್ಲಿಗೆ ಹೋಗುತ್ತೀರಿ?

/sna:na ma:ḍalu jallige ho:guṯṯi:ri:?/

2. ಸ್ನಾನ ಮಾಡಲು ನಿಮಗೆ ಏನು ಬೇಕು?

/ sna:na ma:ḍalu nimage e:nu be:ku ?/

3. ಬಕೆಟ್‌ನಲ್ಲಿ ಏನು ತುಂಬುತ್ತೀರಿ?

/bakeṭ nalli e:nu ṯumbu guṯṯi:ri:?/

4. ಸ್ನಾನ ಮಾಡಿದ ಮೇಲೆ ಏನು ಮಾಡುತ್ತೀರಿ?

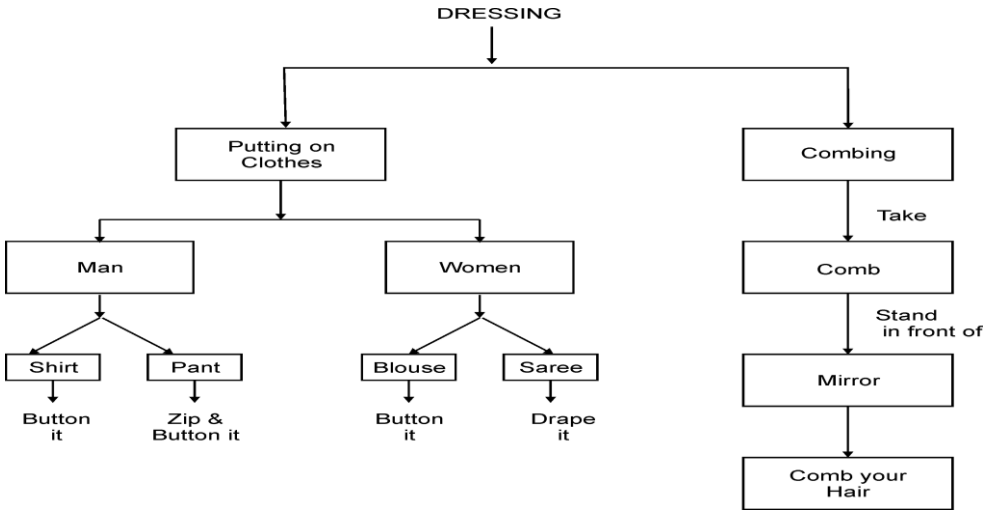
/ sna:na ma:ḍiḍa me:le e:nu ma:ḍ uṯṯi:ri?/

Level 3: Ask the person with aphasia to describe the process of bathing (the flow chart can be used as the cue).

C. Dressing

Materials required: clothes, comb, and mirror

Level 1: Flow chart



Yes/No questions (5 stimuli)

1. ನಿನೀವು ಸೀರೆ ಉಡುತ್ತೀರಾ?

   / ni:vu si:re uḍ uṯṯi:ra:?/

2. ನೀವು ಶರ್ಟು, ಪ್ಯಾಂಟ್ ಹಾಕುತ್ತೀರಾ ?

   / ni:vu ʃarṯu pænṯu ha:kuṯṯi:ra:?/

3. ನೀವು ಬಾಚಣಿಗೆಯಿಂದ ತಲೆ ಬಾಚುತ್ತೀರಾ?

   /ni:vu ba:ṭ ʃaṇigejinḍa ṯale ba:ṭ ʃuṯṯi:ra:?/

4. ನಿಮಗೆ ಕನ್ನಡಿ ಬೇಕೆ?

   /nimage kannaḍ i be:ke?/

5. ನೀವು ಶರ್ಟ್‌ಗೆ ಗುಂಡಿ ಹಾಕುತ್ತೀರಾ?

   / ni:vu ʃarṭ ge gunḍi ha:kuṯṯi:ra:?/

Level 2: Questions (5 stimuli)

1. ನೀವು ಈಗ ಯಾವ ಬಳೆ ಹಾಕಿದ್ದೀರ?

   /ni:vu i:ga ja:va ba|e ha:kiɖɖi:ra?/

2. ನೀವು ಶರ್ಟನ್ನು ಹೇಗೆ ಹಾಕಿಕೊಳ್ಳುತ್ತೀರಿ?

   / ni:vu ʃartannu he:ge ha:kiko||uṭṭi:ra:?/

3. ನೀವು ಸೀರೆ ಹೇಗೆ ಉಡುತ್ತೀರಿ?

   / ni:vu si:re he:ge uduṭṭi:ri:?/

4. ತಲೆ ಬಾಚಿಕೊಳ್ಳಲು ನಿಮಗೆ ಏನು ಬೇಕು?

   /ṭale ba:tʃiko||alu nimage e:nu be:ku ?/

5. ನೀವು ತಲೆ ಹೇಗೆ ಬಾಚಿಕೊಳ್ಳುತ್ತೀರಿ?

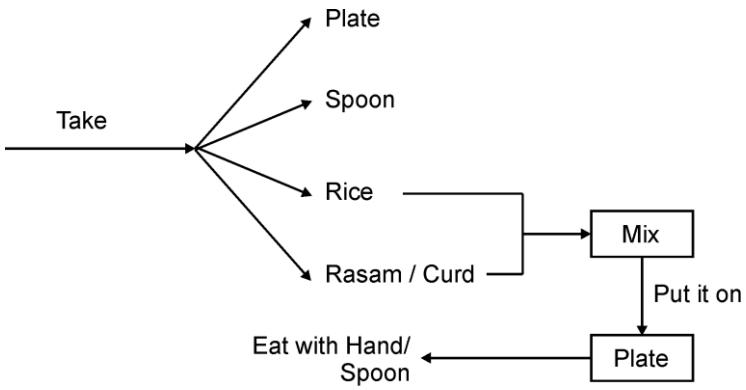
   /ni:vu ṭale he:ge ba:tʃiko||uṭṭi:ri?/

Level 3: Ask the person with aphasia to describe the process of dressing (the flow chart can be used as the cue).

D. Eating

Materials required: Food, plate, and spoon

Level 1: Flow chart



This is an exemplar which can be extended using other food items.

Yes/no questions (5 stimuli)

1. ನೀವು ಊಟ ಮಾಡುತ್ತೀರಾ?

   /ni:vu u:ṭ a ma:ḍ uṯṯi:ra:?/

2. ನಿಮಗೆ ಊಟ ಮಾಡಲು ತಟ್ಟೆ ಬೇಕೆ?

   / ni:vu u:ṭa ma:ḍalu ṯaṯṯe be:ke?/

3. ನೀವು ಅನ್ನವನ್ನು ತಿನ್ನುತ್ತೀರಾ?

   / ni:vu annavannu ṯinnuṯṯi:ra:?/

4. ನೀವು ಅನ್ನವನ್ನು ತಟ್ಟೆಯಲ್ಲಿ ಹಾಕುತ್ತೀರಾ?

   / ni:vu annavannu ṯaṯṯejalli ha:kuṯṯi:ra:?/

5. ನೀವು ಊಟವನ್ನು ಕೈಯಿಂದ/ಚಮಚದಲ್ಲಿ ಮಾಡುತ್ತೀರಾ?

   /ni:vu u:ṭavannu kaijinḍ a / ʧamaṭ ʃḍalli ma:ḍ uṯṯi:ra:?/

Level 2: Questions (2 stimuli)

1. ನೀವು ಊಟ ಮಾಡಲು ಏನನ್ನು ಉಪಯೋಗಿಸುತ್ತಿರ್ತೀ?

   /ni:vu u:ṭa ma:ḍalu e:nannu upajogisuṯṯi:ri?/

2. ನೀವು ಯಾವ ರೀತಿ ಊಟ ಮಾಡುತ್ತೀರ್ತೀ?

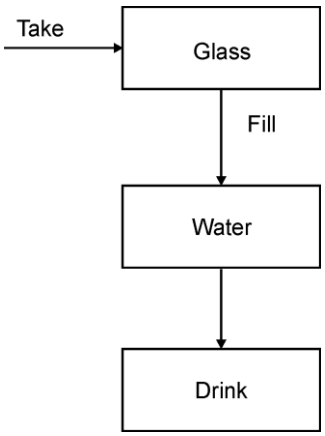
   / ni:vu ja:va ri:ṯi u:ṭa ma:ḍuṯṯi:ri?/

Level 3: Ask the person with aphasia to describe the process of eating (the flow chart can be used as the cue).

E. Drinking

Materials required: water, glass

Level 1: Flow chart



This is an exemplar which can be extended using other items e.g., coffee

Yes/no questions (4 stimuli)

1. ನೀವು ನೀರನ್ನು ಕುಡಿಯುತ್ತೀರಾ?

   / ni:vu ni:rannu kuḍijuṯṯi:ra:?/

2. ನೀವು ನೀರನ್ನು ತಟ್ಟೆಯಲ್ಲಿ ತುಂಬಿಸುತ್ತೀರಾ?

   / ni:vu ni:rannu ṯaṯṯejalli ṯumbisuṯṯi:ra:?/

3. ನೀವು ಕಿವಿಯಿಂದ ನೀರು ಕುಡಿಯುತ್ತೀರಾ?

   /ni:vu kivijiṉḍa ni:ru kuḍijuṯṯi:ra:?/

4. ನೀವು ಲೋಟದಲ್ಲಿ ನೀರು ತುಂಬಿಸುತ್ತೀರಾ?

   / ni:vu lo:ṭaḍalli ni:ru ṯumbisuṯṯi:ra:?/

Level 2: Questions (2 stimuli)

1. ನೀವು ಬಾಯಾರಿಕೆಯಾದಾಗ ಏನನ್ನು ಕುಡಿಯುತ್ತೀರಿ ?

   /ni:vu ba:jarikejaḍa:ga e:nannu kuḍijuṯṯi:ri?/

2. ನೀವು ನೀರು ಕುಡಿಯಲು ಏನನ್ನು ಬಳಸುತ್ತೀರಿ?

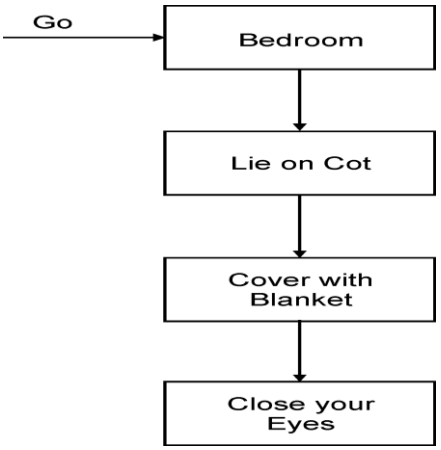
/ni:vu ni:ru kuḍijalu e:nannu baḷasuṯṯi:ri?

Level 3: Ask the person with aphasia to describe the process of drinking (the flow chart can be used as the cue).

F. Sleeping

Materials required: Bed, blanket, and pillow

Level 1: Flow chart



Yes/no questions (4 stimuli)

1. ನೀವು ರೂಮಿನಲ್ಲಿ ಮಲಗುತ್ತೀರಾ?

/ ni:vu ru:minalli malaguṯṯi:ra:?/

2. ನೀವು ನಿಂತುಕೊಂಡು ನಿದ್ದೆ ಮಾಡುತ್ತೀರಾ?

/ni:vu niṉṯukonḍu niḍḍe ma:ḍ uṯṯi:ra:?/

3. ನೀವು ಹೊದಿಕೆಯನ್ನು ಹೊದಿಯುತ್ತೀರಾ?

/ni:vu hoḍikejannu hoḍijuṯṯi:ra:?/

4. ನೀವು ಕಣ್ಣು ತೆರೆದು ನಿದ್ದೆ ಮಾಡುತ್ತೀರಾ?

/ni:vu kaɳɳu ṯereḏu niḏḏe ma:ḍ uṯṯi:ra:?/

Level 2: Questions (3 stimuli)

1. ನೀವು ಎಲ್ಲಿ ಮಲಗುತ್ತೀರಿ?

   /ni:vu elli malaguṯṯi:ri ?/

2. ನೀವು ಯಾವುದರ ಮೇಲೆ ಮಲಗುತ್ತೀರಿ?

   /ni:vu ja:vuḏara me:le malaguṯṯi:ri?/

3. ನೀವು ಏನನ್ನು ಹೊದೆಯುತ್ತೀರಿ?

   /ni:vu e:nannu hoḏejuṯṯi:ri ?/

Level 3: Ask the person with aphasia to describe the process of sleeping (the flow chart can be used as the cue.

General guidelines for caregivers for carrying out activities of daily living (ADL)

- Try to make the surrounding area barrier free as much as possible for mobility, visual and auditory purpose.
- Create easy access to the bathroom.
- Make sure bathroom floor tiles are anti-skid type.
- Ask the person with aphasia not to latch the door from inside (in case, assistance is needed).

- Give colour coding to the objects used by the person with aphasia (e.g., blue colour-for brush, green colour-plate etc…) or keep the objects in a separate place, without mixing with other objects, to make it easy for the person to access.

8. Activities of Independence

Activities of independence helps the persons with aphasia to carry out activities like bank/ post office transaction, travelling by bus/train, going to the market etc…

General instruction and the different levels are same as given for ADL.

A.Bank Transaction

Yes/no questions (5 stimuli)

1. ನೀವು ಹಣ ಠೇವಣಿ ಮಾಡಲು ಬ್ಯಾಂಕಿಗೆ ಹೋಗುತ್ತೀರಾ?

   /ni:vu haɳa ʈʰe:vaɳi ma:ɖ alu bænkge hoguṯṯi:ra:?/

2. ಚಲನ್ ತುಂಬಿಸದೆ ಹಣವನ್ನು ಹಾಗೆಯೇ ಕಟ್ಟುತ್ತೀರಾ?

   / ʧalan ṯumbisaḏe haɳavannu ha:geje kaʈṯuṯṯi:ra:?/

3. ಹಣವನ್ನು ಕ್ಯಾಷ್ ಕೌಂಟರ್‌ನಲ್ಲಿ ಕಟ್ಟುತ್ತೀರಾ?

   / haɳavannu kæʃ kaunʈ arnalli kaʈṯuṯṯi:ra:?/

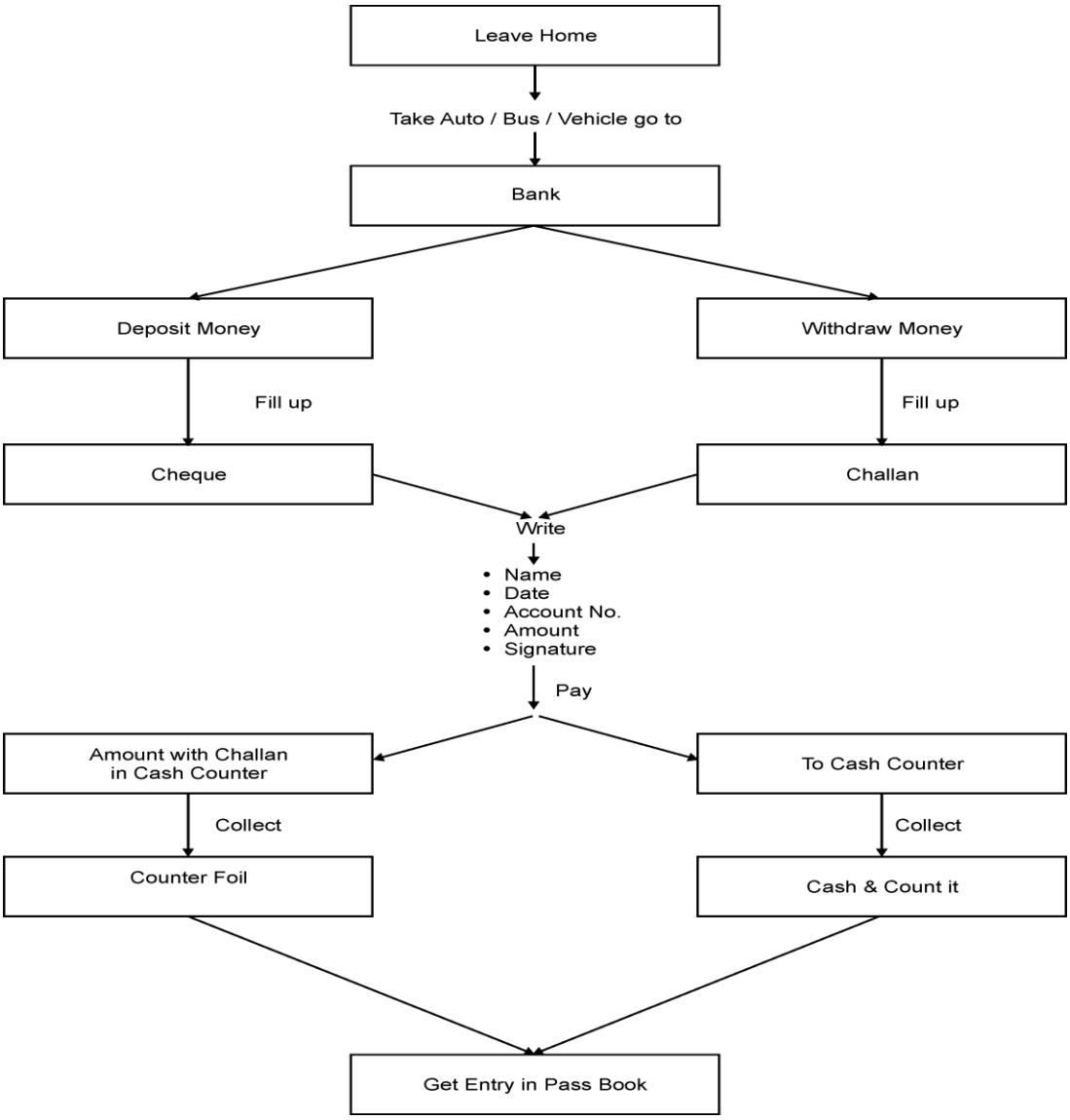
4. ಚಲನ್‌ನಲ್ಲಿ ನಿಮ್ಮ ಸಹಿ ಮಾಡುವುದಿಲ್ಲವೆ?

   /ʧalan nalli nimma sahi ma:ɖ uvuḏillave?/

5. ಹಣ ಕಟ್ಟಿದ್ದಕ್ಕೆ ರಶೀತಿ ಪಡೆಯುತ್ತೀರಾ?

/ haɳa kaʈṯiḏḏakke raʃi:ṯi paɖ ejuṯṯi:ra:?/

Level 1: Flow chart



Level 2 : Questions (4 stimuli)

1. ಹಣ ಠೇವಣಿ ಮಾಡಲು ನೀವು ಎಲ್ಲಿಗೆ ಹೋಗುತ್ತೀರಿ?

   /haɳa ʈʰe:vaɳi ma:ɖalu ni:vu ellige ho:gu̲tti:ri?/

2. ಹಣ ಕಟ್ಟಲು ಬ್ಯಾಂಕಿನಲ್ಲಿ ಏನನ್ನು ತುಂಬಿಸಬೇಕು?

   /haɳa kaʈʈalu bænkinalli e:nannu t̪umbisabe:ku?/

3. ಹಣವನ್ನು ಬ್ಯಾಂಕಿನಲ್ಲಿ ಎಲ್ಲಿ ಕಟ್ಟಬೇಕು?

/ haɳavannu bænkinalli elli kaʈʈabe:ku?/

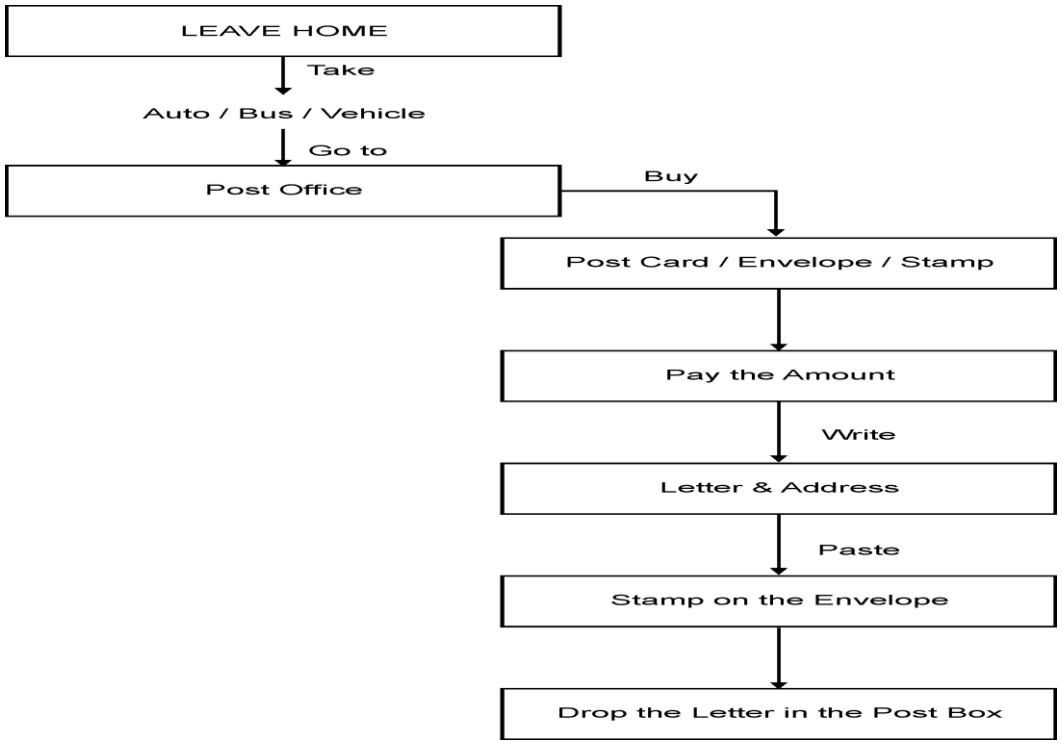
4. ಹಣ ಕಟ್ಟಿದ್ದಕ್ಕೆ ದಾಖಲೆಯಾಗಿ ಏನನ್ನು ಪಡೆಯುಬೇಕು?

/haɳa kaʈʈiḍḍakke ḍa:kaleja:gi e:nannu paɖejabe:ku?/

Level 3: Ask the person with aphasia to describe the process of bank transaction (the flow chart can be used as the cue).

B. Post Office

Level 1: Flow chart



Similar steps can be followed for carrying out other activities in post office.e.g. depositing money.

Yes/No questions (5 stimuli)

1. ನೀವು ಕಾರ್ಡ್/ಅಂಚೆ ಚೀಟಿ ಕೊಳ್ಳಲು ಅಂಚೆ ಕಛೇರಿಗೆ ಹೋಗುತ್ತೀರಾ ?

/ ni:vu ka:rɖ /antʃe tʃi:ʈi koḷḷalu antʃe katʃe:rige ho:guttti:ra:?/

2. ಅಂಚೆ ಕಛೇರಿಯಲ್ಲಿ ಕಾರ್ಡು/ಅಂಚೆ ಚೀಟಿಯನ್ನು ಹಣ ಪಡೆಯದೆ ಕೊಡುತ್ತಾರೆಯೆ?

/antʃe katʃʰe:rijalli ka:rḍ u/ antʃe tʃi:tijannu haɳa paḍejaḍe koḍuṭṭa:reje?/

3. ಕಾಗದದ ಮೇಲೆ ವಿಳಾಸ ಬರೆಯುತ್ತೀರಾ?

/ka:gaḍaḍa me:le viḷa:sa barejuṭṭi:ra?/

4. ಕಾಗದದಲ್ಲಿ ವಿಷಯ ಬರೆಯದೆ ಹಾಗೆಯೆ ಪೋಸ್ಟ್ ಮಾಡುತ್ತೀರಾ?

/ ka:gaḍaḍalli viḷa:sa barejaḍe ha:geje po:st ma:ḍuṭṭi:ra?/

5. ಕಾಗದವನ್ನು ಅಂಚೆ ಪೆಟ್ಟಿಗೆಯಲ್ಲಿ ಹಾಕುತ್ತೀರಾ?

/ka: gaḍavannu antʃe peṭṭigejalli ha: kuṭṭi: ra?/

Level 2: Questions (3 stimuli)

1. ನೀವು ಅಂಚೆ ಚೀಟಿಗಾಗಿ ಎಲ್ಲಿ ಹೋಗುತ್ತೀರಿ?

/ni:vu antʃe tʃi:ṭ iga:gi elli ho:ṭṭi:ri?/

2. ನೀವು ವಿಳಾಸವನ್ನು ಎಲ್ಲಿ ಬರೆಯುತ್ತೀರಿ?

/ ni:vu viḷa:savannu elli barejuṭṭi:ri ?/

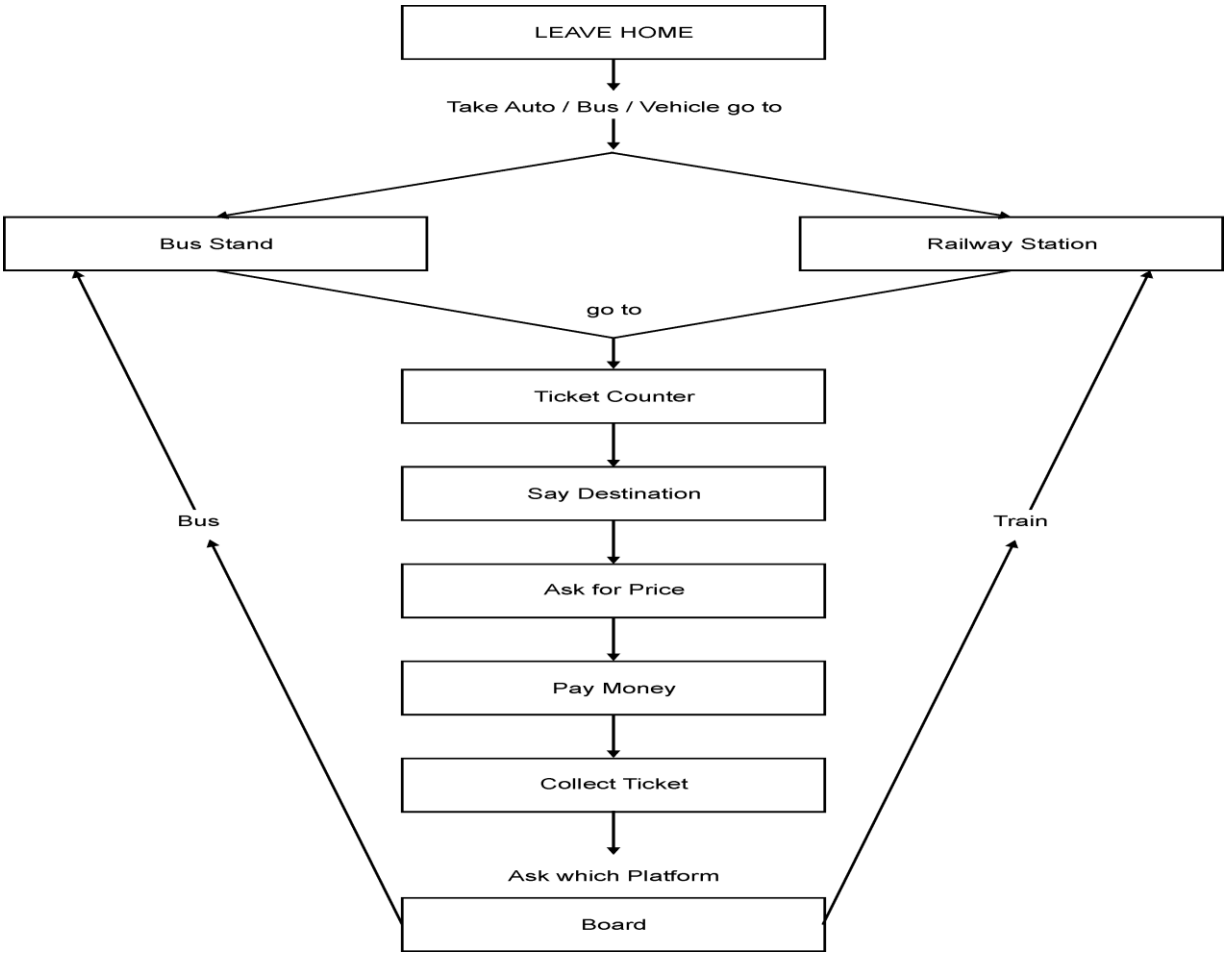
3. ನೀವು ಬರೆದ ಕಾಗದವನ್ನು ಎಲ್ಲಿ ಹಾಕುತ್ತೀರಿ?

/ni:vu bareḍa ka:gaḍavannu elli ha:kuṭṭi:ri?/

Level 3: Ask the person with aphasia to describe the process of post office transaction (the flow chart can be used as the cue).

C. Bus Stand/ Railway Station

Level 1: Flow chart



Yes/no questions (5 stimuli)

1. ನೀವು ಆಟೋದಲ್ಲಿ ಬಸ್ ನಿಲ್ದಾಣ/ ರೈಲು ನಿಲ್ದಾಣಕ್ಕೆ ಹೋಗುತ್ತೀರಾ?

   /ni:vu a:ṭ oḍalli bas nilḍa:ṇa/ railu nilḍ a:ṇakke ho:guṯṯi:ra?/

2. ನೀವು ಬಸ್/ರೈಲು ಹತ್ತುವ ಮೊದಲು ಟಿಕೆಟ್ ತೆಗೆದುಕೊಳ್ಳುತ್ತೀರಾ?

   /ni:vu bas railu haṯṯuva moḍalu ṭiket ṭegeḍuko|ḷuṯṯi:ra?/

3. ನೀವು ಟಿಕೆಟ್ ಕೌಂಟರ್‌ನಲ್ಲಿ ಟಿಕೆಟ್ ಬೆಲೆಯನ್ನು ಕೇಳುತ್ತೀರಾ?

   / ni:vu ṭiket kaunṭarnalli ṭiket belejannuke:ḷuṯṯi:ra?/

4. ನೀವು ಟಿಕೆಟ್ ತೆಗೆದುಕೊಳ್ಳು ದುಡ್ಡು ಕೊಡುತ್ತೀರಾ?

/ni:vu ʈikeʈ ʈegeɖukoll̪alu ɖuɖɖu koɖ uʈʈi:ra?/

5. ನೀವು ಇಳಿಯುವ ಜಾಗ ಬಂದಾಗ ಇಳಿಯುತ್ತೀರಾ?

/ni:vu il̪ijuva ʤa:ga banɖa:ga il̪ijuʈʈi:ra?/

Level 2: Questions (5 stimuli)

1. ನೀವು ಬಸ್/ ರೈಲು ನಿಲ್ದಾನಕ್ಕೆ ಹೇಗೆ ಹೋಗುತ್ತೀರಿ ?

/ni:vu bas/railu nilɖa**:**ɳakke he:ge ho:guʈʈi:ri?/

2. ನೀವು ಬಸ್/ರೈಲಿನಲ್ಲಿ ಪ್ರಯಾಣ ಮಾಡುವ ಮೊದಲು ಏನು ತೆಗೆದುಕೊಳ್ಳುತ್ತೀರಿ ?

/ni:vu bas / railinalli praja:ɳa ma:ɖuva moɖalu e:nu ʈegeɖukoll̪uʈʈi:ri?/

3. ನೀವು ಟಿಕೆಟನ್ನು ಎಲ್ಲಿ ಕೊಳ್ಳುತ್ತೀರಿ ?

/ ni:vu ʈ ikeʈ annu elli koll̪uʈʈi:ri?/

4. ನೀವು ಟಿಕೆಟ್ ತೆಗೆದುಕೊಳ್ಳಲು ಏನು ಕೊಡಬೇಕು ?

/ ni:vu ʈikeʈ ʈegeɖukoll̪alu e:nu koɖ abe:ku ?/

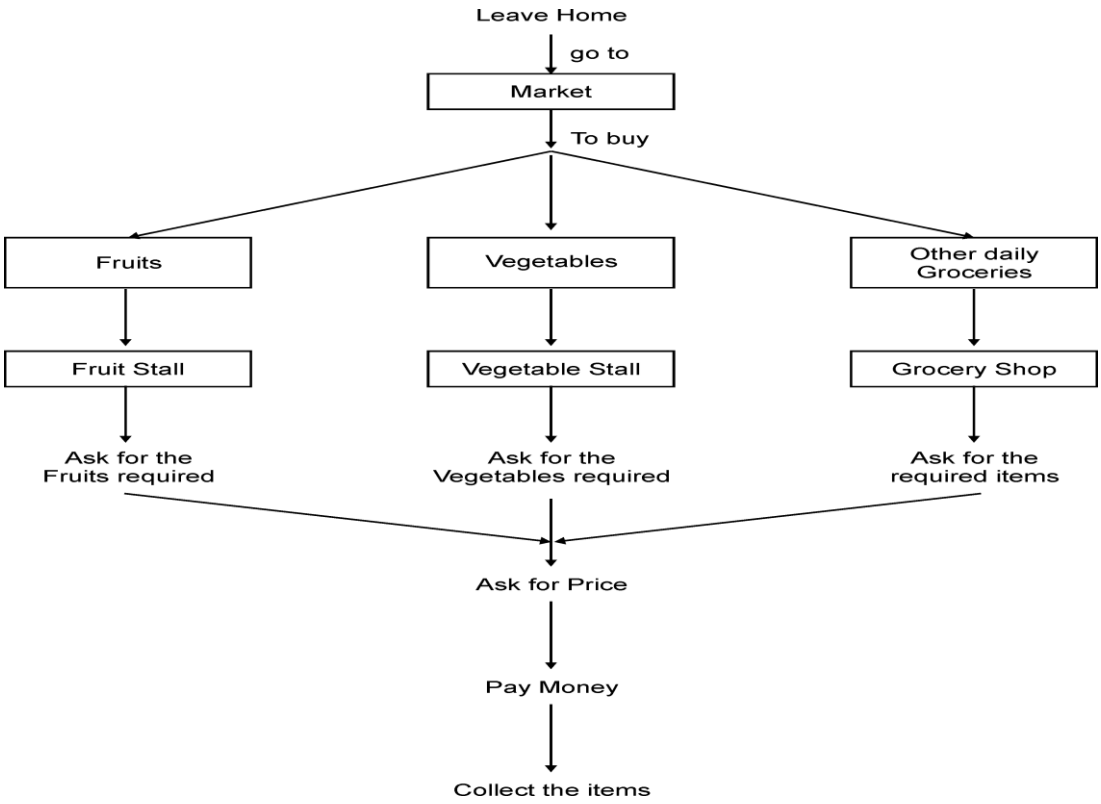
5. ನೀವು ಎಲ್ಲಿ ಇಳಿಯುತ್ತೀರಿ?

/ ni:vu elli il̪ijuʈʈi:ri?/

Level 3: Ask the person with aphasia to describe the process travelling by bus/train (the flow chart can be used as the cue)

D. Market

Level 1: Flow chart



Yes/no questions (5 stimuli)

1. ನೀವು ಹಣ್ಣು, ತರಕಾರಿ ಅಥವಾ ಇತರ ಸಾಮಾನು ಕೊಳ್ಳಲು ಮಾರ್ಕೆಟ್ಟಿಗೆ ಹೋಗುತ್ತೀರಾ?

   /ni:vu haɳɳu, ʈaraka:ri aʈʰava: iʈara sa:ma:nu koɭɭalu ma:rkeʈʈige ho:guʈʈi:ra?/

2. ನೀವು ಸೋಪು, ಶ್ಯಾಂಪೂ ತೆಗೆದುಕೊಳ್ಳಲು ಅಂಗಡಿಗೆ ಹೋಗುತ್ತೀರಾ ?

   / ni:vu so:pu, ʃæmpu: ʈegeɖukoɭɭalu aŋgaɖ ige ho:guʈʈi:ra?/

3. ನೀವು ಎಷ್ಟು ಕೆ.ಜಿ. ಹಣ್ಣು ತೆಗೆದುಕೊಳ್ಳುವಿರಿ ಎಂದು ಯೋಚಿಸಿರುತ್ತೀರಾ ?

   /ni:vu eʃtu ke:dʒi haɳɳu ʈegeɖukoɭɭuviri enɖu jo:ʈʃisuʈʈi:ra?/

4. ತರಕಾರಿ ಬೆಲೆ ಎಷ್ಟು ಎಂದು ಕೇಳುತ್ತೀರಾ?

   / ʈaraka:ri bele eʃʈu enɖu keɭuʈʈi:ra?/

5. ಅಂಗಡಿಯಲ್ಲಿ ದುಡ್ಡು ಕೊಟ್ಟು ಬಿಲ್ ಪಡೆಯುತ್ತೀರಾ ?

/aŋgaɖ ijalli ɖuɖɖu koʈʈu billu paɖejuʈʈi:ra ?/

Level 2: Questions (5 stimuli)

1. ನೀವು ಹಣ್ಣು/ತರಕಾರಿ ಸಾಮಾನು ತೆಗೆದುಕೊಳ್ಳಲು ಎಲ್ಲಿಗೆ ಹೋಗುತ್ತಿರಿ ?

/ ni:vu haɳɳu/ ʈaraka:ri/ iʈara sa:ma:nu ʈegeɖukoɭɭalu ellige ho:guʈʈi:ri?/

2. ತರಕಾರಿ ಕೊಳ್ಳಲು ನೀವು ಎಲ್ಲಿಗೆ ಹೋಗುತ್ತೀರಿ?

/ʈaraka:ri koɭɭalu ni:vu ellige ho:guʈʈi:ri?/

3. ಹಣ್ಣಿನ ಅಂಗಡಿಯಲ್ಲಿ ಯಾವ ಹಣ್ಣು ತೆಗೆದುಕೊಳ್ಳುತ್ತೀರಿ?

/haɳɳina aŋgaɖijalli jaava haɳɳu ʈegeɖukoɭɭuʈʈi:ri ?/

4. ತರಕಾರಿ ಅಂಗಡಿಯಲ್ಲಿ ಎಷ್ಟು ಕೆ.ಜಿ. ಈರುಳ್ಳಿ ಕೊಳ್ಳುತ್ತೀರಿ ?

/ʈaraka:ri aŋgaɖi elli eʃʈu ke:dʒi i:ruɭɭi koɭɭuʈʈi:ri ?/

5. ಅಂಗಡಿಯಲ್ಲಿ ಸಾಮಾನಿಗೆ ದುಡ್ಡು ಕೊಟ್ಟ ಮೇಲೆ ಏನು ಕೇಳುತ್ತೀರಿ?

/ aŋgaɖijalli sa:ma:nige ɖuɖɖu koʈʈa me:le e:nu keɭuʈʈi:ri?/

Level 3: Ask the person with aphasia to describe the process of shopping at a market (the flow chart can be used as the cue). Other activities like going to a hospital, paying electricity/phone/other bills etc. can be carried out on similar guidelines.

General guidelines for caregivers for carrying out these activities:

- Make sure that the person with aphasia carries a card which mentions that he/she is an aphasic individual (stroke patient). Also it should contain basic information like the person's name, address, phone number, blood group.
- For easy access, book a vehicle for the aphasic person to travel to the desired destination.
- Initially accompany person with aphasia to the particular place until he/she gets familiar with the setting.
- Make the person with aphasia rehearse the steps involved for a particular situation before actually facing/attending it.

REPETITION (R)

This section is sub-divided into:

1. Equivocal response
2. Automatic speech
3. Egocentric stimuli
4. Environmental stimuli
5. Phrases

No pictures are provided for this section. However, the clinician is free to use any pictures given in this manual.

Scoring

- 0 = No response/ incorrect response/ unintelligible response
- 1/2= Partially correct and intelligible response
- 1 = Fully correct and intelligible response

Progress criteria: 75% of the total score

Repair strategies: Appropriate strategies can be selected (as mentioned previously). These should be used to strengthen the responses.

Stimulus mode hierarchy

- Combination of auditory and graphic (A+G)
- Auditory mode only(A)

Response mode hierarchy

- Verbal only (V)

1. **Equivocal responses (Yes/No)**

Along with verbal repetition task equivocal response technique can also be employed in this section for all the items.

Level 1: Ask the person with aphasia to answer with “yes” after you.

Level 1: Ask the person with aphasia to answer with “no” after you.

2. **Automatic speech**

Level 1: Ask the person with aphasia to repeat each item in the following list of stimuli. Booklet 4a can be used to elicit the responses which will aid in orthographic cueing.

Level 2: Ask the person with aphasia to repeat the entire series of items.

A. Days of the week (7 stimuli)

ಸೋಮವಾರ	/so:mava:ra/	ಶುಕ್ರವಾರ	/ʃukrava:ra/
ಮಂಗಳವಾರ	/maŋgaɭava:ra/	ಶನಿವಾರ	/ʃaniva:ra/
ಬುಧವಾರ	/buɖ^{h}va:ra/	ಭಾನುವಾರ	/b^{h}a:nuva:ra/
ಗುರುವಾರ	/guruva:ra/		

B .Months (12 stimuli)

ಜನವರಿ	/dʒanavari/	ಜುಲೈ	/dʒulai/
ಫೆಬ್ರವರಿ	/febaravari/	ಆಗಸ್ಟ್	/a:gast/
ಮಾರ್ಚ್	/ma:rtʃ/	ಸೆಪ್ಟಂಬರ್	/septambar/
ಏಪ್ರಿಲ್	/e:pril/	ಅಕ್ಟೋಬರ್	/aktobar/
ಮೇ	/me:/	ನವಂಬರ್	/navambar/
ಜೂನ್	/dʒu:n/	ಡಿಸೆಂಬರ್	/disembar/

C. Numbers (20 stimuli)

ಒಂದು	/onɖu/	ಹನ್ನೊಂದು	/hannonɖu/
ಎರಡು	/eradu/	ಹನ್ನೆರಡು	/hanneradu/
ಮೂರು	/mu:ru/	ಹದಿಮೂರು	/haɖimu:ru/
ನಾಲ್ಕು	/na:ku/	ಹದಿನಾಲ್ಕು	/haɖinalku/
ಐದು	/aiɖu/	ಹದಿನೈದು	/haɖinaiɖu/
ಆರು	/a:ru/	ಹದಿನಾರು	/haɖina:ru/
ಏಳು	/e:ɭu/	ಹದಿನೇಳು	/haɖine:ɭu/
ಎಂಟು	/entu/	ಹದಿನೆಂಟು	/haɖinenʈu/
ಒಂಬತ್ತು	/ombaʈʈu/	ಹತ್ತೊಂಬತ್ತು	/haʈʈombaʈʈu/
ಹತ್ತು	/haʈʈu/	ಇಪ್ಪತ್ತು	/ippaʈʈu/

D. Alphabets (49 stimuli)

ಅ ಆ ಇ ಈ ಉ ಊ ಋ ಎ ಏ ಐ ಒ ಓ ಔ ಅಂ ಅಃ

/a/ /a:/ /i/ /i:/ /u/ /u:/ /ru//æ/ / æ: / /ai/ /o/ /o:/ /ao/ / am/ / aha/

ಕ ಖ ಗ ಘ ಙ

/ka / /k^{ha}/ /ga/ /g^{ha}/ / ŋa /

ಚ ಛ ಜ ಝ ಞ

/ ʧ/ / $ʧ^{h}$/ /ʤ/ /$ʤ^{h}$ / /nya/

ಟ ಠ ಡ ಢ ಣ

/ ʈ / / $ʈ^{h}$/ / ɖ/ /$ɖ^{h}$/ /ɳa/

ತ ಥ ದ ಧ ನ

/t̪a/ /$t̪^{h}$ a/ /d̪a/ /$d̪^{h}$a/ /na/

ಪ ಫ ಬ ಭ ಮ

/pa//p^{h}a/ /ba/ /b^{h}a/ /ma/

ಯ ರ ಲ ವ ಶ ಷ ಸ ಹ ಳ

/ja/ / ra/ /la/ /va/ / ʃa / / $ʃ^{h}$ a/ /sa/ /ha/ / ɭa/

3. Egocentric stimuli

A. Name

Level 1: Ask the person with aphasia to repeat his name. Provide auditory and graphic cues.

Level 2: Ask the person with aphasia to repeat his name with auditory cues only.

B. Family members

Level 1: Present the name of each family member along with photo with graphic cues.

Level 2: Present the name of each family member along with photo without graphic cues.

Level 3: Present the name of each family member along with auditory cues.

4. Environmental stimuli

Booklet 4b can be used to elicit the responses which will aid in orthographic cueing.

A. Body parts (15 stimuli)

ತಲೆ	/ʈale/	ಹಲ್ಲು	/hallu/
ಕತ್ತು	/kaʈʈu/	ಕೈ	/kai/
ಕಣ್ಣು	/kaɳɳu/	ಕಾಲು	/ka:lu/
ಕಿವಿ	/kivi/	ಹೊಟ್ಟೆ	/hoʈʈe/
ಮೂಗು	/mu:gu/	ಬೆನ್ನು	/bennu/
ಬಾಯಿ	/ba:ji/	ಬೆರಳು	/beraɭu/
ತುಟಿ	/ ʈu ʈi/	ಕೂದಲು	/ku:dalu/
ನಾಲಿಗೆ	/na:lige/		

B. Furniture (5 stimuli)

ಮೇಜು	/me:dʒu/	ಕಿಟಕಿ	/kiʈaki/
ಕುರ್ಚಿ	/kurtʃi/	ಮಂಚ	/mantʃa/
ಬಾಗಿಲು	/ba:gilu/		

C. Food items (6 stimuli)

ಇಡ್ಡಿ	/iɖli/
ದೋಸೆ	/ɖo:se/
ಚಪಾತಿ	/tʃapa: ʈi/
ಪಲ್ಯ	/palja/
ಉಪಿಟ್ಟು	/upiʈʈu/
ಪೂರಿ	/pu:ri/

D. Gadgets (5 stimuli)

ಫ್ಯಾನು	/fænu/	ರೇಡಿಯೋ	/re: ɖijo/
ಟಿ.ವಿ.	/ʈi:vi/	ಫ್ರಿಡ್ಜ್	/fridʒ/
ಫೋನು	/fo:nu/		

E. Kitchen ware (5 stimuli)

ತಟ್ಟೆ	/ʈaʈʈe/	ಪಾತ್ರೆ	/pa:ʈre/
ಚಮಚ	/tʃamatʃa/	ಚಾಕು	/tʃa:ku/
ಲೋಟ	/lo:ʈa/		

F. Stationery (5 stimuli)

ಪೆನ್ನು	/pennu/	ರಬ್ಬರು	/rabbaru/
ಪೇಪರ್	/pe:par/	ಸ್ಲೇಟು	/sle:ʈu/
ಪೆನ್ಸಿಲ್	/pensil/		

G. Lavatory kit (5 stimuli)

ಬ್ರಷು	/braʃu/	ಕನ್ನಡಿ	/kannaḍi/
ಪೇಸ್ಟ್	/pe:stu/	ಸೋಪು	/so:pu/
ಬಾಚಣಿಗೆ	/ba: ʧaɳige/		

H. Clothing (5 stimuli)

ಶರ್ಟು	/ʃarʈu/	ಲಂಗ	/laŋga/
ಪ್ಯಾಂಟು	/pæntʈu/	ಟವಲ್	/ʈaval/
ಸೀರೆ	/si:re/		

5. Phrases and sentences (20 stimuli)

1.	ಇಲ್ಲಿ ಬನ್ನಿ	/illi banni /
2.	ಅಲ್ಲಿ ಹೋಗಿ	/alli ho:gi/
3.	ಒಳಗೆ ಬನ್ನಿ	/oɭage banni/
4.	ಹೊರಗೆ ಹೋಗಿ	/horage ho:gi/
5.	ನೀರು ಕುಡಿಯಿರಿ	/ni:ru kuɖijiri/
6.	ನನಗೆ ಊಟ ಬೇಕು	/nanage u:ʈ a be:ku/
7.	ದಿನ ಪತ್ರಿಕೆಯನ್ನು ಓದಿ	/ɖina paʈrike o:ɖi/
8.	ಟಿ.ವಿ.ಯನ್ನು ಆನ್ ಮಾಡಿ	/ʈi:vi jannu a:n ma: ɖi/
9.	ನಿಧಾನಕ್ಕೆ ಮಾತಾಡಿ	/niɖa:nakke ma: ʈaɖi/
10.	ಪುಸ್ತಕವನ್ನು ಕೊಡಿ	/puspaka koɖi/
11.	ನಾನು ತಿಂಡಿ ತಿಂದೆ	/na:nu ʈinɖi ʈinɖe/
12.	ನನ್ನ ಹೆಸರು	/nanna hesaru/
13.	ನಾನು ಆಸ್ಪತ್ರೆಗೆ ಹೋಗುತ್ತೀನಿ	/na:nu a:spa ʈrege ho:guʈʈtini/
14.	ನಿಮ್ಮ ಊರು ಯಾವುದು	/nimma u:ru ja:vuɖu/
15.	ಐನೂರ ಎಂಬತ್ತೈದು	/ainu:ra emba ʈaiɖu/
16.	ಒಂದು ಸಾವಿರ ರೂಪಾಯಿ	/onɖu sa:vira rupa:ji/
17.	ಇದು ವಾಕ್ ಶ್ರವಣ ಸಂಸ್ಥೆ	/iɖu va:k ʃravaɳa samsʈe/
18.	ನನಗೆ ಚಲನ ಚಿತ್ರ ನೋಡುವುದಕ್ಕೆ ಇಷ್ಟ	/nanage tʃalana tʃi ʈra no:ɖuvuɖuiʃʈ a/
19.	ನನ್ನ ಜನ್ಮ ಸ್ಥಳ	/nanna dʒanma s ʈa ɭa ……./
20.	ರಾವಣನು ಸೀತೆಯನ್ನು ಅಪಹರಿಸಿದನು	/ra:va ɳanu si: ʈejannu apaharisi ɖanu/

COMPREHENSION & EXPRESSION

1. Semantics level

A. Gross phonemic level

B. Finer phonemic level

C. Word level

i) Vocabulary

ii) Antonyms

iii) Synonyms

iv) Syntagmatic and paradigmatic relations

2. Syntax level

A. PNG markers

B. Tenses

C. Plurals

D. Answering yes-no (polar) questions

i) Egocentric ii) Environmental

E. Following body part command: One-step, two-step and multi step commands

F. Following commands with visual stimuli: One-step, two-step and multi step commands.

G. Identification of objects described by function

H. Identification of objects named serially

I. Sentence types: Imperative, declarative, negation, comparatives, clauses

3. Discourse level

A. Listening comprehension

B. Reading comprehension

Stimulus mode hierarchy

- Combination of auditory, visual and graphic (A+V+G)
- Combination of auditory and visual (A+V)
- Auditory only (A)

Response mode hierarchy

- Pointing (P)
- Combination of pointing and verbal (P+V)
- Verbal only (V)

Scoring

- 0 = No response/ incorrect response/ unintelligible response
- 1/2= Partially correct and intelligible response
- 1 = Fully correct and intelligible response

Progress criteria: 75% of the total score

1. Semantic level

A. Gross phonemic level

[1]C-Ask the person with aphasia to point to correct picture

[2]E-Ask the person with aphasia to name the stimulus that is pointed by the clinician.

Follow the stimulus and response mode hierarchy. Booklet 2 to be used by the clinician.

Level 1: Widely variant phonemes in a word.

Stimuli (10 stimuli)

1.	ನಾಯಿ–ಹೂವು	/na:ji-hu:vu/
2.	ಪೆನ್ನು –ಊಟ	/pennu- u:ta/
3.	ಕಾರು – ಮೂಗು	/ka:ru-mu:gu/
4.	ಕಾಲು– ಹಸು	/ka:lu- hasu/
5.	ಲೋಟ – ಬಟ್ಟೆ	/lo:ta- batte/
6.	ಹುಡುಗ – ಕಿಟಕಿ	/huɖuga- kitaki/
7.	ಚಮಚ – ಕೋಳಿ	/ʧamaʧa- ko:ɭi/
8.	ಮಲಗು – ಕೂದಲು	/malagu- ku:dalu/
9.	ತಟ್ಟೆ – ಚಪ್ಪಲಿ	/ʈatte- ʧappali/
10.	ನಕ್ಷತ್ರ – ಆಗಸ	/nakʃatra- a:gasa/

[1] *C=Comprehension*

[2] *E=Expression*

Level 2: Lesser variant phonemes in a word

Stimuli (10 stimuli)

1.	ಪುಸ್ತಕ – ಪುರುಷ	/pusʈaka-puruʃa/
2.	ಚಮಚ – ಚರಕ	/ʧamaʧa -ʧaraka/
3.	ಪದಕ – ಚಲಕ	/paɖaka-ʧilaka/
4.	ಚಿರತೆ – ಹಣತೆ	/ʧiraʈe-haɳate/
5.	ಈರುಳ್ಳಿ – ಈಶ್ವರ	/i:ruɭɭi- i:ʃvara/
6.	ಕತ್ತರಿ – ಕಮಲ	/kaʈʈari- kamala/
7.	ಕಡಿಮೆ – ಕವಚ	/kaɖime- kavaʧa/
8.	ಕೂದಲು – ಕೂಗಾಟ	/ku:ɖalu- ku:ga:ʈ a/
9.	ಬಡವ – ಗಿಡುಗ	/baɖava- giɖuga/
10.	ಮೂಲಗಿ – ಮೂಷಿಕ	/mu:laŋi-mu:ʃika/

B. Finer phonemic level

C-Ask the person with aphasia to point to correct picture

E-Ask the person with aphasia to name the stimulus that is pointed by the clinician.

Follow the stimulus and response mode hierarchy. Booklet 2 to be used by the clinician.

Less variant phonemes which are visually or acoustically similar in a word.

Level 1: Finer phonemic difference in bisyllabic words.

Stimuli (10 stimuli)

1.	ಊಟ – ಆಟ	/u:ʈa- a:ʈa/
2.	ಕಾಲು – ಹಾಲು	/ka:lu-ha:lu/
3.	ಮೂರು – ಆರು	/mu:ru-a:ru/
4.	ಹೂವು – ಹಾವು	/hu:vu-ha:vu/
5.	ತಟ್ಟೆ – ಬಟ್ಟೆ	/ʈaʈʈe- baʈʈe/
6.	ಪೆನ್ನು – ಬೆನ್ನು	/pennu- bennu/
7.	ತಲೆ – ಬಲೆ	/ʈale- bale/
8.	ಬಾಯಿ – ನಾಯಿ	/ba:ji-na:ji/
9.	ಕಲ್ಲು – ಹಲ್ಲು	/kallu- hallu/
10.	ಬೀಜ – ಬೀಗ	/bi:dʒa- bi:ga/

Level 2: Finer phonemic difference in trisyllabic/polysyllabic words.

Stimuli (8 stimuli)

1.	ಹುಡುಗ – ಹುಡುಗಿ	/huɖuga-huɖugi/
2.	ಗಂಡಸು – ಹೆಂಗಸು	/ganɖasu-heŋgasu/
3.	ಮೊಸರು – ಮರಳು	/mosaru-maraɭu/
4.	ಚಪ್ಪರ – ಚಪ್ಪಲಿ	/tʃappara-tʃappali/
5.	ಕರಡಿ – ಹರಡಿ	/karaɖi- haraɖi/
6.	ತೊಂಬತ್ತು – ಒಂಬತ್ತು	/ʈombaʈʈu- ombaʈʈu/
7.	ಇಪ್ಪತ್ತು – ಎಪ್ಪತ್ತು	/ippaʈʈu-eppaʈʈu/
8.	ನಿಂಬೆಹಣ್ಣು – ಸೀಬೆಹಣ್ಣು	/nimbehaɳɳu-si:behaɳɳu/

C. Word level

C-Ask the person with aphasia to point to correct picture

E-Ask the person with aphasia to name the stimulus that is pointed by the clinician.

Follow the stimulus and response mode hierarchy. The clinican can use booklet 2. If the person with apahsia finds it difficult to respond amidst the array of pictures, the clinican can use individual picture cards provided in booklet 5.Also the clinican can use booklet 4b to elicit responses which provides the graphic cueing.

i.Vocabulary

a. Body parts (15 stimuli)

1.	ತಲೆ	/ʈale/	9.	ಹಲ್ಲು	/hallu/
2.	ಕತ್ತು	/kaʈʈu/	10.	ಕೈ	/kai/
3.	ಕಣ್ಣು	/kaɳɳu/	11.	ಕಾಲು	/ka:lu/
4.	ಕಿವಿ	/kivi/	12.	ಹೊಟ್ಟೆ	/hoʈʈe/
5.	ಮೂಗು	/mu:gu/	13.	ಬೆನ್ನು	/bennu/
6.	ಬಾಯಿ	/ba:ji/	14.	ಬೆರಳು	/beraɭu/
7.	ತುಟಿ	/ʈuʈ i/	15.	ಕೂದಲು	/ku: ɖalu/
8.	ನಲಿಗೆ	/na:lige/			

b. Common objects

- **Furniture (5 stimuli)**

1.	ಮೇಜು	/me:dʒu/	4.	ಕಿಟಕಿ	/kiʈ aki/
2.	ಕುರ್ಚಿ	/kurʧi/	5.	ಮಂಚ	/manʧa/
3.	ಬಾಗಿಲು	/ba:gilu/			

- **Gadgets (5 stimuli)**

1.	ಫ್ಯಾನು	/fænu/	4.	ರೇಡಿಯೋ	/re:ɖijo/
2.	ಟಿ.ವಿ.	/ʈ i:vi/	5.	ಫ್ರಿಡ್ಜ್	friʤ/
3.	ಫೋನು	/fo:nu			

- **Kitchen ware (5 stimuli)**

1.	ತಟ್ಟೆ	/ʈaʈʈe/	4.	ಪಾತ್ರೆ	/pa:ʈre/
2.	ಚಮಚ	/ʧamaʧa/	5.	ಚಾಕು	/ʧa:ku/
3.	ಲೋಟ	/lo:ʈa/			

- **Stationery (5 stimuli)**

1.	ಪೆನ್ನು	/pennu/	4.	ರಬ್ಬರ್	/rabbar/
2.	ಪೇಪರ್	/pe:par/	5.	ಸ್ಲೇಟು	/sle:ʈu/
3.	ಪೆನ್ಸಿಲ್	/pensil/			

- **Lavatory kit (5 stimuli)**

1.	ಬ್ರಷು	/braʃu/	4.	ಕನ್ನಡಿ	/kannaḍi/
2.	ಪೇಸ್ಟ್	/pe:sṭ u/	5.	ಸೋಪು	/so:pu/
3.	ಬಾಚಣಿಗೆ	/ba: ʧaɳige/			

- **Clothing (5 stimuli)**

1.	ಶರ್ಟು	/ʃarṭu/	4.	ಲಂಗ	/laŋga/
2.	ಪ್ಯಾಂಟು	/pænṭu/	5.	ಟವಲ್	/ṭaval/
3.	ಸೀರೆ	/si:re/			

c. Food items (7 stimuli)

1.	ಇಡ್ಡಿ	/iḍḷi/
2.	ದೋಸೆ	/ḏo:se/
3.	ಚಪಾತಿ	/ʧapa: ṯi/
4.	ಪಲ್ಯ	/palja/
5.	ಉಪಿಟ್ಟು	/upiṭ ṭ u/
6.	ಪೂರಿ	/pu:ri/
7.	ಅನ್ನ	/anna/

d. Animals (15 stimuli)

1.	ನಾಯಿ	/na:ji/	9.	ಆನೆ	/a:ne/
2.	ಬೆಕ್ಕು	/bekku/	10.	ಹುಲಿ	/huli/
3.	ಹಸು	/hasu/	11.	ಸಿಂಹ	/simha/
4.	ಎಮ್ಮೆ	/emme/	12.	ಇಲಿ	/ili/
5.	ಕೋಳಿ	/ko:ɭ i/	13.	ಮೊಲ	/mola/
6.	ಮೇಕೆ	/me:ke/	14.	ಹಾವು	/ha:vu/
7.	ಕುದುರೆ	/kuɖure/	15.	ಕಪ್ಪೆ	/kappe/
8.	ಕೋತಿ	/ko:ʈi/			

e. Fruits (13 stimuli)

1.	ಬಾಳೆಹಣ್ಣು	/ba:ɭeha ɳɳu/	8.	ಸಪೋಟ	/sapo:ʈ a/
2.	ಸೇಬು	/se:bu/	9.	ಹಲಸಿನ ಹಣ್ಣು	/halasina haɳɳu/
3.	ಕಿತ್ತಳೆಹಣ್ಣು	/kiʈaɭe haɳɳu/	10.	ಕಲ್ಲಂಗಡಿ	/kallaŋgaḍi/
4.	ಮಾವಿನಹಣ್ಣು	/ma:vina haɳɳu/	11.	ಸೀಬೆ ಹಣ್ಣು	/si:be haɳɳu/
5.	ದ್ರಾಕ್ಷಿ	/ɖra:kʃi/	12.	ದಾಳಿಂಬೆ	/ɖa:ɭimbe/
6.	ಅನಾನಸ್	/ana:nas/	13.	ಸೀತಾಫಲ	/si:ʈa:pala/
7.	ಪರಂಗಿ ಹಣ್ಣು	/paraŋi haɳɳu/			

g. Vegetables (15 stimuli)

1.	ಟೊಮಟೋ	/ʈ oma:ʈ o/	8.	ಮೆಣಸಿನಕಾಯಿ	/meɳasina ka:ji/
2.	ಆಲುಗಡ್ಡೆ	/a:lugeɖɖe/	9.	ಬೆಂಡೆ ಕಾಯಿ	/benɖe ka:ji/
3.	ಈರುಳ್ಳಿ	/i:ruɭɭi/	10.	ಎಲೆ ಕೋಸು	/ele ko:su/
4.	ಕ್ಯಾರೆಟ್	/kæreʈ /	11.	ಹೂ ಕೋಸು	/hoo kos:u/
5.	ಸೌತೆಕಾಯಿ	/souʈeka:ji/	12.	ನಿಂಬೆ ಹಣ್ಣು	/nimbe haɳɳu/
6.	ಮೂಲಂಗಿ	/mu:laŋgi/	13.	ಮೆಣಸಿನಕಾಯಿ	/meɳasina ka:ji/
7.	ಟೊಮಟೋ	/ʈ oma:ʈ o/	14.	ಬೆಂಡೆ ಕಾಯಿ	/benɖe ka:ji/
8.	ಆಲುಗಡ್ಡೆ	/a:lugeɖɖe/	15.	ಎಲೆ ಕೋಸು	/ele ko:su/

g. Vehicles (12 stimuli)

1.	ಬಸ್ಸು	/bassu/	7.	ಜೀಪ್	/ʤi:pu/
2.	ಕಾರು	/ka:ru/	8.	ಸೈಕಲ್	/saikal/
3.	ಆಟೋ	/a:ʈ o/	9.	ಹಡಗು	/haɖagu/
4.	ಸ್ಕೂಟರ್	/sku:ʈ ar/	10.	ರೈಲು	/railu/
5.	ಬೈಕ್	/baik/	11.	ವಿಮಾನ	/vima:na/
6.	ಲಾರಿ	/la:ri/	12.	ಎತ್ತಿನ ಬಂಡಿ	/jaʈʈina ga:ɖi/

h. Numbers (16 stimuli)

1.	ಒಂದು	/ondu/	9.	ನೂರ ನಲವತ್ತು	/nu:ra nalavattu/
2.	ಮೂರು	/mu:ru/	10.	ನೂರ ಅರವತ್ತೊಂಬತ್ತು	/nu:ra aravattombattu/
3.	ಏಳು	/e:ḷu/	11.	ಸಾವಿರ	/sa:vira/
4.	ಹತ್ತು	/hattu/	12.	ಸಾವಿರದ ಇಪ್ಪತ್ತು	/sa:viraḍa ippattu/
5.	ಎಂಟು	/enṭ u/	13.	ಐದು ಸಾವಿರದ ನಾನೂರು	/aiḍu sa:viraḍa na:nu:ru/
6.	ಇಪ್ಪತ್ತು	/ippattu/	14.	ಆರು ಸಾವಿರದ ಐನೂರು	/a:ru sa:viraḍa ainu:ru/
7.	ಐವತ್ತು	/aivattu/	15.	ಆರು ಸಾವಿರದ ಐನೂರು ಮೂವತ್ತು	/a:ru sa:viraḍa ainu:ru mu:vattu/
8.	ನೂರು	/nu:ru/	16.	ಹತ್ತು ಸಾವಿರ	/hattu sa:vira/

i. Colours (10 stimuli)

1	ಕೆಂಪು	/kempu/	6	ಬಿಳಿ	/biɭi/
2	ಹಸಿರು	/hasiru/	7	ಕಪ್ಪು	/kappu/
3	ಹಳದಿ	/haɭadi/	8	ಕಂದು	/kaɳɖu/
4	ನೀಲಿ	/ni:li/	9	ಗುಲಾಬಿ	/gula:bi/
5	ಕೇಸರಿ	/ke:sari/	10	ನೇರಳೆ	/ne:raɭe/

j. Geometric forms (10 stimuli)

1.	ವೃತ್ತ	/vruʈʈa/	6.	ನಕ್ಷತ್ರ	/nakʃaʈra/
2.	ತ್ರಿಕೋಣ	/ʈriko:ɳa/	7.	ಅರ್ಧಚಂದ್ರ	/arɖatʃandra/
3.	ಕೋನ	/ko:na/	8.	ಚುಕ್ಕೆ/ಬಿಂದು	/tʃukke / biɳɖu/
4.	ಚೌಕ	/tʃauka/	9	ಬಾಣ	//ba:ɳa/
5.	ಆಯತಾಕಾರ	/a:ja: ʈaka:ra/	10.	ಗೆರೆ/ರೇಖೆ	/gere / re:k^{h}e/

ii. Antonyms

Booklet 2 to be used. Pictures are provided only for level-1 task

Level 1: Stimuli (14)

1.	ದೊಡ್ಡದು: ಚಿಕ್ಕದು, ಪೇಪರ್	/ɖoɖɖaɖu, tʃikkaɖu, pe:par/
2.	ಉದ್ದ: ಗಿಡ್ಡ, ದಪ್ಪ	/uɖɖa:, ɖappa, giɖɖa/
3.	ಮೇಲೆ: ಕೆಳಗೆ, ಬಲಗಡೆ	/me:le, keɭage, balagaɖe/
4.	ಒಳಗೆ : ಆಫ್, ಹೊರಗೆ	/oɭage, a:f, horage/
5.	ಹತ್ತಿರ : ದೂರ, ಮುಂದೆ	/haʈʈira, du:ra, muɳɖe/
6.	ಬೆಳಿಗ್ಗೆ : ನಕ್ಷತ್ರ, ರಾತ್ರಿ	/beɭige, nakʃaʈra, ra:ʈri/
7.	ಶ್ರೀಮಂತ : ಕಾಸು, ಬಡವ	/ʃrimanʈa: kas:u, baɖava/
8.	ನಗು : ಅಳು, ಸಿಟ್ಟು	/nagu, aɭu, siʈʈu/
9.	ತೆಗಿ : ಅನ್, ಮುಚ್ಚು	/ ʈegi, a:n, mutʃu/
10.	ದಪ್ಪ : ಸಣ್ಣ, ಗುಂಡು	/ɖappa, saɳɳa, guɳɖu/

11.	ಕುಳಿತುಕೊ : ನಿಂತುಕೊ, ಮಲಗು	/kuɭiʈuko, malagu, niɳʈko/
12.	ಯುವಕ : ಮುದುಕ, ಹುಡುಗ	/juvaka, muɖuka, huɖuga/
13.	ಏಳು : ಸೂರ್ಯ, ಮಲಗು	/e:ɭu: su:rja, malagu/
14.	ಹತ್ತು : ಇಳಿ, ನಿಂತುಕೊ	/haʈʈu, iɭi, niɳʈuko/

Level 2: Stimuli (15)

1.	ಸತ್ಯ – ಅಸತ್ಯ, ಬಿಳಿ	/saʈja- asaʈja, biɭi/
2.	ಒಳ್ಳೆಯದು – ಕೆಟ್ಟದು, ಸುಲಭ	/oɭɭejaɖu- keʈʈaɖu, sulab^{h}a/
3.	ಸಂತೋಷ – ದುಃಖ, ಕಷ್ಟ	/saɳʈo:ʃa- ɖukha, kaʃta/
4.	ಲಾಭ – ನಷ್ಟ, ಸುಖ	/la:bha-naʃta, sukha/
5.	ಜಯ – ಅಪಜಯ, ಸಿಹಿ	/dʒaja-apadʒaja, sihi/
6.	ಭಾರ – ಹಗುರ, ಹಾಸಿಗೆ	/bha:ra-hagura, ha:sige/
7.	ಸುಂದರ ಕುರೂಪ, ದಪ್ಪ	/sunɖara-kuru:pa, ɖappa/
8.	ಜಾಣ – ದಡ್ಡ, ಪುಸ್ತಕ	/dʒa:ɳa- ɖappa,pusʈaka/
9.	ಗಟ್ಟಿ – ಮೃದು, ನೀರು	/gaʈ ʈ i-mruɖu, ni:ru/
10.	ನಿಧಾನ – ಬೇಗ, ನಿಲ್ಲು	/niɖ:ana-be:ga, nillu/
11.	ಸರಿ – ತಪ್ಪು, ಸುಳ್ಳು	/sari- ʈappu,suɭɭu/
12.	ಉತ್ತರ – ದಕ್ಷಿಣ, ಪೂರ್ವ	/uʈʈara-dakʃiɳa, pu:rva/

13.	ಬಲ – ಎಡಗಡೆ, ಮೇಲೆ	/balagaɖe-eɖgaɖe, me:le/
14.	ಇಲ್ಲಿ – ಅಲ್ಲಿ, ಮೇಲೆ	/illi-alli, me:le/
15.	ಜಾಣ – ದಡ್ಡ, ಬುದ್ದಿವಂತ	/dʒa:ɳa - ɖaɖɖa, budhivanʈa/

iii.Synonyms

Level 1: Words having one synonym. Booklet 2 to be used.

Stimuli (10)

1	ರಾಜ : ಮರ, ಅರಸ	/ra:dʒa: mara arasa/
2	ಶ್ರೀಮಂತ : ಸಾಹುಕಾರ, ಹಕ್ಕಿ	/srimanʈa:, sahuka:ra, hakki/
3	ಮರ : ಹುಲಿ, ವೃಕ್ಷ	/mara:hu:ɭi, vrukʃa/
4	ಹತ್ತು : ನಾಯಿ, ಏರು	/haʈʈu: ,na:ji, e:ru/
5	ರಸ್ತೆ : ದಾರಿ, ಗಿಡ	/rasʈe: ɖa:ri, giɖa/
6	ಸಮಯ : ಘಂಟೆ, ಮೇಜು	/samaja: ghanʈe, medʒu/
7	ದೇಹ : ಶರೀರ, ಶರ್ಟು	/de:ha:, ʃari:ra, ʃarʈu/
8	ಸಮುದ್ರ : ಸಾಗರ, ಮೀನು	/samuɖra: sa:gara, mi:nu/
9	ಕಾಡು : ಆನೆ, ಅರಣ್ಯ	/ka:ɖu: a:ne, aranja/
10	ಚಿಕ್ಕ : ಸಣ್ಣ, ಪುಟ್ಟ	/tʃikka: saɳɳa, puʈʈa/

Level 2: A word, having more than one synonym

Stimuli (10)

1.	ಹಸ್ತ : ಕರ, ಕಾಲು, ಕೈ	/hasta:kara,ka:ɭu, kai/
2.	ಕಣ್ಣು : ಹೊಟ್ಟೆ, ನಯನ, ನೇತ್ರ	/kaɳɳu:, hoʈ ʈ e, najana, ne: ʈ ra/
3.	ದೇವಸ್ಥಾನ : ದೇವಾಲಯ, ಗುಡಿ, ಚರ್ಚ್	/devas ʈa:na:, de:va:ɭaja, guɖi, ʧarʧ/
4.	ಮನೆ : ಗೃಹ, ನಿವಾಸ, ಆಸ್ಪತ್ರೆ	/mane, gruha, niva:sa,a:spaʈre/
5.	ದುಡ್ಡು : ಹಣ, ಕಾಸು, ಡಬ್ಬಿ, ರೊಕ್ಕ	/duɖɖu:, haɳa,ka:su, ɖabbi, rokka/
6.	ಭೂಮಿ : ಭುವಿ, ಭಾರತ, ಇಳೆ	/bhu:mi:, bhuvi,bharaʈa, iɭe/
7.	ಆಕಾಶ : ಹಕ್ಕಿ, ಆಗಸ, ಭಾನು	/a:ka:ʃa:, hakki,agasa,b^{h}anu/
8.	ದೊಡ್ಡ : ವಿಶಾಲ, ವಿಸ್ತಾರ, ಸಮುದ್ರ	/ɖoɖɖa: , viʃala, visʈa:ra,samuɖra/
9.	ಸಿಟ್ಟು : ಕೋಪ, ಅಧ್ಯಾಪಕಿ, ಕ್ರೋಧ	/siʈ ʈ u: ko:pa, aɖjapaki, kroɖa/
10.	ಮದುವೆ : ವಿವಾಹ, ಊಟ, ಲಗ್ನ	/maɖuve:, viva:ha, u:ʈ a, ɭagna/

iv. Syntagmatic and paradigmatic

Syntagmatic relations are ones that linguistic units have with other units because they occur together in a sequence.

Paradigmatic relations are ones that linguistic units share because they may be substituted by another.

Pictures are not provided for this section. However, the clinician is free to use any related picture from the manual.

Syntagmatic relations

Stimuli (10)

1. ಹಾಲು : ಬಿಳಿ – ಕೂದಲು: _____

/ ha: lu/ : /biɭi/ - /ku: ɖalu/ : ____ (/kappu/, /ni:li/)

2. ಮೈದಾನ : ಆಟ – ಶಾಲೆ

/maiɖa:na/ : /a:ʈ a/ - /ʃa:le/ : ____ (/u:ʈ a/, /pa:ʈ a/)

3. ಪೆನ್ನು : ಬರಿ – ಬಾಲು : _____

/pennu/ : /bari/ - /ba:lu/ : ____ (/a:ɖu/, /o:ɖu/)

4 ಸಕ್ಕರೆ : ಸಿಹಿ – ಹಾಗಲಕಾಯಿ

/sakkare/ : /sihi/ - /ha:gaɭakaji/ : ____ (/huɭi/, /kahi/)

5. ಕಾಗೆ : ಕಪ್ಪು – ಹಂಸ

/ka:ge/ : /kappu/ - /hamsa/ : ____ (/biḷi/, /hasiru/)

6. ಕುದುರೆ : ಓಡು – ಮೀನು

/kuḍure/ : /o: ḍu/ - /mi: nu/ : ____ (/naḍe/, /i:dʒu/)

7. ಪುಸ್ತಕ : ಭಾರ – ಪೇಪರ್

/pusṭaka/ : /bhara/ - /pe: par/ : ____ (/hagura/, /saṇṇa/)

8. ಬ್ರೆಡು : ತಿನ್ನು – ಕಾಫಿ

/breḍu/ : /ṭinnu/ - /ka:fi/ : ___ (/maḷagu/, /kuḍi/)

9. ಆನೆ : ದೊಡ್ಡದು – ಇಲಿ

/a:ne/ : /ḍoḍḍaḍu/ - /ili / : ___ (/tʃikkaḍu/,/agala/)

10. ಜಿಂಕೆ : ಸಸ್ಯಹಾರಿ – ಹುಲಿ

/dʒinke/ : /sasjaha: ri/ - /huli/ : ____ (/ma:msa:ha:ri/, /miʃraha:ri/)

Paradigmatic relations

Stimuli (10)

1. ಗಿಳಿ : ಹಕ್ಕಿ – ಹುಲಿ : ____

/giḷi/ : / hakki/ - /huli/ : ____ (/pra:ṇi/, /dʒinke/)

2. ರೋಜ : ಹೂವು – ಕ್ಯಾರೇಟ್

/ro:dʒa/ : /hu:vu/ - /kjareṭ / : ____ (/kosu/,/ ṭarakari/)

3. ತಾತಾ : ಅಜ್ಜಿ – ಅಪ್ಪ : ____

/ ʈa: ʈa:/ : /adʒdʒi/- /appa/ : ____ (/amma/, /maga/)

4. ಸೇಬು : ಹಣ್ಣು – ಮೇಜು

/se:bu/ : /haɳɳu/ - /medʒu : ____ (/va:hana/, /vasʈu/)

5. ಅಕ್ಕಿ : ಕಾಳು – ಮಲ್ಲಿಗೆ

/ akki/ : /ka:ɭu/ - /mallige/ : ____ (/ho:vu/,/ u:ʈ a/)

6. ಈರುಳ್ಳಿ : ತರಕಾರಿ – ಬಾಳೆಹಣ್ಣು

/ i:ruɭi/ : /ʈarakari/ - /baɭehaɳɳu/ : ____ (/kaɭu/, /haɳɳu/)

7. ಅಣ್ಣ : ತಂಗಿ – ಮಗ

/aɳɳa/ : /ʈaŋgi/ - /maga/ : ____ (/magaɭu/, /appa/)

8. ನಾಯಿ : ಪ್ರಾಣಿ – ಕಾಗೆ

/naji/: /pra:ɳi/ - /ka:ge/ : ____ (/giɭi/, /hakki/)

9. ಸೀರೆ : ಬಟ್ಟೆ – ಸ್ಕೂಟರ್

/si:re/ : /baʈ ʈ e/ - /sku:ʈ ar/ : ____ (/va:hana/,/ tʃakri/)

10. ದೋಸೆ : ತಿಂಡಿ – ಅನ್ನ : ____

/ɖose/ : /ʈinɖi/ - /anna/ : ____ (/u:ta/, /kuɖi/)

v. Semantic similarity

C-Ask the person with aphasia to indicate the correct pair by drawing lines

E- Ask the person with aphasia to tell the other member of the pair.

Stimuli (15)

1.	ಆಟವಾಡುವುದು	/a: ʈ aɖuvuɖu/	ಅಸೂಯೆ	/a:su:je/
2.	ಓದುವುದು	/o: ɖuvuɖu/	ಹಾಡು	/ha:ɖu/
3.	ಹಾಡುವುದು	/ha:ɖuvu ɖu/	ಬಾಯಾರಿಕೆ	/ba:jarike/
4.	ನೋಡುವುದು	/no: ɖuvu ɖu/	ಹಾಡು	/ha:ɖu /
5.	ಕುಡಿಯುವುದು	/kuɖijuvu ɖu/	ಲೇಖನ	/le:k^{h}ana/
6.	ಓಡುವುದು	/o: ɖuvu ɖu/	ಆಟ	/a:ʈ a:/
7.	ಬರಿಯುವುದು	/barijuvu ɖu/	ದೃಷ್ಯ	/ɖruʃja/
8.	ಮಾಡುವುದು	/ma:ɖuvuɖu/	ಓಟ	/u:ʈ a/
9.	ಕೂರುವುದು	/ku:ruvu ɖu/	ಕೂಗು	/ku:gu/
10.	ಮಲಗುವುದು	/malaguduvu ɖu/	ಕಾರ್ಯ	/ka:rja/
11.	ಭೇಟಿ	/b^{h}e:ʈ i/	ನಿದ್ದೆ	/niɖɖe/
12.	ಕಿರುಚುವುದು	/kirukuvuɖu/	ಮಿಲನ	/mi ɭana/
13.	ಹೊಟ್ಟೆ ಕಿಚ್ಚು	/hoʈ ʈ ekikku/	ಮಾತು	/ma:ʈu/
14.	ಎಚ್ಚರ	/etʃara/	ಕುರ್ಚಿ	/kurtʃi/
15.	ಹೇಳುವುದು	/he:ɭuvuɖu/	ಜಾಗರಣೆ	/ja:garaɳe/

Answer key :1-6,2-4,3-2,4-7,5-3,6-8,7-5,8-10,9-14,10-11,11-12,12-9,13-1,14-15,15-13.

vi. Semantic contiguity

C-Ask the person with aphasia to indicate the correct pair by drwing lines

E- Ask the person with aphasia to tll the other member of the pair

Stimuli (19)

1.	ಮುಗುಳ್ನಗೆ	/muguɭnage/	ಸಿನಿಮಾ	/sinima: /
2.	ನೂಲು	/nu: ɭu/	ಮನೆ	/mane/
3.	ಹಣ್ಣು	/haɳɳu/	ನಗು	/nagu/
4.	ಇಟ್ಟಿಗೆ	/iʈʈige/	ಬಟ್ಟೆ	/baʈʈe/
5.	ಹಾಡು	/ha:ɖu/	ತಿನ್ನು	/ʈinnu/
6.	ಅಕ್ಕಿ	/akki/	ಜಡೆ	/dʒ aɖe/
7.	ಬೀಜ	/bhi:ja/	ಮಡಿಕೆ	/maɖike/
8.	ದುರ್ವಾಸನೆ	/ɖurva:sane/	ರೊಟ್ಟಿ	/roʈ ʈ i/
9.	ಮಣ್ಣು	/maɳɳu/	ಗಿಡ	/giɖa/
10.	ಹುಡುಗಿ	/huɖugi/	ಚರಂಡಿ	/ʧarandi/
11.	ಲೋಹ	/ɭoʈ a/	ಮಳೆ	/maɭe/
12.	ನೀರು	/ni:ru/	ಬೆಣ್ಣೆ	/beɳɳe/
13.	ಸ್ಟೀಲು	/sʈ i:ɭu/	ಸುತ್ತಿಗೆ	/suʈʈige/
14.	ಹಾಲು	/ha:lu/	ಕುಡಿ	/kudi/
15.	ಮೊಡ	/mo:ɖa/	ಪಾತ್ರೆ	/pa:ʈre/
16.	ಚಿನ್ನ	/ʧinna/	ಬತ್ತಿ	/ba ʈ ʈi/
17.	ಕಬ್ಬು	/kabbu/	ಶಾಲು	/ʃa:lu/
18.	ಹತ್ತಿ	/haʈʈi/	ಆಭರಣ	/a:b^{h}araɳa/
19.	ಚಳಿ	/ʧaɭi/	ಸಕ್ಕರೆ	/sakkare/

Vii.Semantic anomaly

C-Ask the person with aphasia to indidcate wheter the sentences are right /wrong

E- Ask the person with aphasia to tell whether the sentences are right/ wrong .If wrong explain why.

Stimuli (23)

1	ಬೆಳಿಗ್ಗೆ ಕತ್ತಲೆ ಇರುತ್ತದೆ.	/beɭigge kaʈʈaɭe iruʈʈaɖe/
2	ಬೆಕ್ಕು ಬೊಗಳುತ್ತದೆ.	/bekku bogaɭuʈʈaɖe/
3	ಅವನು ಬಿಸಿಲಿನಲ್ಲಿ ನೆನೆದುಹೋದ	/avanu bisiɭanaḷḷi nenuduhoɖa/
4	ಮೇಜು ಅಳುತ್ತಿದೆ.	/me:dʒu aɭuʈʈiɖe/
5	ಹುಡುಗ ಚಮಚದಲ್ಲಿ ಬರೆಯುತ್ತಿದ್ದಾನಾ	/huɖuga ʧamaʧ ɖalli barejuʈʈiɖa: na: /
6	ಪಾತ್ರೆಯಲ್ಲಿ ಕಪ್ಪು ಹಾಲಿದೆ.	/pa:ʈrejalli kappu haɭi ɖe/
7	ರಾಮು ನನ್ನ ಅಕ್ಕ	/ra:mu nanna akka/
8	ರಾಧ ನನ್ನ ಅಣ್ಣ	/ra:ɖʰa nanna aṇṇa/
9	ಆಕಾಶದ ಬಣ್ಣ ಹಸಿರು ಇರುತ್ತದೆ.	/a:ka:ʃɖa baṇṇa hasiru iruʈʈaɖe/
10	ಮೀನುಗಳು ನೆಲದ ಮೇಲೆ ಇರುತ್ತೇವೆ.	/mi:nugaɭu nelaɖa me:le iruʈʈe:ve/
11	ನಾವು ಕಣ್ಣಿನಿಂದ ಕೇಳುತ್ತೇವೆ.	/na:vu kaṇṇininɖa ke:ɭuʈʈeve/
12	ಕುರ್ಚಿ ವೇಗವಾಗಿ ಓಡುತ್ತದೆ.	/kurʧi ve:gava:gi o:ɖuʈʈaɖe/
13	ನಾವು ಕಿವಿಯಿಂದ ತಿನ್ನುತ್ತೇವೆ	/na:vu kivijinɖa ʈinuʈʈeve/
14	ಹುಡುಗರು ಪುಸ್ತಕವನ್ನು ತಿನ್ನುತ್ತಾರೆ	/huɖugaru pusʈakavannu ʈinnuʈʈa:re/
15	ಪಕ್ಷಿ ನೀರಿನಲ್ಲಿ ಹಾರುತ್ತದೆ.	/pakʃi ni:rinaḷḷi ha:ruʈʈaɖe/
16	ಹುಡುಗ ರೊಟ್ಟಿಯನ್ನು ಕುಡಿಯುತ್ತಾನೆ	/huɖuga roʈ ʈ ijannu kuɖijuʈʈane/
17	ನೂಲು ತುಂಬಾ ಭಾರವಿರುತ್ತದೆ.	/nu:ɭu ʈumba bha:raviruʈʈaɖe/
18	ನನ್ನ ಮಗ ಒಳ್ಳೆಯ ಹುಡುಗಿ	/nanna maga vaḷḷeja huɖugi/
19	ಹುಡುಗ ಹುಲ್ಲು ತಿಂದನು.	/huɖuga hullu ʈinɖanu/
20	ಇದು ಕಪ್ಪು ಬಣ್ಣದ ಗಿಳಿ	/iɖu kappu baṇṇaɖa giɭi/
21	ಆನೆ ತುಂಬಾ ಸಣ್ಣ ಪ್ರಾಣಿ	/a:ne ʈumba saṇṇa pra: ɳi/
22	ಹುಲಿ ಹುಲ್ಲು ತಿಂದಿತು.	/huɭi huḷḷu ʈinɖiʈu/
23	ಹಾಗಲಕಾಯಿ ಸಿಹಿಯಾಗಿರುತ್ತದೆ	/ha:gaɭaka:ji ʈumba sihijiruʈʈaɖe/

4. Syntax Level

Booklet 3 (wherever appropriate) to be used by the clinican for the activitites of this domain.

A. Person Number Gender markers

Person: is a grammatical category which determines the choice of pronouns in a sentence according to certain principles.

Number: It is a grammatical distinction which determines whether nouns, verbs, adjectives in a language are singular or plural

Gender: It is a grammatical distinction in which words such a nouns, articles, adjectives, and pronouns are marked according to a distinction between masculine, feminine.

Person

C-Ask the person with aphasia to indicate whether the sentence is right or wrong.

E-Ask the person with aphasia to tell if thew sentence is right or wrong. If wrong, explain why. Follow the stimulus and response mode hierarchy.

Stimuli (10)

1. ನಾನು ಹೋಗುತ್ತೀನಿ	/na:nu ho:gu̱tti̱ni/
2. ನಾವು ಹೋಗುತ್ತೇವೆ	/na:vu ho:gu̱tti:vi/
3. ನಾವು ತಿನ್ನುತ್ತೀನಿ	/na:vu t̪innu̱tti̱ni/
4. ರಾಮು ಬರುತ್ತಾನೆ	/ra:mu baru̱tane//
5. ರಾಮು ಹಾಡುತ್ತಾದೆ	/ra:mu ha:ḍu t̪a:ḍe/
6. ನೀವು ಮಲಗುತ್ತೀರೋ?	/ne:vu malagu̱ti:ro:?/
7. ನೀನು ಕೆಮ್ಮುತ್ತೀರಾ ?	/ne:nu kemmu̱ti:ra?/
8. ರಾಮು ಮಲಗುತ್ತಾನೆ	/ra:mu malagu̱ta:ne/
9. ಅವರು ಹೋಗುತ್ತಾನೆ	/avaru ho:gu̱tane/
10. ನಾವು ಮಲಗುತ್ತೇವೆ	/na:vu malagu̱te:ve/

Number

C-Ask the person with aphasia to indicate the correct picture as named by the clinician.

E-Ask the person with aphasia to tell the plural of the words as named by the clinician. Follow the stimulus and response mode hierarchy.

Stimuli (10)

1.	ಹುಡುಗಿ – ಹುಡುಗಿಯರು	/huɖugi – huɖugijaru/
2.	ಹುಡುಗ – ಹುಡುಗರು	/huɖuga – huɖugaru/
3.	ನಾಯಿ – ನಾಯಿಗಳು	/na:ji - najigaɭu/
4.	ಮರ – ಮರಗಳು	/mara - maragaɭu/
5.	ಎಲೆ – ಎಲೆಗಳು	/jale - jalegaɭu/
6.	ಬಾಗಿಲು– ಬಾಗಿಲುಗಳು	/ba:gilu – ba:gilugaɭu/
7.	ಬೆಕ್ಕು – ಬೆಕ್ಕುಗಳು	/bekku - bekkugaɭu/
8.	ಹೂವು – ಹೂವುಗಳು	/hu:vu – hu:vugaɭu/
9.	ಪುಸ್ತಕ – ಪುಸ್ತಕಗಳು	/pusʈaka -pusʈakagaɭu/
10.	ತಟ್ಟೆ – ತಟ್ಟೆಗಳು	/ʈaʈʈe - ʈaʈʈegaɭu/
11.	ಚೆಂಡು – ಚೆಂಡುಗಳು	/ʧendu - . ʧenɖugaɭu/
12	ಪೆನ್ನು – ಪೆನ್ನುಗಳು	/pennu - pennugaɭu/
13	ಪೇಪರ್ – ಪೇಪರ್‌ಗಳು	/pe:par – pe:pargaɭu/
14	ಕುರ್ಚಿ – ಕುರ್ಚಿಗಳು	/kurʧi - kurʧigaɭu/
15	ಗಡಿಯಾರ – ಗಡಿಯಾರಗಳು	/gaɖija:ra – gaɖija:ragaɭu/

Gender

C-Ask the person with aphasia to indicate the correct picture opposite in gender as named by the clinician.

E-Ask the person with aphasia to tell the opposite gender of the words as named by the clinician. Follow the stimulus and response mode hierarchy.

Stimuli (11)

1.	ಹುಡುಗ – ಹುಡುಗಿ	/huɖuga – huɖugi/
2.	ಗಂಡಸು – ಹೆಂಗಸು	/ganɖasu – heŋgasu/
3.	ಮುದುಕ – ಮುದುಕಿ	/muɖuka - muɖuki/
4.	ರಾಜ – ರಾಣಿ	/ra:dʒa – ra:ɳi/
5.	ಎತ್ತು – ಹಸು	/jeṯṯu – hasu/
6.	ಸಿಂಹ – ಸಿಂಹಿಣಿ	/simha – simhiɳi/
7.	ಹುಂಜ – ಕೋಳಿ	/hundʒa – ko:ɭi/
8.	ಅಗಸ – ಅಗಸಗಿತ್ತಿ	/agasa - agasagiṯṯi/
9.	ಹಾಡುಗಾರ – ಹಾಡುಗಾರ್ತಿ	/ha:ɖuga:ra – ha:ɖugarthi/
10.	ಲೇಖಕ –ಲೇಖಕಿ	/lekhaka – lekhaki/
11.	ಹೂಗಾರ – ಹೂವಾಡಗಿತ್ತಿ	/hu:ga:ra – hu:vaɖagiṯṯi/

B. Tenses

Past tense: Is a form of a verb which usually used to show that the act or state described by the verb occurred at the time before the present.

Present tense: A tense, which typically relates the time of an action or state to the present moment of time.

Future tense: A tense form used to indicate that the event described the verb will take at a future time.

C-Ask the person with aphasia to point to the picture which depicts the sentence as named by the clinician

E-Ask the person with aphasia to describe the picture that the clinician points to. Follow the stimulus and response mode hierarchy.

Stimuli (15)

1.	ಹುಡುಗ ಮಲಗುವನು ಹುಡುಗ ಮಲಗುತ್ತಿದ್ದಾನೆ ಹುಡುಗ ಮಲಗಿದ	/huḍuga malaguvanu/ /huḍuga malaguṭṭiḍḍa:ne/ /huḍuga malagiḍa/
2.	ಹುಡುಗಿಯು ಮಾವಿನ ಹಣ್ಣನ್ನು ತಿನ್ನುತ್ತಾಳೆ ಹುಡುಗಿಯು ಮಾವಿನ ಹಣ್ಣನ್ನು ತಿನ್ನುತ್ತಿದ್ದಾಳೆ ಹುಡುಗಿಯು ಮಾವಿನ ಹಣ್ಣನ್ನು ತಿಂದಳು	/huḍugiju ma:vina haṇṇannu ṭinnuṭṭa:ḷe/ /huḍugiju ma:vina haṇṇannu ṭinnuṭṭiḍḍa:ḷe/ /huḍugiju ma:vina haṇṇannu ṭiṇḍaḷu/
3.	ಹುಡುಗನು ಬರೆಯುತ್ತಾನೆ ಹುಡುಗನು ಬರೆಯುತ್ತಿದ್ದಾನೆ ಹುಡುಗನು ಬರೆದನು	/huḍuganu barejuṭṭa:ne/ /huḍuganu barejuṭṭiḍḍa:ne/ /huḍuganu bareḍanu/

4.	ಹುಡುಗಿಯು ನೀರು ಕುಡಿಯುತ್ತಾಳೆ ಹುಡುಗಿಯು ನೀರು ಕುಡಿಯುತ್ತಿದ್ದಾಳೆ ಹುಡುಗಿಯು ನೀರು ಕಡಿದಳು	/huɖugiju ni:ru kuɖijuṯṯa:ḷe/ /huɖugiju ni:ru kuɖijuṯṯiḏḏa:ḷe/ /huɖugiju ni:ru kudiḏaḷu/
5.	ಹೆಂಗಸು ಅಡಿಗೆ ಮಾಡುತ್ತಾಳೆ ಹೆಂಗಸು ಅಡಿಗೆ ಮಾಡುತ್ತಿದ್ದಾಳೆ ಹೆಂಗಸು ಅಡಿಗೆ ಮಾಡಿದಳು	/heŋgasu aɖige ma:ɖuṯṯa:ḷe/ /heŋgasu aɖige ma:ɖuṯṯiḏḏa:ḷe/ /heŋgasu aɖige ma:ɖiḏaḷu/
6.	ಹುಡುಗನು ಬಾಗಿಲು ತೆಗೆಯುತ್ತಾನೆ ಹಡುಗುಗನು ಬಾಗಿಲು ತೆಯುತ್ತಿದ್ದಾನೆ ಹುಡುಗನು ಬಾಗಿಲು ರತೆಗೆದನು	/huɖuganu ba:gilu ṯegejuṯṯa:ne/ /huɖuganu ba:gilu ṯegujuṯṯiḏḏa:ne/ /huɖuganu ba:gilu ṯegeḏanu/
7.	ಅವನು ಚೆಂಡನ್ನು ಎಸೆಯುತ್ತಾನೆ ಅವನು ಚೆಂಡನ್ನು ಎಸೆಯುತ್ತಿದ್ದಾನೆ ಅವನು ಚೆಂಡನ್ನು ಎಸೆದ	/avanu ʧenɖannu esejuṯṯa:ne/ /avanu ʧenɖannu esejuṯṯiḏḏa:ne/ /avanu ʧenɖannu eseḏa/
8.	ಅವಳು ಪೇಪರ್ ಹರಿಯುತ್ತಾಳೆ ಅವಳು ಪೇಪರ್ ಹರಿಯುತ್ತಿದ್ದಾಳೆ ಅವಳು ಪೇಪರ್ ಹರಿದಳು	/avaḷu pe:par harijuṯṯa:ḷe/ /avaḷu pe:par harijuṯṯiḏa:ḷe/ /avaḷu pe:par hariḏaḷu/
9.	ಹೆಂಗಸು ಬಟ್ಟೆ ಒಗೆಯುತ್ತಾಳೆ ಹೆಂಗಸು ಬಟ್ಟೆ ಒಗೆಯುತ್ತಿದ್ದಾಳೆ ಹೆಂಗಸು ಬಟ್ಟೆ ಒಗೆದಳು. ಓ	/heŋgasu baṯ ṯ e ogejuṯṯa:ḷe/ /heŋgasu baṯ ṯ e ogejuṯṯiḏḏa:ḷe/ /heŋgasu baṯ ṯ e ogeḏaḷu/
10.	ಅವಳು ಚಿತ್ರಕ್ಕೆ ಬಣ್ಣ ಹಾಕುತಾಳೆ ಅವಳು ಚಿತ್ರಕ್ಕೆ ಬಣ್ಣ ಹಾಕುತ್ತಿದ್ದಾಳೆ ಅವಳು ಚಿತ್ರಕ್ಕೆ ಬಣ್ಣ ಹಾಕಿದಳು	/avalu ʧitrakke baṇṇa ha:kuṯṯa:ḷe/ /avalu ʧitrakke baṇṇa ha:kuṯṯiḏḏa:ḷe/ /avalu ʧitrakke baṇṇa ha:kiḏaḷu/
11.	ಗಂಡಸು ಸೈಕಲ್ ಹೊಡೆಯುತ್ತಾನೆ ಗಂಡಸು ಸೈಕಲ್ ಹೊಡೆಯುತ್ತಿದ್ದಾನೆ ಗಂಡಸು ಸೈಕಲ್ ಹೊಡೆದನು	/ ganɖasu saikal hoɖejuṯṯane/ /ganɖasu saikal hoɖejuṯṯiḏḏane/ /ganɖasu saikal hoɖeḏanu/

12.	ಹುಡುಗಿಯು ಛತ್ರಿ ತೆಗೆಯುತ್ತಾಳೆ ಹುಡುಗಿಯು ಛತ್ರಿ ತೆಗೆಯುತ್ತಿದ್ದಾಳೆ ಹುಡುಗಿಯು ಛತ್ರಿ ತೆಗೆದಳು	/huɖugiju tʃaṯri ṯegejuṯṯa:ḷe/ /huɖugiju tʃaṯri ṯegejuṯṯiḏḏa:ḷe/ /huɖugiju tʃaṯri ṯegeḏaḷu/
13.	ಹುಡುಗಿಯು ಹೂವು ಕೀಳುತ್ತಾಳೆ ಹುಡುಗಿಯು ಹೂವು ಕೀಳುತ್ತಿದ್ದಾಳೆ ಹುಡುಗಿಯು ಹೂವು ಕೀತ್ತಳು	/huɖugiju hu:vu ki:ḷu ṯṯa:ḷe/ /huɖugiju hu:vu ki:ḷuṯṯiḏḏa:ḷe/ /huɖugiju hu:vu kiṯṯaḷu/
14.	ಹಡುಗಿ ತಲೆ ಬಾಚಿಕೊಳ್ಳುತ್ತಾಳೆ ಹಡುಗಿ ತಲೆ ಬಾಚಿಕೊಳ್ಳುತ್ತಿದ್ದಾಳೆ ಹಡುಗಿ ತಲೆ ಬಾಚಿಕೊಂಡಳು	/huɖugi ṯale batʃikoḷḷuṯṯa:ḷe / /huɖugi ṯale batʃikoḷḷuṯṯiḏḏa:ḷe/ /huɖugi ṯale batʃikonḍaḷu/
15.	ಹುಡುಗಿಯು ಟಿ.ವಿ. ನೋಡುತ್ತಾಳೆ ಹುಡುಗಿಯು ಟಿ.ವಿ. ನೋಡುತ್ತಿದ್ದಾಳೆ ಹುಡುಗಿಯು ಟಿ.ವಿ. ನೋಡಿದಳು	/huɖugiju ṭ i:vi noɖuṯṯa:ḷe/ /huɖugiju ṭ i:vi noɖuṯṯiḏḏa:ḷe/ /huɖugiju ṭ i:vi noɖiḏaḷu/

C. Answering yes/no (polar) questions

Task: *Ask the person with aphasia to indicate "yes" or "no" (gesture/verbal). Follow the stimulus and response mode hierarchy.*

i. Egocentric yes/no questions

Stimuli (15)

1	ನೀವು ಗಂಡಸರೆ ?	/ni:vu gandasare?/
2	ನೀವು ಹೆಂಗಸರೆ ?	/ni:vu hengasare ?/
3	ನಿಮ್ಮ ಹೆಸರು ... ?	/nimma hesaru?/
4	ನಿಮಗೆ ಮದುವೆ ಆಗಿದೆಯೆ ?	/nimage maḏuve a:giḏi:ja ?/

5	ನೀವು ಆಸ್ಪತ್ರೆಯಲ್ಲಿದ್ದೀರಾ?	/ni:vu a:spaṯrejalliḍḍi:ra: ?/
6	ನೀವು ಎಚ್ಚರವಾಗಿದ್ದೀರಾ?	/ni:vu etʃtʃarava:giḍḍi:ra: ?/
7	ನೀವು ಬೆಂಗಳೂರಿನಲ್ಲಿ ವಾಸ ಮಾಡುತ್ತೀರಾ?	/ni:vu bengalu:rinalli va:sa ma:duṯṯi:ra: ?/
8	ನಿಮಗೆ ಮೂರು ಮಕ್ಕಳಿದ್ದಾರ?	/nimage mu:ru makkaḷi ḍḍara: ?/
9	ನೀವು ವಾಚನ್ನು ಕಟ್ಟಿದ್ದೀರಾ?	/ni:vu vatʃannu kaṭ ṭ iḍḍi:ra: ?/
10	ನೀವು ಊಟ ಮಾಡಿದ್ದೀರಾ?	/ni:vu u:ṭa ma:diḍḍi:ra:?/
11	ನೀವು ಕನ್ನಡದ ಹಾಕಿದ್ದೀರಾ?	/ni:vu kannadaka ha:kuṯṯi:ra: ?/
12	ನೀವು ಈಗ ಕೆಂಪು ಬಟ್ಟೆ ಹಾಕಿದ್ದೀರಾ?	/ni:vu i:ga kempu baṭṭe ha:kiḍḍi:ra:?/
13	ನಿಮ್ಮ ಬೆರಳನ್ನು ಕತ್ತರಿಸಿಕೊಂಡಿದ್ದೀರಾ?	/nimma beraḷannu kaṯṯarisikondiḍḍi:ra:?/
14	ನೀವು ಶಾಲೆಯಲ್ಲಿ ಕೆಲಸ ಮಾಡುತ್ತೀರಾ?	/ni:vu ʃaḷejalli kelasa ma:duṯṯi:ra: ?/
15	ನೀವು ಮುಂಬೈನಲ್ಲಿ ಇದ್ದೀರಾ?	/ni:vu mumbainalli iḍira: ?/

ii. Environmental yes/no question

Stimuli (15)

1	ಹಕ್ಕಿಗಳು ಹಾರುತ್ತವೆಯೆ ?	/hakkigaḷu ha:ruṯṯaveje ?/
2	ಈಗ ಹತ್ತು ಗಂಟೆಯಾಗಿದೆಯೆ ?	/i:ga haṯṯu ganṭ ejagideje ?/
3	ನಾಯಿಗಳಿಗೆ ಕಿವಿಗಳಿರುತ್ತವೆಯೆ?	/najigalige kivigaliruṯṯaveje ?/
4	ಮಂಜುಗಡ್ಡೆ ತಣ್ಣಗಿರುತ್ತದೆಯೆ ?	/mandʒugaɖɖe taɳɳagiruṭaḍeje?/
5	ಬೆಕ್ಕುಗಳಿಗೆ ಪುಕ್ಕಗಳಿರುತ್ತವೆಯೆ ?	/bekkugalige pukkagaliruṯṯaveje ?/
6	ಮಕ್ಕಳು ಶಾಲೆಗೆ ಹೋರುತ್ತಾರೆಯೆ ?	/makkaḷu ʃa:ḷege hoguṯṯareje ?/
7	ಮರ ಒಂದು ಪ್ರಾಣಿಯೆ?	/mara onḍu pranije ?/

8	ಪುಸ್ತಕದಲ್ಲಿ ಹಾಳೆಗಳಿರುತ್ತವೆಯೆ ?	/puʃʈakaɖalli haɭegaɭiruʈʈaveje ?/
9	ಬೆಂಕಿ ಬಿಸಿಯಾಗಿರುತ್ತದೆಯೆ ?	/benki bisijagiruʈʈadeje?/
10	ನಾಯಿಗಳು ಹಾಡುತ್ತವೆಯೆ ?	/najigaɭu ha:ɖuʈʈaveje?/
11	ಬೇಸಿಗೆ ಕಾಲ ಬಿಸಿಯಾಗಿರುತ್ತದೆಯೇ?	/be:sige ka:la bisijagiruʈʈedeje:?/
12	ಮರ ತೇಲುತ್ತದೆಯೆ ?	/mara ʈeɭuʈʈaɖeje ?/
13	ಸೇಬಿನ ಬಣ್ಣ ನೀಲಿಯೆ ?	/se:bina baɳɳa ni:lije ?/
14	ಹಗಲಿನಲ್ಲಿ ಚಂದ್ರ ಕಾಣಿಸುತ್ತದಯೇ?	/hagalinalli ʧandra kanisuʈʈaɖeje ?/
15	ಚಳಿಗಾಲದಲ್ಲಿ ಚಳಿ ಇರುತ್ತದೆಯೆ ?	/ʧaɭigalaɖalli ʧaɭi iruʈʈaɖeje?/

D. Following body part command

Task: *Ask the person with aphasia to follow the instruction given by the clinician.*

Level 1: One-step commands

Stimuli (10)

1	ನಿಮ್ಮ ಕಣ್ಣುಗಳನ್ನು ಮುಚ್ಚಿರಿ	/nimma kaɳɳugaɭannu mutʃtiri/
2	ನಿಮ್ಮ ಕೈಗಳನ್ನು ಮೇಲಕ್ಕೆತ್ತಿರಿ	/nimma kaigaɭannu me:ɭakkeʈʈiri/
3	ನಿಮ್ಮ ಬಾಯಿಯನ್ನು ತೆರೆಯಿರಿ	/nimma ba:jijannu ʈerejiri/
4	ನಿಮ್ಮ ಪಾದಗಳನ್ನು ಮೇಲಕ್ಕೆತ್ತಿ	/nimma pa:ɖagalannu me:ɭakkeʈʈiri/
5	ನಿಮ್ಮ ಕಿವಿಯನ್ನು ತೋರಿಸಿ	/nimma kivijannu ʈo:risi/

6	ನಿಮ್ಮ ಮೂಗನ್ನು ಮುಟ್ಟಿರಿ	/nimma mu:gannu muʈʈiri/
7	ನಿಮ್ಮ ಕೈ ಬೆರಳುಗಳನ್ನು ಮಡಚಿರಿ	/nimma kai beraɭugaɭannu maɖaʧiri/
8	ನಿಮ್ಮ ಹಲ್ಲುಗಳನ್ನು ತೋರಿಸಿ	/nimma halluga ɭannu ʈorisi/
9	ನಿಮ್ಮ ಮಂಡಿಯನ್ನು ಬಗ್ಗಿಸಿರಿ	/nimma manɖijannu baggisiri/
10	ನಿಮ್ಮ ತಲೆಯನ್ನು ಅಲುಗಾಡಿಸಿ	/nimma ʈalejannu aluga:ɖisi/

Level 2: Two-step commands

Stimuli (10)

1.	ನಿಮ್ಮ ಮಂಡಿ ಮತ್ತು ಮೊಳಕೈಗಳನ್ನು ಮುಟ್ಟಿ ತೋರಿಸಿ	/nimma manɖi maʈʈu moɭakaigaɭannu muʈʈi ʈorisi/
2	ನಿಮ್ಮ ಅಂಗೈಗಳನ್ನು ಉಜ್ಜಿರಿ	/ nimma aŋgaigaɭannu udʒiri /
3	ನಿಮ್ಮ ಕೈಯನ್ನು ನಿಮ್ಮ ಗಲ್ಲದ ಕೆಳಗಿಡಿ	/nimma kaijannu nimma gallaɖa keɭagiɖi/
4	ನಿಮ್ಮ ಎಡಗಾಲನ್ನು ಮುಟ್ಟಿರಿ	/nimma eɖagaɭannu muʈʈiri/
5	ನಿಮ್ಮ ಬಲಗೈ ಹೆಬ್ಬೆರಳನ್ನು ಬಗ್ಗಿಸಿರಿ	/nimma baɭagai hebbaraɭannu baggisiri/
6	ನಿಮ್ಮ ಕಣ್ಣಿನ ಹುಬ್ಬುಗಳನ್ನು ಎರಡು ಬಾರಿ ಮೇಲಕ್ಕೆತ್ತಿ	/nimma kaṇṇina hubbugaɭannu eraɖu ba:ri meɭakkeʈʈiri/
7	ನಿಮ್ಮ ಗಲ್ಲವನ್ನು ನಿಮ್ಮ ಭುಜಕ್ಕೆ ಮುಟ್ಟಿಸಿ	/nimma gallavannu nimma budʒakke muʈʈisi/

8	ನಗುತ್ತಾ ನಿಮ್ಮ ತಲೆಯ ಕಡೆ ನಿಮ್ಮ ಬೆರಳನ್ನು ತೋರಿಸಿ	/nagutt̪a nimma t̪aɭeja kad̪e nimma beraɭannu t̪o:risi/
9	ನಿಮ್ಮ ಕೈಯಿಂದ ಎರಡು ಸಲ ಚಪ್ಪಾಳೆ ತಟ್ಟಿ	/nimma kaijind̪a erad̪u sala tʃappaɭe t̪at̪t̪i/
10	ನಿಮ್ಮ ಬಲ ಮತ್ತು ಎಡ ಕಣ್ಣಿನ ಕಡೆ ತೋರಿಸಿ	/nimma baɭakke mat̪t̪u jad̪a kaɳɳina kad̪e t̪o:risi/

Level 3: Multi step commands

Stimuli (10)

1.	ನಿಮ್ಮ ಹೆಬ್ಬೆರಳಿನಿಂದ ನಿಮ್ಮ ಗಲ್ಲವನ್ನು ಮೂರು ಸಲ ಮುಟ್ಟಿರಿ	/nimma hebberaɭinind̪a nimma gallavannu mu:ru sala mut̪t̪iri/
2.	ನಿಮ್ಮ ತಲೆ, ನಿಮ್ಮ ಮಂಡಿ ಮತ್ತು ಕುತ್ತಿಗೆಯನ್ನು ಮುಟ್ಟಿರಿ	/nimma t̪ale, nimma mand̪i mat̪t̪u kut̪t̪igejannu mut̪t̪iri/
3.	ನಿಮ್ಮ ಬಲ ಕಿವಿಯನ್ನು ಎರಡು ಸಲ ಮತ್ತು ಎಡ ಕಿವಿಯನ್ನು ಒಂದು ಸಲ ಮುಟ್ಟಿರಿ.	/nimma bala kivijannu erad̪u sala mat̪t̪u ed̪a kivijannu ond̪u sala mut̪t̪iri/
4.	ನಿಮ್ಮ ಬಲಗೈನ ಹಿಂಭಾಗ ಮತ್ತು ಎಡಗೈನ ಹಿಂಭಾಗವನ್ನು ಮುಟ್ಟಿರಿ.	/ nimma balagaina himb^{h}a:ga mat̪t̪u ed̪agaiana himbhagavannu mut̪ t̪ iri/
5.	ನಿಮ್ಮ ಮೂಗನ್ನು ಮುಟ್ಟಿರಿ, ನಿಮ್ಮ ಕೈಯನ್ನು ಮೇಲಕ್ಕೆತ್ತಿ ಮತ್ತು ನಿಮ್ಮ ಕಣ್ಣುಗಳನ್ನು ಮುಚ್ಚಿರಿ	/nimma mu:gannu mut̪ t̪ iri, nimma kaijannu meɭakket̪t̪i mat̪t̪u kaɳɳugalannu mutʃiri/
6.	ನಿಮ್ಮ ಎಡ ಕೈಯನ್ನು ನಿಮ್ಮ ಎಡ ಕಿವಿಯ ಹಿಂದಕ್ಕೆ ಇಡಿ ಮತ್ತು ನಿಮ್ಮ ಭುಜಗಳನ್ನು ಅಲುಗಿಸಿ.	/nimma ed̪a kaijannu nimma ed̪a kivija hind̪akke id̪i mat̪t̪u nimma bhujagaɭannu alugisi/
7.	ನಿಮ್ಮ ಕಣ್ಣುಗಳನ್ನು ಮುಚ್ಚಿ, ನಿಮ್ಮ ಮೊಳಕೈ ಮತ್ತು ಮಂಡಿಯ ಕಡೆ ತೋರಿಸಿ.	/nimma kaɳɳugaɭannu mutʃi, nimma moɭakai mat̪t̪u mand̪ija kad̪e t̪o:risi/
8.	ಕೈಯನ್ನು ನಿಮ್ಮ ತಲೆಯ ಮೇಲೆ ಇಟ್ಟು ತಲೆಯನ್ನು ಎರಡು ಸಲ ಅಲುಗಿಸಿ.	/kaijannu nimma t̪aɭeja mele it̪t̪u t̪alejannu erad̪u sala alugisi/

9.	ನಾನು ಐದರ ತನಕ ಎಣಿಸುವವರೆಗೂ ನಿಮ್ಮ ಕೈಯನ್ನು ನಿಮ್ಮ ತಲೆಯ ಮೇಲೆ ಇಟ್ಟುಕೊಂಡಿರಿ.	/na:nu aiɖara tanaka janisuvavaregu: nimma kaijannu nimma ʈaleja me:le iʈʈukonɖiri/
10.	ನೀವು ವಾಸನೆಯನ್ನು ಗ್ರಹಿಸುವ ಅಂಗವನ್ನು ಮತ್ತು ಕೇಳಿಸಿಕೊಳ್ಳುವ ಅಂಗವನ್ನು ಮುಟ್ಟಿರಿ	/ni:vu vasanejannu grahisuva angavannu mattu keḷisikoḷḷuva aŋgavannu muʈʈiri/

E. Following commands with visual stimuli

Task: *Ask the person with aphasia to follow the instruction given by the clinician with reference to the visual stimuli presented.*

Level 1: One-step command

Stimuli (8)

1	ಕಾರನ್ನು ಮುಟ್ಟಿ	/karannu muʈʈi/
2	ಛತ್ರಿಯನ್ನು ಮುಟ್ಟಿ	/ʧaʈrijannu muʈʈi/
3	ಕಪ್ಪನ್ನು ಕೈಯಿಂದ ಮುಚ್ಚಿ	/kappannu kaijinɖa muʈʈi/
4	ಗಂಟೆಯನ್ನು ತೋರಿಸಿ	/ganʈ ejannu ʈo:risi/
5	ತಟ್ಟೆಯನ್ನು ಮುಟ್ಟಿ	/ʈaʈ ʈ ejannu muʈʈi/
6	ಗಾಳಿ ಪಟವನ್ನು ತೋರಿಸಿ	/gaḷipaʈ avannu ʈo:risi/
7	ರೇಡಿಯೊ ತೋರಿಸಿ	/re:ɖijo ʈo:risi/
8	ಟಿ.ವಿ.ತೋರಿಸಿ	/ʈ i:vi ʈo:risi/

Level 2 Two step commands

Stimuli (10)

1	ಕಪ್ಪು ಮತ್ತು ಕಾರು ತೋರಿಸಿ	/kappu maʈʈu kaaru ʈo:risi/
2	ಗಂಟೆ ಮತ್ತು ಛತ್ರಿ ತೋರಿಸಿ	/ganʈ e maʈʈu ʧaʈri ʈo:risi/
3	ತಟ್ಟೆ, ರೇಡಿಯೊ ಮುಟ್ಟಿ	/ʈ aʈ ʈ e, re:ɖijo muʈʈi/
4	ಗಾಳಿಪಟ ಮತ್ತು ಬೀಗದ ಕೈ ತೋರಿಸಿ.	/ga:ɭipaʈ a maʈʈu bi:gaɖa kai ʈo:risi/
5	ಟಿ.ವಿ. ಮತ್ತು ಬೀಗದ ಕೈ ತೋರಿಸಿ	/ʈ i:vi maʈʈu bi:gaɖa kai ʈo:risi/
6	ಮೇಜು ಮತ್ತು ರೇಡಿಯೊ ತೋರಿಸಿ	/medʒu maʈʈu re:ɖijo ʈo:risi/
7	ಕಾರು, ಅಮೇಲೆ ತಟ್ಟೆ ತೋರಿಸಿ	/ka:ru, a:meɭle ʈaʈʈe ʈo:risi/
8	ಗಾಳಿ ಪಟ ಮುಟ್ಟಿ ರೇಡಿಯೊ ತೋರಿಸಿ	/gaɭipaʈ a muʈ ʃi re:ɖijo ʈo;risi/
9	ಟಿ.ವಿ. ತೋರಿಸಿ, ಬೀಗದ ಕೈ ಮುಟ್ಟಿ	/ʈ i:vi ʈo:risi, bi:gaɖa kai muʈʈi/
10	ಕಪ್ಪನ್ನು ಮುಚ್ಚಿ, ಛತ್ರಿ ತೋರಿಸಿ	/kappannu muʧi, ʧatri ʈo:risi/

Level 3: Multi step commands

Stimuli (10)

1	ಕಾರು ಕಪ್, ಗಂಟೆ ತೋರಿಸಿ	/ka:ru, kap, ganʈ e ʈo:risi/
2	ತಟ್ಟೆ, ರೇಡಿಯೊ, ಬೀಗದ ಕೈ ತೋರಿಸಿ	/ʈaʈ ʈ e, re:ɖijo, bi:gaɖa kai ʈo:risi/
3	ಛತ್ರಿ, ಗಾಳಿ ಪಟ್ಟ, ಕಪ್ಪನ್ನು ಮುಟ್ಟಿ	/ʧa ʈri, gaɭipaʈ a, kappannu muʈʈi/
4	ಟಿ.ವಿ., ಮೇಜು, ಛತ್ರಿಯನ್ನು ತೋರಿಸಿ	/ʈ i:vi., me:dʒu, ʧaʈrijannu ʈo:risi/
5	ಪಟ, ಬೀಗದ ಕೈ. ತಟ್ಟೆ ತೋರಿಸಿ	/paʈ a: , bi:gaɖa kai, ʈaʈʈe ʈo:risi/
6	ಕಾರು, ಗಂಡೆ, ಕಪ್, ಛತ್ರಿ ತೋರಿಸಿ	/ka:ru, ganʈ e, kap, ʧa ʈri ʈo:risi/

7	ರೇಡಿಯೋ. ಟಿ.ವಿ., ಬೀಗದ ಕೈ, ಪಟ ಮುಟ್ಟಿ	/re:ɖijo, ʈ i:vi. bi:gaɖa kai, paʈa muʈʈi /
8	ಕಾರು, ಬೀಗದ ಕೈ, ಮೇಜು ತಟ್ಟೆ, ಗಂಟೆ ತೋರಿಸಿ	/ka:ru, bi:gaɖa kai, medʒu, ʈaʈ ʈ e, ganʈ e ʈo:risi/
9	ಛತ್ರಿ, ಕಪ್, ಪಟ ಗಂಟೆ, ಕಾರು ತೋರಿಸಿ	/ʧatri, kap, paʈa:, ganʈe, ka:ru, ʈo:risi/
10	ಕಪ್, ಗಂಟೆ, ಕಾರು, ಬೀಗದ ಕೈ,ಛತ್ರಿ ತೋರಿಸಿ.	/kap, ganʈe, ka:ru, bi:gaɖa kai, ʧaʈri ʈo:risi/

F. Identification of objects described by function. (15 stimuli)

Task: *Ask the person with aphasia to respond to the question asked by the clinician. Also follow the stimulus and response mode hierarchy.*

1	ಸಮಯ ನೋಡುವುದು /samaja noɖuvuɖu/	ಗಡಿಯಾರ /gaɖija:ra/
2	ಕುಡಿಯುವುದು /kuɖijuvuɖu/	ಲೋಟ /lo:ʈa/
3	ಮಲಗುವುದು /malaguvuɖu/	ಹಾಸಿಗೆ /ha:sige/
4	ಕುಳಿತುಕೊಳ್ಳುವುದು /kuɭiʈukoʈʈuvuɖu/	ಕುರ್ಚಿ /kurʧi/
5	ಮರವನ್ನು ಕತ್ತರಿಸುವುದ /maravannu kaʈʈarisuvuɖu/	ಕೊಡಲಿ /koɖali /
6	ಆಹಾರವನ್ನು ತಣ್ಣಕ್ಕೆ ಇಡುವುದ /a:ha:ravannu ʈannakke iɖuvuɖu/	ಫ್ರೀಡ್ಜ್ /friʤ/
7	ಹಾಡನ್ನು ಕೇಳುವುದು /ha:ɖannu keɭuvuɖu/	ರೇಡಿಯೋ/ಟೇಪ್‌ರೆಕಾಡರ್ /re:ɖijo / ʈ e:preka:rɖar/
8	ಧೂಮಪಾನ ಮಾಡುವುದು /ɖu:mrapa:na ma:ɖuvuɖu/	ಸಿಗರೇಟ್/ಬೀಡಿ /sigareʈ / bi:di/
9	ಮಳೆ ಬಂದಾಗ ಹಿಡಿಯುವುದು /maɭe banɖa:ga hidijuvuɖu/	ಛತ್ರಿ /ʧaʈri/
10	ಹಲ್ಲನ್ನು ಉಜ್ಜುವುದು /hallannu uʤuvuɖu/	ಬ್ರಷು /braʃu/
11	ದಿನಾಂಕರವನ್ನು ಹುಡುಕುವುದು /ɖina:nkavannu hudukuvuɖu/	ಕ್ಯಾಲೆಂಡರ್ /kælandar/

12	ಛಾಯಾಚಿತ್ರವನ್ನು ತೆಗೆಯುವುದು /ʧa:ja: ʧiʈʈravannu ʈegejuvuɖu/	ಕ್ಯಾಮರ /kæjamara/
13	ಅಂಚೆ ಪತ್ರವನ್ನು ಹಾಕುವುದು /anʧe paʈravannu ha:kuvuɖu/	ಅಂಚೆ ಪಟ್ಟಿಗೆ /anʧe peʈ ʈ ige/
14	ಹಾಳೆ/ಪೇಪರ್ ಅಂಟಿಸುವುದು /ha:ɭe / pe:par anʈ isuvudu/	ಗಮ್ /gam/
15	ಕೂದಲನ್ನು ಬಾಚುವುದ /ku: ɖalannu ba:ʧuvuɖu/	ಬಾಚಣಿಗೆ /ba:ʧaɳige/

G. Identification of objects named serially

Task: *Ask the person with aphasia to name the presented set of pictures in a serial order. The number of pictures to be named will increase with increasing levels. Also follow the stimulus and response mode hierarchy.*

Level 1: Stimuli (10)

1	ಪಸ್ತಕ,ವಾಚು	/pusʈaka ,va:ʧu/
2	ಚಮಚ, ಕಪ್	/ʧamaʧa, kap/
3	ಫೋನ್, ಚಮಚ	/fo:nu, ʧamaʧa/
4	ಹಾಸಿಗೆ ಬ್ರಷ್	/hasige, braʃu/
5	ತಟ್ಟೆ, ಪುಸ್ತಕ	/ʈaʈ ʈ e,pusʈaka/
6	ಮೇಜು, ಬೀಗದ ಕೈ	/me:dʒu, bi:gaɖa kai/
7	ಕಪ್, ಹಾಸಿಗೆ	/kap, ha:sige/
8	ಚಮಚ, ಪುಸ್ತಕ	/ʧamaʧa,pusʈaka/
9	ಬ್ರಷ್, ತಟ್ಟೆ	/braʃu, ʈaʈ ʈ e/
10	ಹಾಸಿಗೆ, ಫೋನ್	/ha:sige, fo:nu/

Level 2: Stimuli (10)

1	ಚಮಚ, ಕಪ್, ಬ್ರಷ್	/tʃamatʃa, kap, braʃʰu/
2	ತಟ್ಟೆ, ಬೀಗದ ಕೈ, ಪುಸ್ತಕ	/ʈaʈ ʈ e, biːgaɖa kai,puʂʈaka
3	ಕಪ್ , ಹಾಸಿಗೆ, ಫೋನ್	/kap, haːsige, foːnu/
4	ಹಾಸಿಗೆ, ವಾಚು, ಬೀಗದ ಕೈ	/haːsige, vaːtʃu, biːgaɖa kai/
5	ಚಮಚ, ಕಪ್, ಮೇಜು	/tʃamatʃa, kap, meːdʒu/
6	ಫೋನ್, ಪುಸ್ತಕ, ವಾಚು	/foːnu, puʂʈaka, vaːtʃu/
7	ಕಪ್, ಹಾಸಿಗೆ ಬ್ರಷ್,	/kap, haːsige, braʃʰu/
8	ವಾಚು, ಮೇಜು, ಬೀಗದ ಮೈ	/vaːtʃu, meːdʒu, biːgaɖa kai/
9	ಬ್ರಷ್, ಪುಸ್ತಕ, ಚಮಚ	/braʃʰu, puʂʈaka, tʃamatʃa/
10	ಮೇಜು, ಫೋನ್, ಕಪ್	/meːdʒu, foːnu, kap/

Level 3: Stimuli (10)

1	ಬ್ರಷ್, ಫೋನ್, ವಾಚು, ಹಾಸಿಗೆ	/braʃu, foːnu, vaːtʃu, haːsige /
2	ಕಪ್, ತಟ್ಟೆ, ಚಮಚ, ಪುಸ್ತಕ	/kap, ʈaʈʈe, tʃamatʃa, puʂʈaka /
3	ಮೇಜು, ಬೀಗದ ಕೈ, ಬ್ರಷ್, ವಾಚು	/meːdʒu, biːgaɖa kai, braʃʰu, vaːtʃu/
4	ಪುಸ್ತಕ, ಬೀಗದ ಕೈ, ಫೋನ್, ಕಪ್	/puʂʈaka, biːgaɖa kai, foːnu, kap /
5	ಚಮಚ, ಹಾಸಿಗೆ, ಬೀಗದ ಕೈ, ವಾಚು	/tʃamatʃa, haːsige, biːgaɖa kai, vaːtʃu/
6	ವಾಚು, ಹಾಸಿಗೆ, ಪುಸ್ತಕ, ಕಪ್	/vaːtʃu, haːsige, puʂʈaka, kap /
7	ಬ್ರಷ್, ತಟ್ಟೆ, ಹಾಸಿಗೆ, ಚಮಚ	/ braʃʰu , ʈaʈʈe, haːsige, tʃamatʃa /
8	ಫೋನ್, ಹಾಸಿಗೆ, ವಾಚು, ಕಪ್	/foːnu, haːsige, vaːtʃu, kap /
9	ಮೇಜು, ಪುಸ್ತಕ, ಫೋನ್, ಬ್ರಷ್	/meːdʒu, puʂʈaka, foːnu, braʃʰu /
10	ವಾಚು, ಬೀಗದ ಮೈ, ಮೇಜು, ಹಾಸಿಗೆ	/vaːtʃu, biːgaɖa kai, meːdʒu, haːsige/

H. Sentence types

i. Imperative sentence: A sentence, which is in the form of a command.

C: Ask the person with aphasia to carry out the commands.

E: Ask the person with aphasia to instruct the clinician to carry out action. (Role reversals). Follow the stimulus and response mode hierarchy.

Stimuli (15)

1	ನೀವು ಓದಿರ	/ni:vu o:ɖiri/
2	ನೀವು ಬರೆಯಿರಿ	/ni:vu barejiri/
3	ನೀವು ಎದ್ದೇಳಿ	/ni:vu jeɖɖe:ɭi/
4	ನೀವು ಕುಳಿತುಕೊಳ್ಳಿ	/ni:vu kuɭiʈukoɭɭi/
5	ನಿಮ್ಮ ಕಣ್ಣು ತೋರಿಸಿ	/nimma kannu ʈo:risi/
6	ನಿಮ್ಮ ಬಲಗೈ ಎತ್ತಿ	/nimma baɭagai je:ʈʈi/
7	ನೀವು ಬಾಗಿಲು ತೆಗೆಯಿರಿ	/ni:vu bagiɭu ʈe:ge:jiri/
8	ನಿವು ಪುಸ್ತಕ ತೆಗೆಯಿರಿ	/ni:vu pusʈaka, ʈe:gejiri/
9	ನಿಮ್ಮ ಕಾಲನ್ನು ಮುಂದಕ್ಕೆ ಇಡಿ	/nimma ka:lannu munɖakke iɖi/
10	ಪುಸ್ತಕವನ್ನು ಮುಚ್ಚಿ ಮತ್ತು ಚೀಲದಲ್ಲಿ ಅದನ್ನು ಇಡಿ	/pusʈakavannu mutʃi maʈʈu ʧi:laɖalli aɖannu iɖi/
11	ಪುಸ್ತಕವನ್ನು ನೀವು ತೆಗೆಯಿರಿ	/ni:vu ʈinnuʈʈiruvanʈe naʈisi /
12	ನಿಮ್ಮ ವಾಚನ್ನು ತೆಗೆಯಿರಿ ಮತ್ತು ಮೇಜಿನ ಮೇಲೆ ಇಡಿ	/nimma va:ʧnnu ʈe:gejiri maʈʈu me:ʤina me:le iɖi/
13	ಪುಸ್ತಕವನ್ನು ನೀವು ನನಗೆ ತೋರಿಸಿದ ಮೇಲೆ ಪೆನ್ನನ್ನು ಪೇಪರ್ ಮೇಲಿಡಿ	/pusʈakavannu ni:vu nanage to:risida me:le pennannu pe:par me:liɖi/
14	ಬೆಂಕಿ ಕಡ್ಡಿಯಿಂದ ದೀಪ ಹಚ್ಚುತ್ತಿರುವಂತೆ ನಟಿಸಿ	/benki kaɖɖijinɖa ɖi:ppa haʧʧuʈʈiruvanʈe naʈisi/
15	ಪೆನ್ನನ್ನು ಮೇಜಿನ ಮೇಲಿಡುವ ಮೊದಲು ಮುಚ್ಚಳ ಹಾಕಿ	/pennannu me:ʤina meliduva moɖalu mutʃala ha:ki/

ii. Declarative sentence: A sentence, which is in the form of a statement.

C: Ask the person with aphasia to point to the picture which depicts the sentences you say.

E: Ask the person with aphasia to describe the picture that the clinician points to. Follow the stimulus and response mode hierarchy.

Stimuli (15)

1	ಹುಡುಗಿಯು ಮಲಗಿದ್ದಾಳೆ	/huɖugiju malagiɖɖa:ḷe/
2	ಹುಡುಗನು ಆಟವಾಡುತ್ತಿದ್ದಾನೆ	/huɖuganu a:ṭ avaɖuṭṭiɖɖa:ne/
3	ಹೆಂಗಸು ನಡೆಯುತ್ತಿದ್ದಾನೆ	/heŋgasu naɖejuṭṭiɖɖa:ḷe/
4	ಹುಡುಗನು ನಗುತ್ತಿದ್ದಾನೆ	/huɖuganu naguṭṭiɖɖa:ne/
5	ಹುಡುಗಿಯು ಒಂದು ಕಾಗದವನ್ನು ಬರೆಯುತ್ತಿದ್ದಾಳೆ	/huɖugiju oɳɖu kagaɖavannu barejuṭṭiɖɖa:ḷe/
6	ಹುಡುಗ ದಿನ ಪತ್ರಿಕೆಯನ್ನು ಓದುತ್ತಿದ್ದಾನೆ	/ganɖasu ɖina paṭrikejannu oɖuṭṭiɖɖa:ne/
7	ಹೆಂಗಸು ಕೂದಲು ಬಾಚಿಕೊಳ್ಳುತ್ತಿದ್ದಾಳೆ	/he ŋgasu ku:ɖalu ba:tʃikoḷḷuṭṭiɖɖa;ḷe/
8	ಹೆಂಗಸು ಬಟ್ಟೆ ಒಗೆಯುತ್ತಿದ್ದಾಳೆ	/heŋgasu baṭṭe ogejuṭṭiɖɖa:ḷe/
9	ಹುಡುಗನು ಏಣಿ ಹತ್ತುತ್ತಿದ್ದಾನೆ.	/huɖuganu e:ni haṭṭuṭṭiɖɖa:ne/
10	ಗಂಡಸು ಸ್ಕೂಟರನ್ನು ನಡೆಸುತ್ತಿದ್ದಾನೆ.	/ganɖasu sku:ṭ arannu naɖesuṭṭiɖɖa:ne/
11	ಹುಡುಗಿಯು ತನ್ನ ತಾಯಿಯೊಂದಿಗೆ ದೇವಸ್ಥಾನಕ್ಕೆ ಹೋಗುತ್ತಾಳೆ	/huɖugiju ṯanna ṯa:jijonɖige de:vasṯankke ho:guṭṭa:ḷe/

12	ಹುಡುಗನು ತನ್ನ ತಂದೆಯೊಡನೆ ಉದ್ಯಾನವನಕ್ಕೆ ಹೋಗುತ್ತಾನೆ.	/huɖuganu ʈanna ʈa:nɖejodane uɖjanavanakke ho:guʈʈa:re/
13	ಹುಡುಗನು ನಾಯಿ ಬೊಗಳುವುದನ್ನು ನೋಡುತ್ತಿದ್ದಾನೆ	/huɖuganu na:ji bogaɭuvuɖannu noɖuʈʈiɖɖa:ne/
14	ತಾಯಿಯು ತನ್ನ ಮಕ್ಕಳಿಗೆ ಊಟ ಹಾಕುತ್ತಿದ್ದಾಳೆ.	/ʈajiju ʈanna makkaɭige u:ʈ a hakuʈʈiɖɖa:ɭe/
15	ದೇವಸ್ಥಾನದಲ್ಲಿ ಪೂಜಾರಿಗಳು ದೇವರಿಗೆ ಪೂಜೆಮಾಡುತ್ತಾರೆ	/ɖe:vasʈa:na ɖalli pu:dʒarigaɭu ɖe:varige pu:dʒe ma:duʈʈa:re/

iii. Negation

C: Ask the person with aphasia to indicate if the sentences are same or different.

E: Ask the person with aphasia to tell the negative of the given sentence. Follow the stimulus and response mode hierarchy.

Stimuli (15)

1	ಹುಡುಗನು ಬರೆಯುತ್ತಿದ್ದಾನೆ /huɖuga barejuʈʈiɖɖa:ne /	ಹುಡುಗ ಬರೆಯುತ್ತಿಲ್ಲ /huɖuga barejuʈʈilla/
2	ಮಕ್ಕಳು ಆಡುತ್ತಿದ್ದಾರೆ /makkaɭu a:ɖuʈʈiɖɖa:re/	ಮಕ್ಕಳು ಆಡುತ್ತಿಲ್ಲ /makkaɭu a:ɖuʈʈilla/
3	ಇದು ಒಂದು ದೊಡ್ಡ ಮರ /iɖu onɖu ɖoɖɖa mara/	ಇದು ದೊಡ್ಡ ಮರ ಅಲ್ಲ /iɖu onɖu ɖoɖɖa mara alla/
4	ಮಕ್ಕಳು ಶಾಲೆಗೆ ಹೋಗುತ್ತಾರೆ /makkaɭu ʃa:ɭege ho:guʈʈa:re/	ಮಕ್ಕಳು ಶಾಲೆಗೆ ಹೋಗುವುದಿಲ್ಲ /makkaɭu ʃa:ɭege hoguvuɖilla/

5	ಹೆಂಗಸು ಕಿವಿಗೆ ಓಲೆ ಹಾಕಿದ್ದಾಳೆ /heŋasu kivige o:le ha:kiɖɖa:ɭe/	ಹೆಂಗಸು ಕಿವಿಗೆ ಓಲೆ ಹಾಕಿಲ್ಲ /heŋasu kivige o:le ha:killa/
6	ರೂಮಿನಲ್ಲಿ ದೀಪವಿದೆ /ru:minalli ɖi:paviɖe/	ರೂಮಿನಲ್ಲಿ ದೀಪವಿಲ್ಲ /ru:minalli ɖi:pavilla/
7	ಅವನು ಕನ್ನಡಕ ಹಾಕಿದ್ದಾನೆ /avanu kannaɖaka ha:kiɖɖa:ne/	ಅವನು ಕನ್ನಡಕ ಹಾಕಿಲ್ಲ /avanu kannaɖaka hakilla/
8	ಹುಡುಗನು ಬ್ಯಾಟನು ಹಿಡಿದ್ದಿದ್ದಾನೆ /huɖuganu bæʈ annu hiɖiɖiɖɖa:ne/	ಹುಡುಗನು ಬ್ಯಾಟನು ಹಿಡಿದಿಲ್ಲ /huɖuganu bæʈ unnu hiɖiɖilla/
9	ಲೋಟದಲ್ಲಿ ನೀರಿದೆ /lo:ʈ a ɖalli ni:riɖe/	ಲೋಟದಲ್ಲಿ ನೀರಿಲ್ಲ /lo:ʈ a ɖaɭli ni:rilla/
10	ಬಾಗಿಲು ಹಾಕಿದೆ /ba:gilu ha:kiɖe/	ಬಾಗಿಲು ಹಾಕಿಲ್ಲ /ba:gilu ha:killa/
11	ಹೂವಿನ ಕುಂಡವು ಒಡೆದಿದೆ hu:vina kunɖavu oɖeɖiɖe	ಹೂವಿನ ಕುಂಡವು ಒಡೆದಿಲ್ಲ /hu:vina kunɖavu oɖeɖilla/
12	ಫ್ಯಾನು ತಿರುಗುತ್ತಿದೆ /fænu ʈirugʈʈiɖe/	ಫ್ಯಾನು ತಿರುಗುತ್ತಿಲ್ಲ /fænu ʈirugʈʈiɖlla/
13	ಪೋಲಿಸು ಗನ್ನು ಹಿಡಿದಿದ್ದಾರೆ /po:lisu gannu hiɖiɖiɖɖa:re/	ಪೋಲಿಸರು ಗನ್ನು ಹಿಡಿದಿಲ್ಲ /po:lisaru gannu hiɖiɖiɖɖalla/
14	ಮಳೆ ಬರುತ್ತಿದೆ /maɭe baruʈʈi ɖe/	ಮಳೆ ಬರುತ್ತಿಲ್ಲ /maɭe baruʈʈilla/
15	ಮಗು ಅಳುತ್ತಿದೆ /magu aɭuʈʈiɖe /	ಮಗು ಅಳುತ್ತಿಲ್ಲ /magu aɭuʈʈilla/

iv. Exclamatory: An utterance, which shows the speakers feelings

C : Ask person with aphasia to tell if the following sentences are same or different.

Stimuli (15)

1	ಎಷ್ಟು ಸುಂದರವಾದ ಹೂವು! ಹೂವು ತುಂಬ ಸುಂದರವಾಗಿದೆ.	/eʃʈ u sundarava:ɖa hu:vu!/ /hu:vu ʈumba: sundarava:giɖe/
2	ಎಷ್ಟು ಮುದ್ದಾದ ಮಗು! ಮಗು ತುಂಬ ಮುದ್ದಾಗಿದೆ	/eʃʈ u muɖɖa:ɖa magu !/ /magu ʈumba: muɖɖa:giɖe /
3	ಎಷ್ಟು ದೊಡ್ಡ ಮನೆ ! ತುಂಬಾ ದೊಡ್ಡ ಮನೆ	/eʃʈ u ɖoɖɖa mane !/ /ʈumba: ɖoɖɖa mane /
4	ಎಷ್ಟು ಕೆಟ್ಟ ರಸ್ತೆ ! ರಸ್ತೆ ತುಂಬಾ ಕೆಟ್ಟದಾಗಿದೆ	/eʃʈ u keʈʈa ras ʈe !/ /raʃ ʈe ʈumba: keʈʈaɖɖa:giɖe /
5	ಎಷ್ಟು ದಪ್ಪ ಮನುಷ್ಯ! ತುಂಬಾ ದಪ್ಪ ಮನುಷ್ಯ	/eʃʈ u ɖappa manuʃja !/ /ʈumba: ɖappa manuʃja /
6	ಎಷ್ಟು ಉದ್ದವಾದ ಹಗ್ಗ! ತುಂಬಾ ಉದ್ದವಾದ ಹಗ್ಗ	/eʃʈ u uɖɖava:ɖa hagga !/ /ʈumba: uɖɖa hagga /
	ಎಷ್ಟು ಎತ್ತರವಾದ ಪರ್ವತ ! ತುಂಬಾ ಎತ್ತರವಾದ ಪರ್ವತ	/eʃʈ u eʈʈarava:ɖa parvaʈa !/ /ʈumba: eʈʈarava:ɖa parvaʈa /
8	ಎಷ್ಟು ಭಯಂಕರವಾದ ದೃಶ್ಯ ! ತುಂಬಾ ಭಯಂಕರವಾದ ದೃಶ್ಯ	/eʃʈ u bhajankarava:ɖa ɖruʃja !/ /ʈumba: bhajankarava:ɖa ɖruʃja/
9	ಎಷ್ಟು ಒಳ್ಳೆಯ ಗಡಿಯಾರ ! ತುಂಬಾ ಒಳ್ಳೆಯ ಗಡಿಯಾರ	/eʃʈ u oɭɭeja gaɖija:ra !/ /ʈumba oɭɭeja gaɖija:ra /
10	ಎಷ್ಟು ಬಿಸಿಯಾದ ಕಾಫಿ! ತುಂಬಾ ಬಿಸಿಯಾದ ಕಾಫಿ	/eʃʈ u bisija:ɖa ka:pi !/ /ʈumba: bisija:ɖa ka:pi/

11	ಎಷ್ಟೋಂದು ಹಣ್ಣುಗಳು ಇವೆ! ತುಂಬಾ ಹಣ್ಣುಗಳು ಇವೆ	/eʃʈ o:nɖu haɳɳugaḷive !/ /ʈumba: haɳɳugaḷive/
12	ಎಷ್ಟು ಕೊಳಕಾದ ಕೊಠಡಿ! ಕೊಠಡಿ ತುಂಬಾ ಕೊಳಕಾಗಿದೆ	/eʃʈu koḷaka:ɖa koʈ^{h}aḍi !/ /koʈ^{h}aḍi ʈumba: koḷaka:giɖe /
13	ಎಷ್ಟು ದಪ್ಪ ಪುಸ್ತಕ! ಪುಸ್ತಕ ತುಂಬಾ ದಪ್ಪವಾಗಿದೆ	/eʃʈu ɖappa pusʈaka !/ /pusʈaka ʈumba: ɖappava:giɖe/
14	ಎಷ್ಟು ಆಳವಾದ ಬಾವಿ ! ಬಾವಿ ತುಂಬಾ ಆಳವಾಗಿದೆ	/eʃʈ u a:ḷava:ɖa ba:vi !/ /bha:vi ʈumba: a:ḷava:giɖe /
15	ಎಷ್ಟು ದೂರ ಈ ಅಂಗಡಿ! ಅಂಗಡಿ ತುಂಬಾ ದೂರವಿದೆ	/eʃʈu ɖu:ra iɖe aŋgaḍi !/ /aŋaḍi ʈumba: ɖu:raviɖe /
16	ಎಷ್ಟು ಎತ್ತರವಾದ ಕಟ್ಟಡ! ಕಟ್ಟಡ ತುಂಬಾ ಎತ್ತರವಾಗಿದೆ	/eʃʈu eʈ ʈarava:ɖa kaʈʈaḍa !/ /kaʈʈaḍa ʈumba: eʈ ʈarava:giɖe/
17	ಎಷ್ಟು ಶಕೆ ಇದೆ! ತುಂಬಾ ಶಕೆ ಇದೆ	/eʃʈ u ʃeke iɖe !/ /ʈumba: ʃeke iɖe /
18	ಎಷ್ಟೊಂದು ವಾಹನಗಳಿವೆ! ತುಂಬಾ ವಾಹನಗಳಿವೆ	/eʃʈ o:nɖu va:hanagaḷive !/ /ʈumba: va:hanagaḷive /
19	ಎಷ್ಟು ದೊಡ್ಡ ಆಲದಮರ! ತುಂಬಾ ದೊಡ್ಡ ಆಲದಮರ	/eʃʈ u ɖoḍḍa a:laɖa mara !/ /ʈumba: ɖoḍḍa a:laɖa mara /
20	ಎಷ್ಟು ಸಿಹಿಯಾದ ಮಾವಿನ ಹಣ್ಣು! ತುಂಬಾ ಸಿಹಿಯಾದ ಮಾವಿನ ಹಣ್ಣು	/eʃtu sihija:ɖa ma:vinahaɳɳu !/ /ʈumba sihijaɖa ma:vinahaɳɳu /

E: Ask person with aphasia to say the exclamatory form of the sentences given below.

1	ಹೂವು ತುಂಬಾ ಸುಂದರವಾಗಿದೆ.	/hu:vu ʈumba: sunɖarava:giɖe !/
2	ಮಗು ತುಂಬಾ ಮುದ್ದಾಗಿದೆ	/magu ʈumba: muɖɖa:giɖe !/
3	ಮನೆ ತುಂಬಾ ದೊಡ್ಡದಿದೆ	/mane ʈumba: ɖoɖɖaɖiɖe !/
4	ರಸ್ತೆ ತುಂಬಾ ಕೆಟ್ಟದಾಗಿದೆ	/rasʈe ʈumba: keʈʈaɖɖa:giɖe !/
5	ಮನುಷ್ಯ ತುಂಬಾ ದಪ್ಪವಾಗಿದ್ದಾನೆ	/manuʃja ʈumba: ɖappava:giɖa:ne !/
6	ಹಗ್ಗ ತುಂಬಾ ಉದ್ದವಿದೆ	/hagga ʈumba: uɖɖaviɖe !/
7	ತುಂಬಾ ಸುಂದರವಾದ ಪರ್ವತ	/ʈumba: sunɖarava:ɖa parvaʈa !/
8	ಇದು ತುಂಬಾ ಭಯಂಕರವಾದ ದೃಶ್ಯ	/iɖu ʈumba: bhajankarava:ɖa ɖruʃja !/
9	ತುಂಬಾ ಒಳ್ಳೆಯ ಗಡಿಯಾರ	/ʈumba: oɭɭeja gaɖija:ra !/
10	ತುಂಬಾ ಬಿಸಿಯಾದ ಕಾಫಿ	/ʈumba: bisija:ɖa ka:p^{h}i !/
11	ತುಂಬಾ ಹಣ್ಣುಗಳು ಇವೆ	/ʈumba: haɳɳugaɭive!/
12	ತುಂಬಾ ಕೊಳಕಾದೆ ಕೊಠಡಿ	/ʈumba: koɭakka:ɖa koʈ^{h}aɖi!/
13	ತುಂಬಾ ದಪ್ಪವಾದ ಪುಸ್ತಕ	/ʈumba: ɖappava:ɖa pusʈaka !/
14	ಬಾವಿ ತುಂಬಾ ಆಳವಾಗಿದೆ	/bhavi ʈumba: a: ɭava: giɖe! /
15	ಅಂಗಡಿ ತುಂಬಾ ದೂರ ಇದೆ	/aŋgaɖi ʈumba: ɖu: ra iɖe !/

16	ಕಟ್ಟಡ ತುಂಬಾ ಎತ್ತರವಾಗಿದೆ	/kaʈʈaḍa ʈumba: eʈ ʈarava:giḍe!/
17	ತುಂಬಾ ಶಕೆ ಇದೆ	/ʈumba: ʃeke iḍe!/
18	ತುಂಬಾ ವಾಹನಗಳಿವೆ	/ʈumba: va: hanagaḷive!/
19	ತುಂಬಾ ದೊಡ್ಡ ಆಲದ ಮರ	/ʈumba: ɖoḍḍa a: laḍa mara !/
20	ತುಂಬಾ ಸಿಹಿಯಾದ ಮಾವಿನಹಣ್ಣು	/ʈumba: sihijaḍa ma:vinahaṇṇu!/

v. Comparatives

Task: Ask the person with aphasia to point to the picture which depicts the sentences you say

Also, follow the stimulus and response hierarchy.

Stimuli (15)

1	ಇಲಿಗಿಂತ ಆನೆ ದೊಡ್ಡದು. ಯಾವುದು ದೊಡ್ಡದು? /iliginʈa a:ne ɖoḍḍaḍu. ja:vuḍu ɖoḍḍaḍu ?/
2	ಮೊಲಕ್ಕಿಂತ ಆಮೆ ನಿಧಾನ. ಯಾವುದು ನಿಧಾನ ? /molakkinʈa a:me niḍhana. ja:vuḍu niḍhana ?/
3	ಕಿಟಕಿಗಿಂತ ಬಾಗಿಲು ದೊಡ್ಡದು. ಯಾವುದು ದೊಡ್ಡದು ? /kiʈ akiginʈa bagilu ɖoḍḍaḍu. ja:vuḍu ɖoḍḍaḍu ?/
4	ಹುಡುಗನು ಹುಡುಗಿಗಿಂತ ಎತ್ತರ, ಯಾರು ಎತ್ತರ? /huḍuganu huḍugiginʈa eʈʈara, ja:ru eʈʈara ?/
5	ಮುದುಕನು ಚಿಕ್ಕ ಹುಡುಗನಿಗಿಂತ ದಪ್ಪ, ಯಾರು ದಪ್ಪ? /mudukanu ʧikka huḍuganiginʈa ɖappa. ja:ru ɖappa ?/

6	ಕುದುರೆಯು ನಾಯಿಗಿಂತ ವೇಗವಾಗಿ ಓಡುತ್ತದೆ. ಯಾವುದು ವೇಗವಾಗಿ ಓಡುತ್ತದೆ ? /kuɖureju najigiɳta ve:gava:gi o:ɖuṯṯaɖe. ja:vuɖu ve:gava:gi o:ɖuṯṯaɖe?/
7	ಸ್ಕೂಟರ್‌ಗಿಂತ ರೈಲು ವೇಗವಾಗಿ ಹೋರುತ್ತದೆ ? ಯಾವುದು ವೇಗವಾಗಿ ಹೋಗುತ್ತದೆ ? /sku:ʈ argiɳta railu ve:gava:gi ho:guṯṯaɖe? ja:vuɖu ve:gava:gi ho:guṯṯaɖe?/
8	ಬೆಟ್ಟಕ್ಕಿಂತ ಪರ್ವತ ದೊಡ್ಡದು. ಯಾವುದು ದೊಡ್ಡದು? /beʈ ʈ akkiɳta parvaṯa ɖoɖɖaɖu. ja:vuɖu ɖoɖɖaɖu ?/
9	ಗಿಡಕ್ಕಿಂತ ಮರ ದೊಡ್ಡದು. ಯಾವುದು ದೊಡ್ಡದು? /giɖakkiɳta mara ɖoɖɖaɖu. ja:vuɖu ɖoɖɖaɖu ?/
10	ಮಗ್ ಗಿಂತ ಬಕೆಟ್ಟು ದೊಡ್ಡದು. ಯಾವುದು ದೊಡ್ಡದು? /muggigiɳta bakeʈ ʈ u ɖoɖɖaɖu. ja:vuɖu ɖoɖɖaɖu?/
11	ಕರಡಿಗಿಂತ ಚಿರತೆ ವೇಗವಾಗಿ ಓಡುತ್ತದೆ. ಯಾವುದು ವೇಗವಾಗಿ /karaɖigiɳta ʧiraṯe ve:gava:gi o:ɖuṯṯaɖe. ja:vuɖu ve:gava:gi o:ɖuṯṯaɖe ? /
12	ಚೀಲಕ್ಕಿಂತ ಪರ್ಸ್ ಚಿಕ್ಕದು. ಯಾವುದು ಚಿಕ್ಕದು ? /ʧe:lakkiɳta parsu ʧikkaɖu. ja:vuɖu ʧikkaɖu ?/
13	ಸರೋವರಕ್ಕಿಂತ ಸಾಗರ ವಿಶಾಲ ಯಾವುದು ವಿಶಾಲ? /saro:varakkiɳta sa:gara viʃa:la. ja:vuɖu viʃa:la?/
14	ಮಲ್ಲಿಗೆಗಿಂತ ಗುಲಾಬಿ ಸುಂದರ. ಯಾವುದು ಸುಂದರ? /malligegiɳta gula:bi sunɖara. ja:vuɖu sunɖara ?/
15	ಭೂಮಿಯು ಸೂರ್ಯನಿಗಿಂತ ಚಿಕ್ಕದು. ಯಾವುದು ಚಿಕ್ಕದು? /bhu:miju su:rjaniginta ʧikkaɖu. ja:vuɖu ʧikkaɖu. ?/

vi.Voice – the ways in which language expresses the relationship between a verb and noun phrases associated with it

C: Ask person with aphasia to indicate whether the sentences are 'same or different".

Level 1- Request the client to tell if the sentences are ‘same or different”.

Level 2- Request the client to change the voice of the sentences.

Stimuli (15)

1	ಹುಡುಗರು ಮರವನ್ನು ಕತ್ತರಿಸಿದರು. ಹುಡುಗನಿಂದ ಮರ ಕತ್ತರಿಸಲ್ಪಟ್ಟಿತು.	/huɖuga maravannu kaṯṯrasiɖaru/ /huɖuganinɖa mara kaṯ ṯarisalpaṯṯiṯu/
2	ಹುಡುಗಿ ಹಾರ ಕಟ್ಟಿದಳು. ಹುಡುಗಿಯಿಂದ ಹಾರ ಕಟಲ್ಪಟ್ಟಿತು	/huɖugi ha:ra kaṯ ṭ iɖaḷu/ /huɖugijinɖa ha:ra kaṯṯalpaṯṯiṯu/
3	ಮಂತ್ರಿಗಳು ಉದ್ಘಾಟನೆ ಮಾಡಿದರು. ಮಂತ್ರಿಗಳಿಂದ ಉದ್ಘಾಟಣೆ ಮಾಡಲ್ಪಟ್ಟಿತು.	/mantrigaḷu uɖga:ṭ ane ma:ɖiɖaru/ /mantrijinɖa uɖga:ṯaɳe ma:ɖalpaṯṯiṯu/
4	ಪೊಲೀಸರು ಗುಂಡು ಹಾರಿಸಿದರು. ಪೊಲೀಸರಿಂದ ಗುಂಡು ಹಾರಿಸಲ್ಪಟ್ಟಿತು.	/po:lisaru gunɖu ha:risiɖaru/ /po:lisarinɖa gunɖu ha:risalpaṯṯiṯu/
5	ಹುಡುಗರು ಲೋಟವನ್ನು ಒಡೆದು ಹಾಕಿದರು. ಹುಡುಗರಿಂದ ಲೋಟವನ್ನು ಒಡೆಯಲ್ಪಟ್ಟಿತು.	/huɖugaru lo:ṭ avannu hoɖeɖa:kiɖaru/ /huɖugarinɖa lo:ṭ avannu hoɖeɖa:kiɖaru/
6	ಹುಡುಗರು ಚೆಂಡನ್ನು ಎಸೆದರು. ಹುಡುಗರಿಂದ ಚೆಂಡು ಎಸೆಯಲ್ಪಟ್ಟಿತು.	/huɖugaru ʧenɖannu eseɖaru/ /huɖugaru ʧenɖannu esejalpaṭ iṯu/
7	ಶಿಕ್ಷಕರು ಪಾಠ ಓದುತ್ತಾರೆ. ಶಿಕ್ಷಕರಿಂದ ಪಾಠ ಓದಲ್ಪಡುತ್ತದೆ.	/ʃikʃkaru pa:ʈʰa o: ɖuṯ ṯa:re/ /ʃikʃkarinɖa pa:ʈʰa o: ɖalpaɖuṯ ṯaɖe/
8	ಪೂಜಾರಿ ಪೂಜೆ ಮಾಡಿದರು. ಪೂಜಾರಿಯಿಂದ ಪೂಜೆ ಮಾಡಲ್ಪಟ್ಟಿತು.	/pu:ʤa:ri pu:ʤe ma:ɖiɖaru/ /pu:ʤa:rijinɖa pu:je ma:ɖalpaṯṯiṯu/

9	ಸೈನಿಕರು ದೇಶದ ರಕ್ಷಣೆ ಮಾಡುತ್ತಾರೆ. ಸೈನಿಕರಿಂದ ದೇಶದ ರಕ್ಷಣೆ ಮಾಡಲ್ಪಡುತ್ತದೆ.	/sainikaru ḍe:ʃaḍa rakʃaṇe ma:ḍu ṭ ṭa:re/ /sainikaru ḍe:ʃaḍa rakʃaṇe ma:ḍalpaḍuṭṭaḍe/
10	ಮಕ್ಕಳು ಹಾಲನ್ನು ಕುಡಿದರು. ಮಕ್ಕಳಿಂದ ಹಾಲು ಕುಡಿಯಲ್ಪಟ್ಟಿತು.	/makkaḷu ha:llannu kuḍiḍaru/ /makkaḷinḍa ha:lu kuḍijalpaṭṭiṭu/
11	ವೈದ್ಯರು ಔಷದಿಯನ್ನು ಕೊಡುತ್ತಾರೆ. ವೈದ್ಯರಿಂದ ಔಷದಿ ಕೊಡಲ್ಪಡುತ್ತದೆ.	/vaiḍjaru auʃaḍijannu koḍuṭ ṭa:re/ /vaiḍjarinḍa auʃaḍi koḍalpaḍuṭ ṭa ḍe/
12	ಅಗಸ ಬಟ್ಟೆ ಒಗೆಯುತ್ತಾನೆ. ಅಗಸನಿಂದ ಬಟ್ಟೆ ಒಗೆಯಲ್ಪಡುತ್ತದೆ.	/agasa baṭṭe ogejuṭ ṭa:ne/ /agasa baṭṭe ogejalpaḍuṭ ṭaḍe/
13	ಕೂಲೀಗಾರರು ಮನೆಯನ್ನು ಕಟ್ಟಿದರು ಕೂಲೀಗಾರರಿಂದ ಮನೆ ಕಟ್ಟಲ್ಪಟ್ಟಿತು	/ku:li:ga:raru manejannu kaṭṭiḍaru/ /ku:li:ga:rarinḍa mane kaṭ ṭ alpaṭṭiṭu/
14	ಕವಿಯತ್ರಿ ಪುಸ್ತಕ ಬರೆದಳು ಕವಿಯತ್ರಿಯಿಂದ ಪುಸ್ತಕ ಬರೆಯಲ್ಪಟ್ಟಿತು	/kavijaṭri puslaka bareḍaḷu./ /kavijaṭrijinḍa puslaka barejalpaṭṭiṭu/
15	ರಾಮ ರಾವಣನನ್ನು ಕೊಂದನು ರಾಮನಿಂದ ರಾವಣ ಕೊಲ್ಲಲ್ಪಟ್ಟನು	/ra:ma ra:vanannu koṇḍanu/ /ra:maninḍa ra:vanannu kollalpaṭṭanu/

vii. Case Markers

Case is a grammatical category that shows the function of the noun/ noun phrase in a sentence.

C-Ask the person with aphasia to point to an appropriate agent in picture as an answer to the question

E- Ask the person with aphasia to answer the question.

a) **Nominative:** The form of a noun /noun phrase which usually shows that the noun can function as the subject of the sentences.

b) **Instrumental:** the noun/ noun phrase that refers to the means by which the action of verb is performed.

c) **Dative:** the form of noun / noun phrase which usually that functions as the indirect object of the verb.

d) **Generative:** The form of noun/ noun phrase which shows that the noun/ noun phrases is in possessive relation with another noun/ noun phrase in a sentence.

e) **Locative:** The noun/ noun phrase which refers to the location of the action of the verb is in locative case.

a) Nominatives

Stimuli (8)

1	ಹುಡುಗನು ಚಂಡನ್ನು ಎಸೆದನು ಯಾರು ಚಂಡನ್ನು ಎಸೆದರು?	/huɖuganu tʃanɖannu eseɖanu/ /ja:ru ʈ ʃenɖannu eseɖaru ?/
2	ಹುಡುಗಿ ಹಾರವನ್ನು ಕಟ್ಟಿದಳು ಯಾರು ಹಾರವನ್ನು ಕಟ್ಟಿದರು?	/huɖugi ha:ravannu kaʈ ʈ iɖaɭu/ /ja:ru ha:ravannu kaʈ ʈ iɖaru ?/
3	ತಾತ ಬೀಗ ತೆಗೆದರು. ಯಾರು ಬೀಗ ತೆಗೆದರು?	/ʈa:ʈa bi:ga ʈegeɖaru/ /ja:ru bi:ga ʈegeɖaru ?/
4	ಹೆಂಗಸು ಅಡಿಗೆ ಮಾಡಿದಳು ಯಾರು ಅಡಿಗೆ ಮಾಡಿದರು?	/heŋgasu aɖige ma:ɖiɖaɭu/ /ja:ru aɖige ma:ɖiɖaru ?/

5	ಮಾಲಿ ಗಿಡಗಳಿಗೆ ನೀರು ಹಾಕಿದ ಯಾರು ಗಿಡಗಳಿಗೆ ನೀರು ಹಾಕಿದರು?	/ma:li gidɖagaḷige ni:ru ha:kiɖa/ /ja:ru gidɖagaḷige ni:ru ha:kiɖaru ?/
6	ಅಪ್ಪ ಅಂಗಡಿಗೆ ಹೋದರು. ಯಾರು ಅಂಗಡಿಗೆ ಹೋದರು?	/appa aŋadɖige ho:ɖaru/ /ja:ru aŋadɖige ho:ɖaru ?/
7	ಹುಡುಗ ಅಳುತ್ತಿದ್ದಾನೆ. ಯಾರು ಅಳುತ್ತಿದ್ದಾರೆ ?	/huɖuga aḷuṭ ṭiɖɖa:ne/ /ja:ru aḷuṭ ṭiɖɖa:r e ?/
8	ಆನೆ ಹುಲ್ಲು ತಿನ್ನುತಿದೆ. ಯಾವುದು ಹುಲ್ಲು ತಿನ್ನುತಿದೆ?	/a:ne hullu ṭinnuṭ ṭiɖe/ /ja:vuɖu hullu ṭinnuṭ ṭiɖe ?/

b) Instrumental

Stimuli (8)

1	ಹುಡುಗ ಪೆನ್ನಿನಿಂದ ಪತ್ರ ಬರೆದ. ಹುಡುಗ ಯಾವುದರಿಂದ ಪತ್ರ ಬರೆದ ?	/huɖuga penninindɖa paṭra bareɖa/ /huɖuga ja:vuɖarindɖa paṭra bareɖa ?/
2	ಅಜ್ಜಿ ಮಕ್ಕಳಿಂದ ಪತ್ರ ಓದಿಸಿದರು. ಅಜ್ಜಿ ಯಾರಿಂದ ಪತ್ರ ಓದಿಸಿದರು?	/adʒi makkaḷindɖa paṭra o:ɖisiɖaru/ /adʒi ja:rindɖa paṭra o:ɖisiɖaru ?/
3	ಹುಡುಗ ಚಮಚದಿಂದ ಊಟ ಮಾಡಿದ ಹುಡುಗ ಯಾವುದರಿಂದ ಊಟ ಮಾಡಿದ ?	/huɖuga tʃamatʃ ɖindɖa u:ṭa ma:ɖiɖa/ /huɖuga ja:vuɖarindɖa u:ṭa ma:ɖiɖa ?/
4	ಮಕ್ಕಳು ಕಲ್ಲಿನಿಂದ ಗಾಜು ಒಡೆದರು ಮಕ್ಕಳು ಯಾವುದರಿಂದ ಗಾಜು ಒಡೆದರು ?	/makkaḷu kallinindɖa ga:ju oɖeɖaru/ /makkaḷu uja:vuɖarindɖa ga:ju oɖeɖaru ?/
5	ಪೋಲಿಸರು ಲಾಟಿಯಿಂದ ಕಳ್ಳನನ್ನು ಹೊಡೆದರು ಪೋಲಿಸರು ಯಾವುದರಿಂದ ಕಳ್ಳನನ್ನು ಹೊಡೆದರು?	/po:lisaru la:ṭ indɖa kaḷḷanannu hoɖeɖaru/ /po:lisaru ja:vuɖarindɖa kaḷḷanannu hoɖeɖaru ?/
6	ಪೋಲಿಸರು ಬಂದೂಕಿನಿಂದ ಗುಂಡು ಹಾರಿಸಿದರು	/po:lisaru ban ɖu:kinindɖa gunḍu ha:risiɖaru/

	ಪೋಲಿಸರು ಯಾವುದರಿಂದ ಗುಂಡು ಹಾರಿಸಿದರು	/po:lisaru ja:vuɖarinɖa gunḍu ha:risiɖaru?/
7	ರೈತನು ಚಾವುಟಿಯಿಂದ ದನಗಳಿಗೆ ಹೊಡೆದ? ರೈತನು ಯಾವುದರಿಂದ ದನಗಳಿಗೆ ಹೊಡೆದ?	/raiṯanu ʧa:vuṭ ijinɖa ḍanagaḷige hoḍeɖa/ /raiṯanu ja:vuɖarinɖa danagaḷige hoḍeɖa ?/
8	ಹುಡುಗ ಕಾಲಿನಿಂದ ಬಾಲವನ್ನು ಒದ್ದನು. ಹುಡುಗ ಕಾಲಿನಿಂದ ಬಾಲವನ್ನು ಒದ್ದನು?	/huḍuga ka:lininɖa ba:lannu oɖɖanu/ /huḍuga ja:vuɖarinɖa ba:lannu oɖɖanu ?/

c) Datives

Stimuli (8)

1	ಅಮ್ಮ ಮಕ್ಕಳಿಗೆ ಲಾಡು ಕೊಟ್ಟರು ಅಮ್ಮ ಯಾರಿಗೆ ಲಾಡು ಕೊಟ್ಟರು ?	/amma makkaḷige la:ḍu koṯṯaru/ /amma ja:rige la:ḍu koṯṯaru? /
2	ಹುಡುಗಿ ಹುಡುಗನನ್ನು ಕಪಾಳಕ್ಕೆ ಬಾರಿಸಿದಳು ಹುಡುಗಿ ಯಾರನ್ನು ಕಪಾಳಕ್ಕೆ ಬಾರಿಸಿದಳು?	/huḍugi huḍugana kappa:ḷakke ba:risiɖaḷu/ /huḍugi ja:rannu kappa:ḷakke ba:risiɖaḷu?/
3	ಮಾಲಿ ಗಿಡಗಳಿಗೆ ನೀರು ಹಾಕಿದನು. ಮಾಲಿ ಯಾವುದಕ್ಕೆ ನೀರು ಹಾಕಿದನು ?	/ma:li giḍagaḷige ni:ru ha:kiɖanu/ /ma:li ja:vuɖakke ni:ru ha:kiɖanu ?/
4	ಶಿಕ್ಷಕರು ಶಿಷ್ಯರಿಗೆ ಪಾಠ ಮಾಡಿದರು. ಶಿಕ್ಷಕರು ಯಾರಿಗೆ ಪಾಠ ಮಾಡಿದರು.?	/ʃikʃakaru ʃisjarige pa:ṭ a ma:ḍiɖaru/ /ʃikʃakaru ja:rige pa:ṭ a ma:ḍiɖaru ?/
5	ಪೂಜಾರಿ ದೇವರ ಪೂಜೆ ಮಾಡಿದರು. ಪೂಜಾರಿ ಯಾರ ಪೂಜೆ ಮಾಡಿದರು ?	/pu:ʤa:ri ɖe:vara pu:ʤe ma:ḍiɖaru/ /pu:ʤa:ri ja:ra pu:ʤe ma:ḍiɖaru ?/
6	ವೈದ್ಯರು ಮಾತ್ರೆಗಳನ್ನು ಕೊಟ್ಟರು? ಯಾರು ಮಾತ್ರೆಗಳನ್ನು ಕೊಟ್ಟರು?	/vaiɖjaru ma:ṯregaḷannu koṭ ṭ aru/ /ja:ru ma:ṯregaḷannu koṭ ṭ aru ?/
7	ಹುಡುಗ ಹುಡುಗಿಯ ಹಿಂದೆ ಹೋದನು. ಹುಡುಗ ಯಾರ ಹಿಂದೆ ಹೋದನು.	/huḍuga huḍugija hinɖe ho:ɖanu/ /huḍuga ja:ra hinɖe ho:ɖanu ?/

8	ಅಪ್ಪ ಮಗನಿಗೆ ಹೊಡೆದರು ಅಪ್ಪ ಯಾರಿಗೆ ಹೊಡೆದರು ?	/appa makkaḷige hoḍeḍ̱aru/ /appa ja:rige hoḍeḍ̱aru ?/

d) Generatives

Stimuli (8)

1	ಇದು ರಾಮನ ಪುಸ್ತಕ ಇದು ಯಾರ ಪುಸ್ತಕ ?	/iḍ̱u ra:mana pusṭ̱aka/ /iḍ̱u ja:ra pusṭ̱aka ?/
2	ಅದು ಮಿಠಾಯಿಯ ಅಂಗಡಿ ಅದು ಯಾವ ಅಂಗಡಿ ?	/aḍ̱u miṭ^{h}a:jija aŋgaḍi/ /aḍ̱u ja:va aŋgaḍi ?/
3	ಈ ಬಾಲು ಹುಡುಗರದ್ದು ಈ ಚೆಂಡು ಯಾರದ್ದು ?	/i: ba:lu huḍugaraḍ̱ḍ̱u/ /i: ba:lu ja:raḍ̱ḍ̱u ?/
4	ಇದು ಹುಡುಗನ ಮನೆ ಇದು ಯಾರ ಮನೆ ?	/iḍ̱u huḍugana mane/ /iḍ̱u ja:ra mane ?/
5	ಇದು ಹುಡುಗನ ಪೆನ್ನು ಇದು ಯಾರ ಪೆನ್ನು ?	/iḍ̱u huḍugana pennu/ /iḍ̱u ja:ra pennu ?/
6	ಇದು ಅಮ್ಮನ ಸೀರೆ. ಇದು ಯಾರ ಸೀರೆ ?	/iḍ̱u ammana si:re/ /iḍ̱u ja:ra si:re ?/
7	ಇದು ಅಕ್ಕನ ಸೈಕಲ್ಲು ಇದು ಯಾರ ಸೈಕಲ್ಲು	/iḍ̱u akkana saikallu/ /iḍ̱u ja:ra saikallu ?/
8	ಇದು ಸ್ನೇಹಿತನ ಕಾರು ಇದು ಯಾರ ಕಾರು ?	/iḍ̱u sne:hiṭ̱ana ka:ru/ /iḍ̱u ja:ra ka:ru ?/

e) Locative

Stimuli (8)

1	ಪೆನ್ನು ಮೇಜಿನ ಮೇಲೆ ಇದೆ ಪೆನ್ನು ಎಲ್ಲಿದೆ?	/pennu me:dʒiname:le iḍe/ /pennu elliḍe ?/
2	ಕುಕ್ಕೆಯ ತುಂಬ ಹಣ್ಣು ಇದೆ. ಹಣ್ಣು ಎಲ್ಲಿದೆ ?	/kukkeja ṭumba haṇṇu iḍe/ /haṇṇu elliḍe ?/
3	ಮಕ್ಕಳು ಶಾಲೆಯಲ್ಲಿ ಓದುತ್ತಾರೆ ಮಕ್ಕಳು ಎಲ್ಲಿ ಓದುತ್ತಾರೆ ?	/makkaḷu sa:lejaḷḷi o:ḍuṭ ṭa:re/ /makkaḷu elli o:ḍuṭ ṭa:re ?/
4	ಮರದ ಮೇಲೆ ಕೋತಿ ಇದೆ. ಕೋತಿ ಎಲ್ಲಿದೆ ?	/maraḍa me:le ko:ṭi iḍe/ /ko:ṭi elliḍe ?/
5	ನೀರಿನಲ್ಲಿ ಮೀನು ಇದೆ. ಮೀನು ಎಲ್ಲಿದೆ ?.	/ni:rinalli mi:nu iḍe/ /mi:nu elliḍe ?/
6	ಬುಟ್ಟಿಯಲ್ಲಿ ಹಣ್ಣುಗಳು ಇವೆ. ಹಣ್ಣು ಎಲ್ಲಿದೆ ?	/buṭṭijaḷḷi haṇṇugaḷu iḍe/ /haṇṇu elliḍe ?/
7	ತಟ್ಟೆಯಲ್ಲಿ ಊಟ ಇದೆ ಊಟ ಎಲ್ಲಿದೆ?	/ṭaṭṭejalli u:ṭ a iḍe/ /u:ṭa elliḍe ?/
8	ಲೋಟದಲ್ಲಿ ಕಾಫಿ ಇದೆ. ಕಾಫಿ ಎಲ್ಲಿದೆ?	/u:ṭ aḍalli ka:fi iḍe/ /ka:fi elliḍe ?/

viii. Clauses : They are groups of words, which form an grammatical unit and which contain a subject and a finite verb.

C-Ask the person with aphasia to indicate if the sentences are same or different

Stimuli (15)

1	ಏನಾದರು ಲೋಟ ಬಿದ್ದರೆ ಒಡೆದುಹೋಗುತ್ತದೆ. ಏನಾದರು ಲೋಟ ಬಿದ್ದರೆ ಚಿಕ್ಕದಾಗುತ್ತದೆ ?	/e:na:ɖaru lo:ʈ a biɖɖare oɖeɖuhoguʈʈaɖe/ /e:na:ɖaru lo:ʈ a biɖɖare ʧikkaɖa:guʈʈaɖe?/
2	ಏನಾದರು ಮಳೆ ಬಂದರೆ ನಾವು ನೆನೆದುಹೋಗುತ್ತೇವೆ. ಏನಾದರು ಮಳೆ ಬಂದರೆ ನಾವು ಊಟಮಾಡೋಣ	/e:na:ɖaru maɭe banɖare na:vu neneɖu ho:guʈʈeve/ /e:na:ɖaru maɭe banɖare na:vu u:ʈ a maaɖo:ɳa/
3	ಶಾಲೆಗೆ ರಜ ಎಂದು ಹುಡುಗಿಗೆ ಗೊತ್ತಿತ್ತು. ಮಳೆ ಬರುತ್ತದೆ ಎಂದು ಹುಡುಗಿಗೆ ಗೊತ್ತಿತ್ತು	/ʃa:lege raʤa enɖu huɖugige goʈ ʈiʈu/ /maɭe baru ʈ ʈa ɖe enɖu huɖugige goʈ ʈiʈu/
4	ಊಟ ತಯಾರಿದೆ ಎಂದು ಅಮ್ಮ ಹೇಳಿದರು. ಒಳಗೆ ಹೋಗು ಎಂದು ಅಮ್ಮ ಹೇಳಿದರು.	/u:ʈ a ʈaja:riɖe enɖu amma he:ɭiɖaru/ /o:ɭage ho:gu enɖu amma he:ɭiɖaru/
5	ರಜೆ ಸಿಕ್ಕಗ ಮಕ್ಕಳು ಮನೆಗೆ ಬರುತ್ತಾರೆ. ರಜೆ ಸಿಕ್ಕಗ ನಾವು ಮನೆಗೆ ಬರುತ್ತೇವೆ.	/raʤe sikka:ga makkaɭu manege baruʈʈa:re/ /raʤe sikka:ga na:vu manege ho:guʈʈe:ve/
6	ಮೋಡ ಕವಿದಾಗ ಮಳೆ ಬರುತ್ತದೆ. ಮೋಡ ಕವಿದಾಗ ಮಿಂಚು ಬರುತ್ತದೆ.	/mo:ɖa kavida:ga maɭe baruʈʈa:ɖe/ /mo:ɖa kavida:ga mintʃ u baruʈʈa:ɖe/
7	ಹುಡುಗನಿಗೆ ಕಾಯಿಲೆ ಇದ್ದ ಕಾರಣ ಅವನು ಶಾಲೆಗೆ ಹೋಗಲಿಲ್ಲ. ರಜೆ ಇದ್ದ ಕಾರಣ ಹುಡುಗ ಶಾಲೆಗೆ ಹೋಗಲಿಲ್ಲ.	/huɖuganige ka:jiɭe iɖɖa ka:raɳa avanu ʃa:ɭege ho:galilla/ /raʤe iɖɖa ka:raɳa huɖuga ʃa:ɭege ho:galilla/

8	ದೀಪ ಹೋದರೆ ಕೋಣೆ ಕತ್ತಲಾಗುತ್ತದೆ. ದೀಪ ಹೋದರೆ ಕಣ್ಣು ಕಾಣುವುದಿಲ್ಲ.	/ɖi:pa ho:ɖare ko:ɳe kaṯṯala:guṯṯaɖe/ /ɖi:pa ho:ɖare kaɳɳu ka:ɳuvuɖilla/
9	ನೀರು ಬಂದಾಗ ಬಟ್ಟೆ ಒಗೆಯೋಣ ನೀರು ಬಂದಾಗ ಕಾಫಿ ಮಾಡೋಣ	/ni:ru banɖa:ga baʈ ʈ e ogejo:na/ /ni:ru banɖa:ga ka:fi ma:ɖo:na/
10	ಫಲ ಸಿಗಬೇಕೆಂದರೆ ಕಷ್ಟ ಪಡಬೇಕು. ಫಲ ಸಿಗಬೇಕೆಂದರೆ ಮರ ಹತ್ತಬೇಕು	/phala sigabe:ka:ɖare kaʃta paɖabe:ku/ /phala sigabe:ka:ɖare mara haṯṯabe:ku/
11	ಹುಡುಗ ಓದುತ್ತಿದರಿಂದ ಆಟಕ್ಕೆ ಹೋಗಲಿಲ್ಲ ಹುಡುಗ ಓದುತ್ತಿದರಿಂದ ಆಟಕ್ಕೆ ಹೋಗಲಿಲ್ಲ	/huɖuga o: ɖuṯṯiɖarinɖa a:ʈake ho:galilla/ /huɖuga o: ɖuṯṯiɖarinɖa a:ʈake ho:galilla/
12	ಬಸ್ಸು ಬರಲಿಲ್ಲ ಎಂದರೆ ನಾವು ನಡೆದು ಹೋಗೋಣ. ಬಸ್ಸು ಬರಲಿಲ್ಲ ಎಂದರೆ ನಾವು ಹೋಗುವುದಿಲ್ಲ.	/bassu baralilla enɖare na:vu naɖeɖu ho:go: ɳa/ /bassu baralilla enɖare na:vu ho:guvuɖilla/
13	ವೈದ್ಯರು ಮಾತ್ರೆ ತೆಗೆದುಕೊ ಎಂದು ಹೆಳಿದರು. ವೈದ್ಯರು ಮಾತ್ರೆ ತೆಗೆದುಕೊ ಎಂದು ಹೆಳಿದರು.	/vaiɖjaru ma:ṯre tegeɖuko enɖu he:ḷiɖaru/ /vaiɖjaru ma:ṯre tegeɖuko enɖu he:ḷiɖaru/
14	ಎಲ್ಲ ಪುಸ್ತಕಗಳಲ್ಲಿ ದಪ್ಪವಾದ ಪುಸ್ತಕವನ್ನು ತೋರಿಸಿ. ಎಲ್ಲ ಪುಸ್ತಕಗಳಲ್ಲಿ ಒಳ್ಳೆಯ ಪುಸ್ತಕವನ್ನು ತೋರಿಸಿ.	/ella pusṯakagaḷaḷḷi ɖappava:ɖa pusṯakavannu ṯo:risi/ /ella pusṯakagaḷaḷḷi oḷḷeja pusṯakavannu ṯo:risi
15	ಎಲ್ಲರಿಗಿಂತ ಉದ್ದವಾದ ಹುಡುಗನನ್ನು ಕರಿಯಿರಿ. ಎಲ್ಲರಿಗಿಂತ ದಪ್ಪವಿರು ಹುಡುಗನನ್ನು ಕರಿಯಿರಿ.	/ellariginṯa uɖɖava:ɖa huɖuganannu karejiri/ /ellariginṯa ɖappava:ɖa huɖuganannu karejiri/

E- Ask the person with aphasia to listen to the sentences and answer the question.

1	ಏನಾದರು ಲೋಟ ಬಿದ್ದರೆ ಒಡೆದುಹೋಗುತ್ತದೆ. ಏನಾದರು ಲೋಟ ಬಿದ್ದರೆ ಏನಾಗುತ್ತದೆ ?	/e:na:ɖaru lo:ʈa biɖɖare oɖeɖuhoguʈʈaɖe/ /e:na:ɖaru lo:ʈa biɖɖare e:na:guʈʈaɖe?/
2	ಏನಾದರು ಮಳೆ ಬಂದರೆ ನಾವು ನೆನೆದು ಹೋಗುತ್ತೇವೆ. ಏನಾದರು ಮಳೆ ಬಂದರೆ ಏನಾಗುತ್ತದೆ?	/e:na:ɖaru maɭe baɳɖare neneɖu ho:guʈʈeve/ /e:na:ɖaru maɭe baɳɖare e:na:guʈʈaɖe?/
.3	ಶಾಲೆಗೆ ರಜೆ ಎಂದು ಹುಡುಗಿಗೆ ಗೊತ್ತಿತ್ತು. ಹುಡುಗಿಗೆ ಏನೆಂದು ಗೊತ್ತಿತ್ತು. ?	/ʃa:ege radʒa enɖu huɖugige goʈʈiʈu/ /huɖugige e:nu goʈʈiʈu?/
4	ಊಟ ತಯಾರಿದೆ ಎಂದು ಅಮ್ಮ ಹೇಳಿದರು. ಅಮ್ಮ ಏನೆಂದು ಹೇಳಿದರು	/u:ʈa ʈaja:riɖe enɖu amma he:ɭiɖaɭu/ /amma e:nenɖu he:ɭiɖaɭu?/
5	ರಜೆ ಸಿಕ್ಕಾಗ ಮಕ್ಕಳು ಬರುತ್ತಾರೆ. ಮಕ್ಕಳು ಯಾವಾಗ ಬರುತ್ತಾರೆ.	/radʒe sikka:ga makkaɭu baruʈʈa:re/ /makkaɭu ja:va:ga baruʈʈa:re ?/
6	ಮೋಡ ಕವಿದಾಗ ಮಳೆ ಬರುತ್ತದೆ. ಮಳೆ ಯಾವಾಗ ಬರುತ್ತದೆ.	/mo:ɖa kavida:ga maɭe baruʈʈa:ɖe/ /maɭe ja:va:ga baruʈʈa:ɖe ?/
7	ಹುಡುಗನಿಗೆ ಕಾಯಿಲೆ ಇದ್ದಕಾರಣ ಅವನು ಶಾಲೆಗೆ ಹೋಗಲಿಲ್ಲ. ಹುಡುಗನು ಯಾಕೆ ಶಾಲೆಗೆ ಹೋಗಲಿಲ್ಲ	/huɖuganige ka:jiɭe idda ka:raɳa avanu ʃa:lege ho:galilla/ /huɖuga ja:ke ʃa:ɭege ho:galilla?/
8	ದೀಪ ಹೋದರೆ ಕೋಣೆ ಕತ್ತಲಾಗುತ್ತದೆ. ದೀಪ ಹೋದರೆ ಏನಾಗುತ್ತದೆ.	/ɖi:pa ho:ɖare ko:ɳe kaʈʈaɭa:guʈʈaɖe/ /ɖi:pa ho:ɖare e:na:guʈʈa:ɖe ?/
9	ನೀರು ಬಂದಾಗ ಬಟ್ಟೆ ಒಗೆಯೋಣ ಬಟ್ಟೆ ಯಾವಾಗ ಹೊಗೆಯೋಣ	/ni:ru baɳɖa:ga baʈʈe ogejo:ɳa/ /baʈ ʈ e ja:va:ga ogeju:ɳa ?/

10	ಫಲ ಸಿಗಬೇಕೆಂದರೆ ಕಷ್ಟ ಪಡಬೇಕು. ಫಲ ಸಿಗಬೇಕೆಂದರೆ ಏನು ಮಾಡಬೇಕು ?	/phala sigabe:ka:ɖare kaʃta paɖabe:ku/ /phala sigabe:ka:ɖare e:nu ma:ɖabe:ku ?/
11	ಹುಡುಗ ಓದುತ್ತಿದರಿಂದ ಆಟಕ್ಕೆ ಹೋಗಲಿಲ್ಲ. ಹುಡುಗ ಏಕೆ ಆಟಕ್ಕೆ ಹೋಗಲಿಲ್ಲ ?	/huɖuga o:ɖuṭṭiɖarinɖa a:ṭake ho:galilla/ /huɖuga e:ke a:ṭake ho:galilla?/
12	ಬಸ್ಸು ಬರೆದೆಯಿದ್ದರೆ ನಾವು ನಡೆದು ಹೋಗೋಣ. ಬಸ್ಸು ಬರೆದೆಯಿದ್ದರೆ ಏನು ಮಾಡೋಣ	/bassu baraɖejiɖɖare na:vu naɖeɖu ho:go:ɳa/ /bassu baraɖejiɖɖare e:nu ma:ɖo:ɳa ?/
13	ವೈದ್ಯರು ಮಾತ್ರೆ ತೆಗೆದುಕೋ ಎಂದು ಹೇಳಿದರು. ವೈದ್ಯರು ಏನು ಹೇಳಿದರು.	/vaiɖjaru ma:ṭre tegeɖuko enɖu he:ḷiɖaru/ /vaiɖjaru ma:ṭre tegeɖuko enɖu he:ḷiɖaru/
14	ಎಲ್ಲ ಪುಸ್ತಕಗಳಲ್ಲಿ ದಪ್ಪವಾದ ಪುಸ್ತಕವನ್ನು ತೋರಿಸಿ. ಯಾವ ಪುಸ್ತಕ ತೋರಿಸಲಿ.	/ellapusṭakagaḷalli ɖappava:ɖa pusṭakavannu ṭo:risi/ /ja:va pusṭaka ṭo:risali ?/
15	ಎಲ್ಲರಿಗಿಂತ ಉದ್ದವಾದ ಹುಡುಗನನ್ನು ಕರೆಯಿರಿ. ಯಾವ ಹುಡುಗನನ್ನು ಕರೆಯಬೇಕು.	/ellariginṭa uɖɖava:ɖa huɖuganannu karijiri/ /ja:va huɖuganannu karijabeeku?/

III Discourse Level

1. **Listening comprehension**

Task

1) Read the entire passage and the person with aphasia is expected to listen intently. Once the passage is read, read the passage again with certain words missing and he/she has to fill the blank with the appropriate word using choices of words given in the bracket.

2) Read a passage and the person with aphasia is expected to listen intently. Once the passage is read, ask questions regarding the passage and the person with aphasia is expected to answer accordingly.

2. **Reading comprehension**

Task

1) The person with aphasia is given a passage to read with certain words missing inbetween. He/she has to fill the blank with the appropriate word using choices of words given in the bracket.

2) The person with aphasia is given a passage to read and understand it. Later, questions are asked regarding the passage and the aphasic person is expected to answer accordingly.

Note: The passages provided is common for both listening and reading comprehension activities.

Note: The stimuli for both the tasks are given in three levels of increasing complexity. However, the clinician is free to select any other passage as stimulus depending on the literacy level of the person with aphasia.

Stimuli (adapted from: Reading acquisition profile in Kannada, Prema K.S., 1997)

Level 1

1. ವಿಜಯ ಮತ್ತು ಕುರುಡ

/vidʒaja maṯṯu kuruɖa/

ಒಂದು ದಿನ ವಿಜಯ ಶಾಲೆಗೆ ..... ದಾರಿಯಲ್ಲಿ ತುಂಬಾ ಜನರು, ವಾಹನಗಳು .....

ಅಲ್ಲಿ ಒಬ್ಬ ಕುರುಡ ಹೋಗುತ್ತಿದ್ದನು ..... ಮುಂದೆ ಒಂದು ಗಾಜಿನ ಚೂರು..... ವಿಜಯನು

ಅದನ್ನು ನೋಡಿದನು. ಬೇಗನೆ ..... ಹೋದನು. ಆ ಗಾಜಿನ ಚೂರನ್ನು ..... ಎಸೆದನು. ನಂತರ ಅವನು ಶಾಲೆಗೆ .....

(ದೂರ, ಅಲ್ಲಿಗೆ, ಬಿದ್ದಿತು, ಹೋಗುತ್ತಿದ್ದನು, ಓಡಾಡುತ್ತಿದ್ದವು, ಹೋದನು. ಅವನ)

/onɖu ɖina vidʒadʒa ʃa: ɭege ..... ɖa:ridʒa lɭi ṯumba: dʒanaru, va:hanagaɭu...../

/alli obba kuruɖa ho:guṯṯiɖɖanu.....munɖe onɖu ga: dʒina tʃu:ru..... ./ /vidʒajanu aɖannu no:ɖiɖanu/ /be:gane.....ho:ɖanu./ /a: ga:dʒina tʃu:rannu ..... eseɖanu/ /nanṯara avanu ʃa: ɭege ...../

(/ɖu:ra/, /a lɭige/, /biɖɖiṯṯu/, /ho:guṯṯiɖɖanu/, /o: ɖa: ɖuṯṯiɖɖavu/, /ho:ɖanu/, /avana/)

2. ರ೦ಗ ಮತ್ತು ನಾಯಿ

/raŋga maʈʈu naːji/

ನಾಯಿಮರಿಯೊ೦ದು ಹಸಿವೆಯಿ೦ದ ರ೦ಗನ ಮನೆಯ ಬಾಗಿಲ ಬಳಿ ಕಿರಿಚಕೊಳ್ಳುತ್ತಿತ್ತು. ರ೦ಗನು ಅದಕ್ಕೆ ಹೊಟ್ಟೆ ತು೦ಬ ಹಾಲು ಹಾಕಿದನು. ನಾಯಿ ಸ೦ತೋಷದಿ೦ದ ಬಾಲ ಅಲ್ಲಾಡಿಸಿತು. ಈಗ ಅದು ರ೦ಗನ ಮನೆಯನ್ನು ನೋಡಿಕೊಳ್ಳುತ್ತಿದೆ.

/naːji maridʒonḍu hasivedʒinḍa rangana manedʒa baːgi ɭa baḷi kiri tʃikoɭɭuʈʈiʈʈu./ /ranganu aḍḍakke hoʈʈeʈumba haː ɭu haːkiḍanu./ /naːdʒi santoːʃʰaḍinḍa baː ɭa a lɭaːḍisiʈu. /iːga aḍḍu raŋgana manedʒannu noːḍikoɭɭuʈʈiḍḍe/

Questions

1. ನಾಯಿ ಮರಿ ಏಕೆ ಕಿರಿಚಕೊಳ್ಳುತ್ತಿತ್ತು?

   /naːji mari eːke kiritʃikoɭɭuʈʈiʈʈu?/

2. ರ೦ಗನು ಅದಕ್ಕೆ ಏನು ಕೊಟ್ಟನು ?

   /raŋganu aḍḍakke eːnu koʈʈanu/

3. ನಾಯಿ ಯಾವಾಗ ಬಾಲ ಅಲ್ಲಾಡಿಸಿತು?

   /naːji jaːvaːga baː ɭa a llaːḍisiʈu?

4. ನಾಯಿ ರ೦ಗನಿಗೆ ಏನು ಸಹಾಯ ನೀಡುತ್ತಿದೆ?

   / naːdʒi raŋganige eːnu sahaːdʒa niːḍuʈʈiḍḍe?/

Level 2

1. ನಾವು ಭಾರತೀಯರು

/ na:vu b^{h}a:rati:jaru/

ನಮ್ಮದು ಕರ್ನಾಟಕ ರಾಜ್ಯ. ನಮ್ಮ ..... ಕನ್ನಡ. ನಾವು ಕನ್ನಡಿಗರು. ಕರ್ನಾಟಕ ..... ಸೊಬಗಿನ ನಾಡು. ಇಲ್ಲಿಯ ಭೂಪ್ರದೇಶ ..... ಇಲ್ಲಿ ದಟ್ಟವಾದ ..... ವಿಶಾಲವಾಗಿ ಹರಡಿರುವ ಬಯಲು ಭೂಮಿಯ ..... ಕಡಲತೆರೆಗಳು ಭೋರ್ಗರೆದು ಅಪ್ಪಳಿಸುವ ..... ಸುಂದರವಾದ ಬಟ್ಟಗುಡ್ಡಗಳಿವೆ.

ಬನಗಳಿವೆ, ಫಲಭರಿತ ..... ಗದ್ದೆಗಳಿವೆ, ಪ್ರಶಾಂತವಾಗಿ ಜುಳು ಜುಳು ಹರಿಯುವ..... ಧುಮ್ಮಿಕ್ಕುವ ಹೊಳೆ – ತೆರೆಗಳಿವೆ. ನೂರಾರು ಅಡಿಗಳಿಯದ ..... ಜಲಪಾತಗಳು ಇವೆ. ಇಲ್ಲಿ ಚಿನ್ನದ ..... ಇದೆ. ಗಂಧದ ಕಾಡುಗಳಿವೆ. ಇದು ..... ನಾಡು. ಗಂಧದ ಬೀಡು. ಹಿಂದೆ ..... ರಾಜ್ಯವನ್ನು ಪ್ರಸಿದ್ಧರಾದ ಗಂಗರು, ಕದಂಬರು .....ಚಾಲುಕ್ಯರು, ಹೊಯ್ಸಳರು ಆಳಿದ್ದಾರೆ. ರಾಜರುಗಳಾತೆ ..... ಸಹ ರಾಜ್ಯಾಡಳಿತ ನಡೆಸಿದ್ದಾರೆ. ಇಂತಹ ..... ಹುಟ್ಟಿ ಬೆಳೆದ ನಾವು ಧನ್ಯರಲ್ಲವೇ?

(ನದಿಗಳಿವೆ, ನಮ್ಮ ವೈವಿಧ್ಯಮಯ, ರಾಣಿಯರೂ, ಇದೆ, ನನ್ನದ ಭಾಷೆ, ತೀರಪ್ರದೇಶವಿದೆ,)

ರಾಷ್ಟ್ರಕೂಟೆ, ಗಣಿಗಳು, ಮಲೆನಾಡಿನ, ಧುಮುಕುವ, ರಾಜ್ಯ ನಾಡಿನಲ್ಲಿ ತೋಟಗಳಿವೆ, ಬಹಳ, ಕಾಡುಗಳಿವೆ, ಪ್ರದೇಶಗಳಿವೆ)

/nammaɖu karna:ʈaka ra:dʒya./ /namma.....kannaɖa/ /na:vu kannaɖigaru./ /karna:ʈaka sobagina na:ɖu./ / i lḷidʒa bhu:prade:ʃa ...../ / i lḷi ɖaʈʈava:ɖa ……../ / viʃa: ḷava:gi haraɖiruva badʒa ḷu bhu:miyaa ..... kaɖaḷa ʈeregaḷu, bho:rgareɖu appaḷisuva ..... sundarava:ɖa beʈʈaguɖɖagalive, banagaḷive, p^{h}a ḷab^{h}ariʈa.....gaɖɖegaḷive./ /praʃa:nʈava:gi dʒuḷu dʒuḷu harijuva d^{h}ummikkuva

hoɭe-teregaɭive./ nu:ra:ru adi̯gaɭinda.....dʒalapa:tagaɭu ive./ / illi tʃinnaɖa.....ide.//ganɖ^{h}aɖa ka: duga ɭive. Iɖu..... naadu. ganɖ^{h}a ɖa bi:du./ /hinɖe..... ra:dʒyavannu prasid^{h}dhara:da gaŋgaru, kadambaru,..... tʃa:lukjaru, hojsaɭaru a:ɭiɖɖa:re./ /ra:dʒarugaɭanṯe..... saha ra:dʒy:a ɖaɭiṯa nadesiɖɖa:re. / /Inṯaha ..... huṯṯibeɭeɖa na:vu d^{h}anjarallave:?/

(naɖigaɭive, namma, vaiviɖ^{h}jamaja, ra: ɳiyaru:, ide, tʃinaɖa, bha ʃe, ti:rapraɖe: ʃhaviɖe,

/ra:ʃ^{h} ṭraku: ṭaru, gaɳigaɭu, malenad:ina, d^{h}umukuva, ra:dʒya, na:di̯nalli, to:ṭaga ɭive,bahaɭa, ka:duguɭive, prade: ʃagaɭive/).

2. ಕುರಿ ಕಾಯುವ ಹುಡುಗ

ಒಂದು ಊರಿನಲ್ಲಿ ಒಬ್ಬ ಕುರಿಕಾಯುವ ಹುಡುಗ ಇದ್ದನು. ಒಂದು ದಿನ ಕುರಿ ಕಾಯುವಾಗ ಅವನಿಗೆ ತಮಾಷೆ ಮಾಡಬೇಕೆನ್ನಿಸಿತು. 'ತೋಳ ಬಂತು ತೋಳ 'ಎಂದು ಕೂಗಿ ಕೊಂಡನು. ಅದನ್ನು ಕೇಳಿ ರೈತರು ಹೊಲಗಳಿಂದ ಓಡಿಬಂದರು. ಅವರೆಲ್ಲರೂ ದೊಣ್ಣೆಗಳನ್ನು ತಂದಿದ್ದರು. ಕುರಿಕಾಯುವ ಹುಡುಗನು ರೈತರನ್ನು ನೋಡಿ ನಕ್ಕನು. ರೈತರು ಸುಳ್ಳು ಹೇಳಿದ ಹುಡುಗನನ್ನು ಬಯ್ದು ಹೊರಟು ಹೋದರು. ಒಂದು ವಾರ ಕಳೆದ ಮೇಲೆ ಹುಡುಗನು ತೋಳ ಬಂತೆಂದು ಕೂಗಿ ಕೊಂಡನು. ಈ ಬಾರಿಯೂ ರೈತರು ಓಡಿ ಬಂದರು. ತೋಳ ಬಂದಿಲ್ಲದುದನ್ನು ತಿಳಿದು ಕೋಪಗೊಂಡು ಹೊರಟು ಹೋದರು.

ಸ್ವಲ್ಪ ದಿನಗಳು ಕಳೆದ ಮೇಲೆ ಅದೇ ಹುಡುಗನು 'ತೋಳ ಬಂತು ತೋಳ' ಎಂದು ಕೂಗಿಕೊಂಡನು. ಈ ಸಲ ಸಹಾಯಕ್ಕೆ ಯಾರೂ ಬರಲಿಲ್ಲ. ತೋಳ ಯಾವ ಹೆದರಿಕೆ ಇಲ್ಲದೆ ಕುರಿಗಳನ್ನು ತಿಂದು ಹಾಕಿತು. ಹುಡುಗನಿಗೆ ತಾನು ಮಾಡಿದ ತಪ್ಪು ತಿಳಿಯಿತು.

/onɖu u:rinalli obba kuri kaːjuva huɖuga iɖɖanu/ /onɖu ɖina kuri kaːjuvaːga avanige ʈamaːʃe maːɖabe:kennisiʈu./ / ʈo:la banʈu ʈo:la' enɖu ku:gikonɖanu./ /aɖannu ke:li raiʈaru holagaliɳɖa oːɖibanɖaru./ /avarellaru: ɖoɳ ɳegalannu ʈanɖiɖɖaru./ /kuri kaːjuva huɖuganu raiʈarannu noːɖi nakkanu./ / raiʈaru sulɭu he:liɖa huɖuganannu baiɖu horaʈu hoːɖaru. onɖu vaːra kaleɖa me:le huɖuganu ʈo:la banʈenɖu ku:gikonɖanu./ / i: baːriju: raiʈaru oːɖi banɖaru/ / ʈo:la banɖillavenɖu ʈiliɖu ko:pagonɖu horatu hoːɖaru. //svalpa ɖinagalu kaleɖa me:le aɖe: huɖuganu " ʈo:la banʈu ʈo:la", enɖu ku:gikonɖanu/ / i: sala sahaːjakke jaːru: baralilla/ / ʈo:la jaːva heɖarikeyu : illaɖe kurigalannu ʈinɖu ha :kiʈu. huɖuganige ʈaːnu maːɖiɖa ʈappu ʈilijiʈu./

Questions

1. ''ತೋಳ ಬಂತು ತೋಳ'' ಎಂದು ಹುಡುಗನು ಮೊದಲನೆಯ ಸಲ ಕೂಗಿದಾಗ ರೈತರು ಏನು ಮಾಡಿದರು?

   /"ʈo:la banʈu to :la" enɖu hu ɖuganu moɖalaneja sala ku :giɖa:ga raiʈaru e :nu maːɖiɖaru?/

2. ರೈತರು ದೊಣ್ಣೆಗಳನ್ನು ಏಕೆ ತಂದಿದ್ದರು?

   /raiʈaru ɖoɳɳegalannu e:ke ʈanɖiɖɖaru?/

3. ರೈತರಿಗೆ ಹುಡುಗನ ಮೇಲೆ ಏಕೆ ಕೋಪ ಬಂತು?

   /raiṯarige huḍugana me:le e:ke ko:pa banṯu?/

4. ತೋಳ ಬಂತು ತೋಳ ಎಂದು ಹುಡುಗನು ಮೂರನೆಯ ಸಲ ಕೂಗಿ ಕೊಂಡಾಗ ರೈತರು ಏಕೆ ಬರಲಿಲ್ಲ?

   /ṯo:ɭa banṯu ṯo :ɭa" enḏu hu ḍuganu mu :raneja sala ku :giḏa:ga raiṯaru e :ke baralilla?/

5. ತೋಳ ಏನು ಮಾಡಿತು?

   /ṯo:ɭa e:nu maaḍiṯu?/

6. ಹುಡುಗ ಮಾಡಿದ ತಪ್ಪು ಏನು?

   /huḍuga ma:ḍiḏa ṯappu e:nu?/

Level 3

1. ಬಿದಿರು

ಬಿದಿರು ಬೆಳೆಯುವ ದೇಶಗಳಲ್ಲಿ ಆದಿಕಾಲದಿಂದಲೂ ..... ಬಿದಿರಿನೊಂದಿಗೆ ನಂಟುಕೊಂಡು ಬಂದಿದೆ. ಮಗು ..... ಫಳಿಗೆಯಿಂದ ಅದು ಮನುಷ್ಯನಾಗಿ ಬೆಳೆದು ..... ಜೀವಿಸಿ, ಆಳಿದ ಫಳಿಗೆಯಲ್ಲಿ ಕೂಡ ಬಿದಿರಿನ ..... ಸತತವಾಗಿ ಒದಗಿ ಬರುತ್ತದೆ. ಮನೆ ಕಟ್ಟುವುದರಿಂದ ..... ಮೊರ ಪೊರಕೆಗಳವರೆಗೂ ಬಿದರಿನ ಬಳಕೆ ..... ನಿತ್ಯ ಜೀವನದ ಪಾತ್ರೆ ವಸ್ತುಗಳು ..... ಅಡುಗೆ ಸಲಕರಣೆಗಳು, ಬುಟ್ಟಿ, ಪೆಟ್ಟಿಗೆಗಳು, ... ಅಣಿಗೊಳ್ಳುವುವು.

ಈಟಿ, ಭರ್ಜಿ, ಬಿಲ್ಲು ..... ಬತ್ತಳಿಕೆಗಳಿಗೆ, ಬಿದಿರಿನ ನೆರವು ಅನಿವಾರ್ಯ ..... ಕಾಗದ

ನೈಲಾನು, ಮೊದಲಾದ ಸೆಲ್ಯುಲೋಸ್ ..... ಬಿದಿರು ಆಧಾರ ಸ್ಥ0ಭ, ಜಪಾನ್ ಬಿದಿರನ್ನು ತಮ್ಮ ಹಲವಾರು ಉಪಯೋಗಗಳಿಗೆ ..... ರೀತಿಯಲ್ಲಿ ಒಗ್ಗಿಸಿಕೊ0ಡಿದ್ದಾರೆ. ನಮ್ಮ ದೇಶದಲ್ಲಿ ..... ಕೆತ್ತನೆಗೆ ಪೂರ್ವಕಾಲದಲ್ಲಿ ಬಿದಿರು ಹಲಗೆಗಳು ..... ಬಿದಿರಿನಲ್ಲಿ ಅನೇಕ ವಿಧಗಳಿವೆ. ಒಂದೊಂದರಲ್ಲೂ ..... ಒಳ ಜಾತಿಗಳಿವೆ. ಕಾ0ಡ ಬಹಳ ..... ಬೆಳೆಯುತ್ತಿರುತ್ತದೆ. ಈ ಬೆಳವಣಿಗೆಯ ವೇಗ ..... ಕೆಲವು ಜಾತಿಯವು ದಿನಕ್ಕೆ ಮೂರಡಿಯಂತೆಯೂ ..... ಅನ0ತರ ಇವು ರೆ0ಬೆಗಳಾಗಿ ಮಾರ್ಪಾಡು .....

(ನೆರವು, ಕೈಗಾರಿಕೆಗಳಿಗೆ, ಹೊ0ದುತ್ತದೆ, ಬಿದಿರಿನಿ0ದ, ಬೆಳೆಯುತ್ತವೆ, ಅಸ0ಖ್ಯಾತ, ಬಾಣ, ಆನಜೀವನ, ತೀವ್ರವಾದದ್ದು, ಶಾಸನಗಳು, ಹುಟ್ಟಿದ, ವಿಜ್ಞಾನಯುಗದಲ್ಲಿ, ಉಪಯೋಗದಲ್ಲಿದ್ದವು ಅನೇಕ, ಪ್ರಖ್ಯಾತವಾದದ್ದು, ಮೊದಲುಗೊ0ಡು, ಎತ್ತೆತ್ತರವಾಗಿ, ಶತ ವರ್ಷಕಾಲ, ಪೀಠೋಪಕರಣಗಳು, ದೇಶದಲಿ).

/biɖiru beɭejuva ɖe:ʃagaɭalli ɑ:ɖikɑ:laɖinɖaɭu:..... biɖirinonɖige nanʈugonɖu banɖiɖe/ /magu ..... gʰaɭigejinɖa ɑ:du manuʃʰjanɑ:gi beɭeɖu.....dʒi:visi, aɭida gaɭigejalli ku:ɖa biɖirina ..... saʈaʈavɑ:gi oɖagi baruʈʈade.// mane kaʈʈuvuɖarinɖa …….mora porakegaɭavaregu: biɖirina baɭake.....niʈja dʒi:vanaɖa pɑ:ʈre vasʈugaɭu.....aɖuge salakaraɳegaɭu. buʈʈi-peʈʈigegaɭu.....aɳigoʎʎuvuvu/ /i:ʈi, bʰardʒi, billu..... baʈʈaɭikegaɭige, biɖirina neravu anivɑ:rja.....kɑ:gaɖa nailɑ:nu, moɖaɭɑ:ɖa selljuɭo:s.....biɖiru ɑ:dʰɑ:ra stʰambʰɑ. dʒapɑ:n.....

biɖirannu ʈamma halavaːru upayoːgagaḷige..... riːʈijalli oggisikonḍiɖɖaːare/

/namma ɖeːʃaɖalli..... keʈʈanege puːrvakaːlaɖalli biɖiru halagegaḷu.....biɖirinalli aneːka viɖʰagaḷive./ /onɖonɖarallu: ..... oḷadʒaːtigaḷive./ /kaːnḍa bahaḷa ……. beḷejuʈʈiruʈʈaɖe/ /iː beḷavaṇigeja veːga...../ /kelavu dʒaːʈijavu ɖinakke muːraḍiyan ʈejuː ..... ananʈara ivu rembegaḷaːgi maːrpaːḍu.....

(/neravu/, /kaigaːrikegaḷige/, /honɖuʈʈave, biɖirininɖa/, /beḷejuʈʈave/, /asankʰjaːʈa/, /baːɳa/, /dʒanadʒiːvana/, /tiːvravaːɖaːɖɖu/, /ʃaːsanagaḷe/, /huʈʈiɖa/, /vignjaːnajugaɖalli/, /upajoːga ɖalliɖɖavu/, aneːka, prakʰyaːtavaːɖaɖɖu, moɖalugonɖu, eʈʈeʈʈeravaːgi, ʃaʈa varʃakaːla, piː ʈʰoːpakara ɳagaḷu, ɖeː ʃaɖalli)

2. ಕಳ್ಳ ಮತ್ತು ಅವನ ತಾಯಿ

ಒoದಾನೊoದು ಕಾಲದಲ್ಲಿ ಒoದೂರಿನಲ್ಲಿ ಒಬ್ಬನು ಹೆoಗಸಿದ್ದಳು. ಅವಳಿಗೊಬ್ಬ ಮಗನಿದ್ದನು. ಅವನು ಒoದು ದಿನ ಶಾಲೆಯಿoದ ಪುಸ್ತಕವೊoದನ್ನು ಕದ್ದು ತoದನು. ತಾಯಿ ಅವನನ್ನು ಬಯ್ಯುವ ಬದಲು

''ಒಳ್ಳೆಯ ಕೆಲಸ ಮಾಡಿದೆ ಮಗನೇ'' ಎoದು ಹೊಗಳಿದಳು. ಇದರಿಂದ ಆ ಹುಡುಗನಿಗೆ ಕಳ್ಳತನ ಮಾಡುವುದೇ ಒಳ್ಳೆಯದೇನೋ ಎನ್ನಿಸಿತು. ಅoದಿನಿoದ ಅವನು ಸಣ್ಣಪುಟ್ಟ ಕಳ್ಳತನಗಳನ್ನು ಮಾಡತೊಡಗಿದನು ಹುಡುಗ ದೊಡ್ಡವನಾದನು. ಆಮೇಲೆ ಅವನು ದೊಡ್ಡ ಕಳ್ಳತನಗಳನ್ನು ಮಾಡಲು ಆರoಭಿಸಿದನು. ಆದರೆ ಅವನು ಒoದು ದಿನ ರಾಜಭಟ್ಟರ ಕೈಗೆ ಸಿಕ್ಕಿಬಿದ್ದನು. ಅವನನ್ನು ವಿಚಾರಣೆ ಮಾಡಿದ ಅರಸ ಈ ಕಳ್ಳನನ್ನು ಗಲ್ಲಿಗೆ ಹಾಕಿ ! ಎoದು ಆಜ್ಞಾಪಿಸಿದನು. ಗಲ್ಲಿಗೆ ಹಾಕಲು ಕಳ್ಳನನ್ನು ರಾಜಬೀದಿಯಲ್ಲಿ ಕರೆದುಕೊoಡು ಹೋಗುತ್ತಿದ್ದಾಗ, ಅವನನ್ನು ನೋಡಲು

ಊರ ಜನರೆಲ್ಲರೂ ಸೇರಿದರು. ಎಲ್ಲರೂ ಅವನನ್ನು ಅಪಹಾಸ್ಯ ಮಾಡಿ ನಕ್ಕರು. ಗಲ್ಲಿಗೆ ಹಾಕುವ ಮುನ್ನ ರಾಜಭಟ್ಟರು, 'ನಿನ್ನ ಕೊನೆಯ ಆಸೆಯೇನು? ಎ0ದು ಕೇಳಿದರು.

'ನನ್ನ ತಾಯಿ ಹತ್ತಿರ ಮಾತನಾಡಬೇಕು' ಎ0ದ ಕಳ್ಳ, ಅವನ ತಾಯಿ ಹತ್ತಿರ ಬ0ದಳು. ಕಳ್ಳ ಅವಳನ್ನು ಬಿಗಿದಪ್ಪಿ ಅವಳ ಕಿವಿಯ ಬಳಿ ಏನೋ ಗುಟ್ಟು ಹೇಳುವವನ0ತೆ ನಟಿಸುತ್ತಾ ಅವಳ ಕಿವಿಯನ್ನು ಹಲ್ಲಿನಿ0ದ ಕಡಿದು ಹಾಕಿದನು. ಮುದುಕಿ 'ಅಯ್ಯೋ ! 'ಅಯ್ಯೋ ! ಎ0ದು ಚೀರಿದಳು. 'ಕಳ್ಳತನ ಮಾಡಿದ್ದು ಸಾಲದೂ0ತ ನಿನ್ನ ತಾಯಿಯ ಕಿವಿಯನ್ನೇ ಕಡಿದುಬಿಟ್ಟೆಯಲ್ಲಾ ನೀನೆ0ಥ ದುಷ್ಟ ! ಎ0ದು ಹೀಯಾಳಿಸಿದರು ಭಟ್ಟರು ''ನಾನು ದುಷ್ಟ ನಿಜ, ಆದರೆ ನಾನು ಹೀಗೆ ಆಗಲು ನನ್ನ ತಾಯಿಯೇ ಕಾರಣ, ನಾನು ಚಿಕ್ಕ0ದಿನಲ್ಲಿ

ಕಳ್ಳತನ ಮಾಡಿದಾಗ ನನ್ನನ್ನು ಬಯ್ಯದೆ ಹೊಗಳಿದಳು, ಆದುದರಿ0ದಲೇ ನಾನು ಕಳ್ಳನಾದೆ. ಈಗ ಹೀಗೆ ಸಾಯುವ ಹಾಗಾಯಿತು. ಇಲ್ಲದಿದ್ದರೆ ನಾನೂ ನಿಮ್ಮ ಹಾಗೆ ಒಳ್ಳೆಯವನಾಗಿ ಬದುಕುತ್ತಿದ್ದೆ ಎ0ದು ಹೇಳಿದನು.

/ondaːnondu kaːladalli onduːrinalli obbaḷu hengasiddaḷu. avaḷigobba maganiddanu.// avanu

ondu dina shaːḷejinda pustakavondannu kaddu tandanu/ / taːji avanannu baijuva badalu

"oḷḷeja kelasa maːḍide maganee" endu hogaḷidaḷu/ / idarinda aː huduganige kaḷḷatana

maːḍuvude: oḷḷejade:no: ennisitu/ / andininda avanu saṇṇa puṭṭa kaḷḷatanagaḷannu

maːḍatoḍagidanu/ huduga doddavanaːdanu/ / aːmeːle avanu doḍḍa kaḷḷatanagaḷannu maːḍalu

aːrambhisidanu/ /aːdare avanu ondu dina raːdʒabhaṭṭara kaige sikkibiddanu/ /avanannu vitʃaːra ṇe maːḍidaːrasa, "iː kaḷḷanannu gallige haːki" endu aːgnjaːpisidanu/ /gallige haːkalukaḷḷanannu raːdʒabiːdijalli karedukondu hoːguṭṭiddaːga, avanannu noːḍaḷu uːra

dʒanarelḷaru: se:riḍaru. ellaru: avanannu apaha:sja ma:ḍi nakkaru/ / gallige ha:kuva munna ra:dʒabhaṭṭaru, "ninna koneja ɑ:seje:nu?" enḍu ke:ḷiḍaru/ "nanna ṭa:jija haṭṭira ma:ṭana: ḍabe:ku' enḍa kaḷḷa/ / avana ṭa:ji haṭṭira banḍaḷu/ / kalla avaḷannu bigiḍappi avaḷa kiviya baḷi e:no: guṭṭu he:ḷuvanṭe naṭisuṭṭa avaḷa kivijannu haḷḷininda kaḍiḍu ha:kiḍanu. muḍuki, "ayyoo! ayyoo!" enḍu tʃi:riḍaḷu. 'kaḷḷatana ma:ḍiḍḍu sa:ḷaḍu:nṭa ninna ta:jija kiviyanne: kaḍiḍubiṭṭijalla:, ni:nentha: duʃhṭa!' enḍu hi:ya:ḷisiḍaru bhaṭṭaru/ "na:nu ḍuʃʰṭa nidʒa, ɑ:ḍare na:nu hi:ge ɑ:gaḷu nanna ṭa:yiye: ka:raɳa/ /na:nu tʃikkan ḍinalli kaḷḷaṭana ma:ḍiḍa:ga nannannu baiyyaḍe hogaḷiḍaḷu. ɑ:ḍuḍarinḍaḷe:, na:nu kaḷḷana:ḍe. i:ga hi:ge sa:juva ha:ga:jiṭu/ / illaḍiḍḍare na:nu nimma ha:ge oḷḷeyavana:gi baḍukuṭṭiḍḍe" enḍu he: liḍanu /

Questions

1. ಹುಡುಗನು ‘‘ಕಳ್ಳತನ ಮಾಡುವುದೇ ಸರಿ’’ ಎoದು ಏಕೆ ತಿಳಿದುಕೊoಡನು?

   /huḍuganu "kaḷḷaṭana ma:ḍuvuḍe: sari" enḍu e:ke ṭiḷidukonḍanu ?/

2. ಕಳ್ಳನ ತಾಯಿ ಮಾಡಿದ ತಪ್ಪೇನು?

   /kaḷḷana ṭa:ji ma:ḍiḍa ṭappe:nu ?/

3. ಕಳ್ಳನು ತಾಯಿಯ ಕವಿಯನ್ನು ಏಕೆ ಕಡಿದು ಹಾಕಿದನು?

   / kaḷḷanu ta:jija kivijannu e:ke kaḍiḍu ha:kiḍanu ?/

4. ಕಳ್ಳನಿಗೆ ದು:ಖವಾಗಲು ಕಾರಣವೇನು?

   /kaḷḷanige ḍuhkʰava:galu ka:raɳave:nu?/

5. ಕಳ್ಳನಿಗೆ ಹೇಗೆ ಬಾಳಬೇಕೆoದು ಆಸೆಯಿತ್ತು?

   / kaḷḷanige he:ge ba:ḷabe:kenḍu ɑ:seyiṭṭu ?/

6. ಕಳ್ಳನನ್ನು ಕ್ಷಮಿಸಿ ಬಿಡುಗಡೆ ಮಾಡಿದರೆ ಹೇಗೆ ಬಾಳುತ್ತಿದ್ದನು?

/ kaɭɭanannu kʃamisi biɖugaɖe maːɖiɖɖare heːge baːɭuttiɖɖa ?/

NAMING (N)

This section is divided into three parts:

A. Confrontation naming

   i. Objects naming

   ii. Picture naming

B. Responsive naming

C. Lexical generative naming

   i. Category specific

   ii. Word fluency

   iii. Phoneme fluency

Cueing hierarchy and scoring

Named without any cues-5

Named with phonemic cues-4

Named with orthographic cues-3

Rhyme cues-2

Semantic cue-1

No response with all the cues- 0

Progress criteria: 75% of the total score

Repair strategies: Appropriate strategies can be selectedas mentioned previously). These should be used to strengthen the responses.

Pictures: Refer vocabulary subsection of comprehension and expression domain.Booklet 2 and 5 to be used by the clinican for this domain.

Stimulus hierarchy

- Combination of visual and auditory (V+A)
- Auditory mode only (A)

Response hierarchy

- Verbal only (V)

A. Confrontation naming

i. Object naming

N- Show the objevts one by one to the client and ask “what is this”? Or “can u name this”? Initially provide as many cues as possible.

ii. Picture naming

Task: Show the picture to the person with aphasia one by one and ask “what is this?’’ or “can you name this’’. Initially provide maximum cues.

Stimuli: Refer to vocabulary sub section under semantic level of auditory comprehension domain.

B. Responsive naming

Task: Ask the person with aphasia to respond to the question asked by the clinician.

Stimuli: Refer to identification of objects described by function, which is a subsection under syntax level of auditory comprehension domain.

C. Lexical generative naming

This is again divided into two subgroups

a) Word fluency

b) Phoneme fluency

Note: The activities given in each subpart are with an example. Similar activities can be carried out using other categories also.

a) Word fluency

Level 1: a**)** Name all the animals you know.

b) Name all the fruits you know.

Level 2: a) Name all the animals you know in a minute.

b) Name all the fruits you know in a minute.

Level 3: a) Name all the domestic animals you know.

b) Name all the wild animals you know.

Level 4: a) Name all the domestic animals you know in a minute.

b) Name all the wild animals you know in a minute.

Level 5: Name all the words related to the word e.g., cycle/scooter

Expected response (wheels, handle, seat, horn etc).

Level 6: Name all the words related to the word e.g., cycle/scooter within a minute.

Level 7: a) Name all the items you see in a room.

b) Name all the items you see in a market.

c) Name all the items you see in a kitchen.

d) Name all the items you see in a stationery shop.

Level 8: a) Name all the items you see in a room within a minute.

b) Name all the items you see in a market within a minute.

c) Name all the items you see in a kitchen within a minute.

d) Name all the items you see in a stationery shop within a minute.

b) Phoneme fluency

Level 1: Name all the words from /g/

Level 2: Name all the words from /g/ in a minute.

Level 3: a) Name all the vegetables from /m/

b) Name all the animals from /m/

c) Name all the vegetables from /b/ and animals from /m/ in a minute.

Level 4: a) Name all the colours from /k/ in a minute.

b) Name all the body parts from /k/ in a minute.

c) Name all the colours and body parts from /k/ in a minute.

Level 5: a) Name two body parts two vegetables and two animals from /h/ in a minute.

b) Name two fruits from /m/ two vegetables from /s/ and two colours from /k/ in a minute.

c) Name two vegetables from /b/ and five body parts from/k/ in a minute.

[3]READING AND WRITING (R&W)

This domain is subdivided into four sub-sections as listed below:

A. Functional reading and writing

B. Advanced reading

C. Advanced writing

D. Arithmetic skill

Reading

Stimulus hierarchy

- Combination of visual, auditory and graphic (V+A+G)
- Auditory and graphic (A+G)
- Graphic mode only (G)

Response hierarchy

- Combination of pointing and verbal (P+V)
- Verbal only (V)

Writing

Stimulus hierarchy

- Combination of visual, auditory and graphic (V+A+G)
- Combination of graphic and auditory (G+A)
- Auditory mode only (A)

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[3] *Applicable for literates*

Response hierarchy

- Graphic mode only (G)

Scoring

- 0 = No response/ incorrect response/ unintelligible response
- 1/2= Partially correct and intelligible response
- 1 = Fully correct and intelligible response

Progress criteria: 75% of the total score

Repair strategies: Appropriate strategies can be selected (as mentioned previously). These should be used to strengthen the responses.

No Pictures are provided for this domain. However, the clinician is free to use any appropriate picture from this manual.

A. Functional reading and writing (Adapted from MANAT-H)

Reading

1. Recognizing ones own name on the rehabilitation card

Level 1: Write each alphabet of aphasic person's name in bold on separate cards. Present each card one by one till the aphasic person is familiar with each alphabet.

Level 2: Present the entire alphabets written together.

Level 3: Write out the whole name on the same card in a big size.

2. Reading the appointment time

Level 1: Write out numbers from 1 to 10 in bold on separate cards. Present each card one by one.

Level 2: Write the appointment time in numbers on separate cards.

Level 3: Present on one card, complete time written in bold.

3. Reading signs on office boards

Carry out the activities steps in activity 1, now with doctor's name, etc.

4. Reading newspaper headlines

Level 1: Write all the alphabets on separate cards and present them one by one.

Level 2: Join alphabets to make simple words and present them on separate cards.

Level 3: Present 2-3 of the above cards to make sentences of the order subject-object-verb (SOV).

Writing

1. Writing one's own name (copywriting)

Level 1: Write out the alphabets of the aphasic person's name on separate cards with arrows marked in the direction of strokes. Ask the person with aphasia to make the strokes in the direction of the arrows by overwriting on the alphabet written on the card.

Level 2: Ask the person with aphasia to copy the same alphabet on a separate card following the arrows.

Level 3: Join the alphabet of the aphasic person's name and write them together on the **same card for him to overwrite.**

Level 4: Ask the person with aphasia to write out his name on another card.

2. Writing one's name spontaneously

Present the card with the aphasic person's name written on it once and withdraw. Ask the person with aphasia to write his/her name.

3. Copying other words

Level 1: As in activity (1), write the common alphabets on separate cards with arrows marked for the aphasic person to overwrite.

Level 2: Ask the person with aphasia to copy alphabets on separate cards following arrows.

Level 3: Join them to form two letter words, marked with arrows for the aphasic person to overwrite.

Level 4: Ask the person with aphasia to copy the word on a separate card.

4. Writing words from dictation.

Level 1: Present the cue card along with the verbal stimulus.

Level 2: Withdraw cue card and request the aphasic person to write the word through verbal presentation alone.

B. Advanced reading

1. Recognition of all the alphabets at word level

This sub-section is divided into three sections namely,

Level 1: Words containing bisyllables

Level 2: Words containing trisyllables

Level 3: Words containing polysyllables

Task: Ask the person with aphasia to fill in the missing alphabet in the given word from a choice of three alphabets given in the bracket. Also, follow the stimulus and response hierarchy.

Level 1

1. ಮರ - ಮ _____ (ರ, ಪ, ಬ))

   /mɑrɑ/ ma_____ (/rɑ/, /pɑ/, /bɑ/)

2. ಇಲಿ - ಇ _____ (ಅ, ಇ, ಲಿ)

   /ili/ - i_____ (/ɑ/, /i/, / ɭi/)

3. ಊಟ - _____ ಟ (ಎ, ಊ, ಒ)

   /u: ʈɑ/ - _____ʈɑ (/e/, /u:/, /o/)

4. ಎಲೆ - _____ (ಈ, ಔ, ಎ)

   /ele/ - _____ le (/i:/, /ɑu/, /e/)

5. ಮೇಜು – ಮೇ_____ (ಯ, ಜು, ಜೈ)

   /me: dʒu/ -me:_____ (/dʒɑ/, /dʒu/, /dʒɑi/)

6. ತಟ್ಟೆ – ತ_____ (ಪ್ಪ, ಅ, ಟ್ಟೆ)

/ʈaʈʈe/ ʈa_____ (/ppɑ/, /ɑ/, /ʈʈe/)

7. ನಾಯಿ – _____ ಯಿ (ಈ, ಆ, ನಾ)

/nɑːji/ _____dʒi (/iː/, /ɑː/, /nɑː/)

8. ಹಲ್ಲು – _____ ಲ್ಲು (ಆ, ಲೂ, ಹ)

/hɑɭɭu/ _____ ɭɭu (/ɑː/, / ɭuː/, /hɑ/)

9. ಕಾಲು – ಕಾ _____ (ಕು, ಮ, ಲು)

/kɑː luː/- kɑ_____ (/ku/, /mɑ/, / ɭu/)

10. ಫ್ಯಾನು – ಫ್ಯಾ _____(ನು, ಗ, ಚ)

/fɑːnu/ - fyɑː_____ (/nu/, /gɑ/, /tʃɑ/)

Level 2

1. ಅರಸ – ಅರ _____ (ಮ, ಪ, ಸ)

/arasɑ/ - ara _____ (/mɑ/, /pɑ/, /sɑ/)

2. ಅಳಿಲು –ಅ _____ಲು (ಇ, ಳಿ, ಲೆ)

/aɭi ɭu/ - a_____ ɭu (/i/, /ɭi/, / ɭe/)

3. ಆಗಸ – _____ ಗಸ (ಉ, ನ, ಅ)

/agasɑ/ - _____gasɑ (/u/, /nɑ/, /ɑː/)

4. ಔಷಧ – ಔ____ಧ (ಸ, ಷ, ಮ)

/auʃʰadʰɑ/ - au _____dʰɑ (/sɑ/, /ʃʰɑ/, /mɑ/)

5. ಕಿಟಕಿ – ಕಿಟ_____ (ಕಿ, ಲ, ವ)

/kiɭɑki/- kiɭɑ_____ (/ki/, / ɭɑ/, /vɑ/)

6. ಚಮಚ – _____ ಮಚ (ಪ, ಚ, ಶ)

/tʃamatʃɑ/ - _____matʃɑ (/pɑ/, /tʃɑ/, /ʃɑ/)

7. ಬಾಗಿಲು – ಬಾಗಿ _____ (ಅ, ಗ, ಲು)

/baːgi ɭu/ - baːgi_____ (/ɑ/, /gɑ/, / ɭu/)

8. ಕ್ಯಾರೆಟ್ – ಕ್ಯಾ_____ ಟ್ (ರೆ, ಮ, ನ)

/kaːret/- kdʒaː_____t (/re/, /mɑ/, /nɑ/)

9. ಹಾಸಿಗೆ – _____ಸಿಗೆ (ನಿ, ಹಾ, ಪ)

/haːsige/ - _____sige (/ni/, /haː/, /pɑ/)

10. ಕನ್ನಡಿ – ಕನ್ನ_____ (ಖ, ಹ, ಡಿ)

/kannɑɖi/ - kannɑ_____ (/kʰɑ/, /hɑ/, /ɖi/)

Level 3

1. ಗಡಿಯಾರ – ಗಡಿ___ ರ (ಯಾ, ಲ, ಶ)

/gɑɖidʒaːrɑ/ - gɑɖi_____rɑ (/dʒaː/, / ɭɑ/, /ʃɑ/)

2. ಈಳಿಗೆ ಮಣೆ – ಈಳಿ___ ಮಣೆ (ಅ, ಗೆ, ನ)

/iː ɭige mɑɳe/ - iː ɭi_____ mɑɳe (/ɑ/, /ge/, /nɑ/)

3. ಬಾಳೆ ಹಣ್ಣು – ಬಾ ____ ಹಣ್ಣು (ಲ, ಸ, ಳೆ)

/baː ɭehaɳɳu/ - baː_____haɳɳu (/ ɭɑ/, /sɑ/, /ɭe/)

4. ಉಪ್ಪಿನ ಕಾಯಿ – ______ಪ್ಪಿನ ಕಾಯಿ (ಇ, ಉ, ಷ)

/uppinɑ kɑːdʒi/ - _____ppinɑ kɑːdʒi (/i/, /u/, /ʃʰɑ/)

5. ತರಕಾರಿ – ತರ___ರಿ (ಕಾ, ಚ, ಗ)

/ʈɑrɑkɑːri/ - /ʈɑrɑ_____ri/ (/kɑː/, /tʃɑ/, /gɑ/)

6. ಕಿತ್ತಳೆ ಹಣ್ಣು – ಕಿ___ ಳೆ ____ ಣ್ಣು (ಹ, ತ್ತ, ಜ)

/ki ʈ ʈɑ ɭe hɑ ɳ ɳu/ - ki_____ ɭe_____ ɳ ɳu (/hɑ/, /ʈɑ/, / dʒɑ/)

7. ಕ್ಯಾಲೆಂಡರ್ – ಕ್ಯಾಲೆಂ____ರ್ (ದ, ನ, ಡ)

/kjɑː ɭen ɖɑr/ - kdʒɑː ɭen _____r (/ɖɑ/, /nɑ/, / ɖɑ/)

8. ಟೆಲಿಫೋನ್ – ಟೆ ___ಫೋನ್ (ಪ, ಲಿ, ನಿ)

/ ʈe ɭifoːn/ - ʈe_____foːn (/pɑ/, / ɭi/, /ni/)

9. ದೂರದರ್ಶನ – ದೂ___ ದರ್ಶ__ (ರ, ಸ, ನ)

/ɖuːrɑ ɖɑr ʃɑnɑ/ - ɖuː_____ ɖɑr ʃ_____ (/rɑ/, /ʃɑ/, /nɑ/)

10. ರೇಡಿಯೊ – ರೇ___ಯೊ (ಡಿ, ಇ, ರ)

/reː ɖidʒo/ - reː_____dʒo (/ɖi/, /i/, /rɑ/)

2. Reading names of all the lexical categories

Task: Refer to vocabulary sub-section under semantic level of auditory comprehension domain. Also, follow the stimulus and response hierarchy.

3. Reading at the level of phrases and sentences

Task: Refer to discourse level of auditory comprehension domain. Also, follow the stimulus and response hierarchy

Advanced writing

1. Writing all the alphabets at word level

This sub-section consists of two tasks. Graphic/orthographic cues may be provided for task 1.

Task 1

Level 1: Ask the person with aphasia to join the dots in order to complete the alphabet and identify the word given by the clinician.

Level 2: Ask the person with aphasia to complete the missing part in the given alphabet and identify the word given by the clinician.

Task 2: Ask the person with aphasia to write the word when its picture is shown. The clinician can select any picture given in this manual.

2. Spontaneous writing

Task: Ask the person with aphasia to perform the following activities:

- Write your full name
- Write your name in a complete sentence
- Write all names of your family members
- Write your home address and phone number

3. Copywriting

Task: Ask the person with aphasia to copy write words/sentences from reading and writing domain or any other domain of this manual. The hierarchy of copy writing should be from simple words to more complex words and sentences.

4. Writing from dictation

Task: Ask the person with aphasia to write the words/sentences dictated to him. The clinician can choose any words from reading and writing or any other domain in this manual. The hierarchy of dictation should be from simple words to more complex words and sentences.

C. Arithmetic skills

Level 1: Arithmetic problems- Theoretical context

1. Addition

Task: Ask the person with aphasia to add the given numbers and pick out the right answer from the choices given.

Level 1: Simple one-two digit addition problems

Stimuli

1. 1+1 = _____ (3,2,8)
2. 2+2 = _____ (4,6,9)
3. 2+3 = _____ (7,5,10)
4. 5+4 = _____ (9,11,13)
5. 10+5 = _____ (16,15,10)

6. 10+10 = _____ (30,20,40)

7. 11+8 = _____ (21,19,30)

8. 12+8 = _____ (20,13,12)

9. 14+4 = _____ (18,12,3)

10. 20+20 = _____ (40,50,60)

Level 2: Complex three digit and above addition problems

Stimuli

1. 50+50 = _____ (120,100,80)

2. 100+50 = _____ (150,120,60)

3. 110+3 = ____ (125,113,98)

4. 121+4 = _____ (136,150,125)

5. 135+3 = _____ (138,140,152)

6. 146=4 = _____ (160,150,140)

7. 152+9 = _____ (160,161,159)

8. 1000+28 = _____ (12800,1028,2100)

9. 2052+5 = _____ (2057,2000,1987)

10. 10,000+100 = _____ (10987,10100,9000)

2. Subtraction

Task: Ask the person with aphasia to subtract the given numbers and pick out the right answer from the choices given.

Level 1: simple one-two digit subtraction problems

Stimuli

1. 2-1 = _____ (1,2,5)
2. 3-2 = _____ (4,1,6)
3. 1-1 = _____ (1, 0, 2)
4. 5-4 = _____ (1,4,5)
5. 9-5 = _____ (5,4,0)
6. 10-5 = _____ (5,8,1)
7. 20-10 = _____ (21,10,3)
8. 15-5 = _____ (20,5,15)
9. 20-5 = _____ (15,5,10)
10. 50-20 = _____ (40,30,60)

Level 2: complex three digit and above subtraction problems

Stimuli

1. 75-50 = _____ (19,25,10)
2. 100-75 = _____ (25,18,34)
3. 150-50 = _____ (1,0,100)
4. 125-20 = _____ (9,105,5)
5. 162-150 = _____ (12,24,65)
6. 512-502 = _____ (5,8,10)

7. 1000-700 = _____ (200,300,600)

8. 2200-500 = _____ (1700,1900,2000)

9. 9000-900 = _____ (8000,8100,7000)

10. 10,000-4500 = _____ (5500,9000,4000)

3. Multiplication

Task: Ask the person with aphasia to multiply the given numbers and pick out the right answer from the choices given.

Level 1: Simple one-two digit multiplication problems

Stimuli

1. 2*2 = _____ (5,7,4)

2. 1*4 = _____ (4,1,2)

3. 5*2 = _____ (5,10,2)

4. 3*3 = _____ (9,3,6)

5. 6*3 = _____ (12,18,9)

6. 7*7 = _____ (60,49,50)

7. 8*5 = _____ (40,30,20)

8. 9*3 = _____ (27,37,55)

9. 10*5 = _____ (60,50,40)

10. 10*10 = _____ (100,30,60)

Level 2: Complex three digit and above multiplication problems

Stimuli

1. 11*2 = _____ (22,42,50)
2. 12*4 = _____ (65,48,90)
3. 13*4 = _____ (70,55,52)
4. 14*6 = _____ (84,56,43)
5. 15*2 = _____ (30,70,32)
6. 16*6 = _____ (60,96,6)
7. 17*2 = _____ (65,34,55)
8. 18*10 = _____ (180,190,18)
9. 20*40 = _____ (800,400,500)
10. 100*100 = _____ (10000, 10, 0)

4. Division

Task: Ask the person with aphasia to divide the given numbers and pick out the right answer from the choices given.

Level 1: Simple one-two digit division problems

Stimuli

1. 2/1 = _____ (5,2,4)
2. 4/2 = _____ (4,1,2)
3. 18/3 = _____ (5,10,6)

4. 24/8 = _____ (9,6,3)

5. 25/5 = _____ (12,5,9)

6. 36/6 = _____ (6,4,5)

7. 49/7 = _____ (4,7,2)

8. 80/10 = _____ (27,8,10)

9. 100/2 = _____ (60,50,40)

10. 100/4 = _____ (100,75,60)

Level 2: Complex three digit and above division problems

Stimuli

1. 136/2 = _____ (68,70,80)

2. 162/3 = _____ (54, 17, 20)

3. 188/2 = _____ (94, 100, 2)

4. 190/5 = _____ (90, 61, 38)

5. 220/2 = _____ (110,200,100)

6. 316/2 = _____ (158,600,800)

7. 660/6 = _____ (120,110,100)

8. 1200/100 = _____ (12,8,10)

9. 2250/5 = _____ (60,50,450)

10. 5000/50 = _____ (1000,75,60)

Level 2: Arithmetic problems-practical situation

Task: Ask the person with aphasia to identify the money cards shown. Then, carry out role play activities using different situations. The person with aphasia has to use money in these given situations appropriately.

Suggested situation setting

Setting: vegetable market

C: e:nu be:ku?

P: 1 kg i:ruḷḷi kodi.

C: 20 rupa:ji

P: (gives 100 rupee note)

C: (asks the person with aphasia, how much money he has to get back)

P: 80 rupa:ji kodi

Other situations in which such role play activities can be carried out are:

- Going to a restaurant and paying the bill
- Buying bus/train tickets
- Paying electricity/telephone/ hospital bill.

CHAPTER V

RESULTS

The present study aimed at field testing the Manual for Adult Non-Fluent Aphasia Therapy- in Kannada (MANAT-K). The Manual for Adult Non-Fluent Aphasia Therapy- in Kannada (MANAT-K) was given to 12 judges who were experienced speech language pathologists to rate the manual based on a feedback rating questionnaire (Appendix I).

The manual was field tested on 10 persons with non-fluent type of aphasia. The responses obtained from the participants were compiled. This raw data was converted to percentage scores for various activities of different sub-sections across the domains. Mean (M) and standard deviation (SD) were calculated for the same.

The data collected from 10 participants was subjected to quantitative analysis using SPSS (16.0 version) software. The following statistical analyses were used:

(i) ***Mean and Standard deviation*** was computed for the various domains in the pre, mid and post therapy sessions (i.e. 1^{st}, 7^{th} and 15^{th} session) for all the persons with non-fluent aphasia.

(ii) ***Friedman test***: It was done to analyze differences among pre, mid and post therapy session for each domain in all the ten participants. Further, this test was also used to compare the performance across the sessions for Broca's and trans-cortical motor aphasia.

(iii) ***Wilcoxon-signed rank test***: If any statistically significant difference among the sessions across the various domains was observed, the data was further subjected to Wilcoxon-signed rank test pair-wise analysis.

(iv) ***Mann-Whitney U test***: This test was carried out to see group differences among Broca's and trans-cortical motor aphasia groups, if any.

The findings of the present study based on the statistical analysis have been broadly presented under the following headings:

I. Quantitative analysis of performances by all persons with non-fluent aphasia (N=10) across various domains

II. Quantitative analysis of overall communication abilities in persons with non-fluent aphasia (N=10).

III. Qualitative analysis of the clinicians' and care-givers' responses about the overall effectiveness of the treatment manual.

I. Quantitative analysis of performances of all persons with non-fluent aphasia (N=10) across various domains

The mean scores were analyzed and the measures were subjected to quantitative statistical analysis. The following comparisons were made using non-parametric tests.

1. Comparison of performances of persons with non-fluent aphasia (N=10), Broca's aphasia (N=6), trans-cortical motor aphasia (N=3) and global aphasia (N=1) on functional communication (FC) domain for the pre, mid and post therapy sessions. (i.e. 1^{st}, 7^{th} and 15^{th} session).

2. Comparison of performances of persons with non-fluent aphasia (N=10), Broca's aphasia (N=6), trans-cortical motor aphasia (N=3) and global aphasia (N=1) on repetition (REP) domain for the pre, mid and post therapy sessions (i.e. 1st, 7th and 15th session).

3. Comparison of performances of persons with non-fluent aphasia (N=10), Broca's aphasia (N=6), trans-cortical motor aphasia (N=3) and global aphasia (N=1) on comprehension (COMP) domain for the pre, mid and post therapy sessions (i.e. 1st, 7th and 15th session).

4. Comparison of performances of persons with non-fluent aphasia (N=10), Broca's aphasia (N=6), trans-cortical motor aphasia (N=3) and global aphasia (N=1) on expression (EXP) domain for the pre, mid and post therapy sessions (i.e. 1st, 7th and 15th session).

5. Comparison of performances of persons with non-fluent aphasia (N=10), Broca's aphasia (N=6), trans-cortical motor aphasia (N=3) and global aphasia (N=1) on naming (NAM) domain for the pre, mid and post therapy sessions (i.e. 1st, 7th and 15th session).

6. Comparison of performances of persons with non-fluent aphasia (N=10), Broca's aphasia (N=6), trans-cortical motor aphasia (N=3) and global aphasia (N=1) on reading and writing (RW) domain for the pre, mid and post therapy sessions (i.e. 1st, 7th and 15th session).

7. Comparison of performances of persons with Broca's and trans-cortical motor aphasia on various domains for the pre, mid and post therapy sessions (i.e. 1st, 7th and 15th session).

1. **Comparison of performances of persons with non-fluent aphasia (N=10), Broca's aphasia (N=6), trans-cortical motor aphasia (N=3) and global aphasia (N=1) on functional communication (FC) domain for the pre, mid and post therapy sessions (i.e. 1st, 7th and 15th session)**

The overall total scores were summed up for all the activities of the sub-sections under functional communication domain. The mean (M) and standard deviation (SD) for pre, mid and post therapy sessions were calculated for ten persons with non-fluent aphasia. Table 4 and Figure 1 illustrate the mean and SD values for persons with non-fluent aphasia for functional communication domain.

Table 4. *Mean and SD values for persons with non-fluent aphasia for functional communication domain.*

	Functional communication		
	Pre therapy session	Mid therapy session	Post therapy session
Mean (N=10)	53.01	62.32	71.27
Std. Deviation	19.21	13.86	14.25

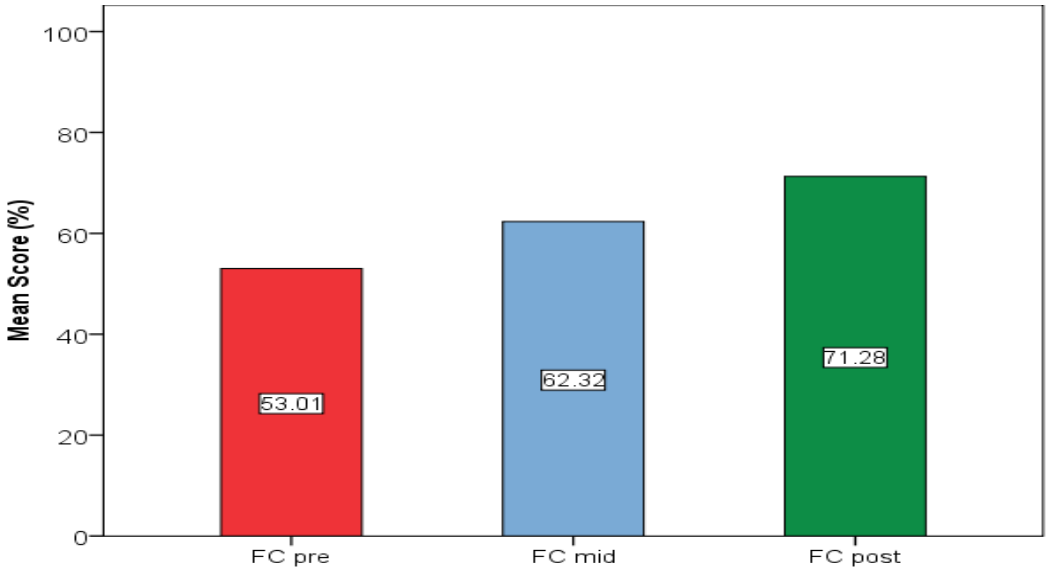

Fig. 1. Response of persons with non-fluent aphasia for functional communication (FC) domain across pre, mid and post therapy session.

Note: FC pre: Functional communication for pre therapy session, FC mid: Functional communication for mid therapy session, FC post: Functional communication for post therapy session

From Table 4, it can be seen that the ten participants scored an overall mean of 53.01 (SD =19.21), 62.32 (SD =13.86) and 71.27 (SD =14.25) in pre, mid and post therapy sessions respectively across the various sub-sections in functional communication domain.

Results showed that there was a difference in the performances in functional communication domain across the pre, mid and post therapy sessions as evident from the mean score values. As the mean score values differed across three sessions, the Friedman's test was carried out to identify any statistically significant difference in the pre, mid and post therapy sessions.

A significant difference was obtained in pre, mid and post therapy session {χ^2 (2) = 19.54, $p<0.01$}, the data was further subjected to Wilcoxon signed rank test. Results of this test indicated a significant difference between pre and mid ($|z|= 2.66$, $p<0.01$); mid and post ($|z|= 2.81$, $p<0.01$) and pre and post ($|z|= 2.80$, $p<0.01$).

In the Broca's aphasia group, the six participants scored M=60.02 (SD =3.51), M=66.73 (SD=4.45) and M=77.33 (SD=6.28) across the 1st, 7th and 15th sessions respectively. This is illustrated in Table 5.

Table 5. *Mean and SD values for persons with Broca's aphasia for functional communication domain.*

	Functional communication		
	Pre therapy session	Mid therapy session	Post therapy session
Mean (N=6)	60.02	66.73	77.33
Std. Deviation	3.51	4.45	6.28

Figure 2 represents the response of persons with Broca's aphasia for different sub-sections functional communication domain across pre, mid and post therapy session. It can be understood from the figure that there was a significant improvement from pre to mid and post therapy sessions on functional communication sphere.

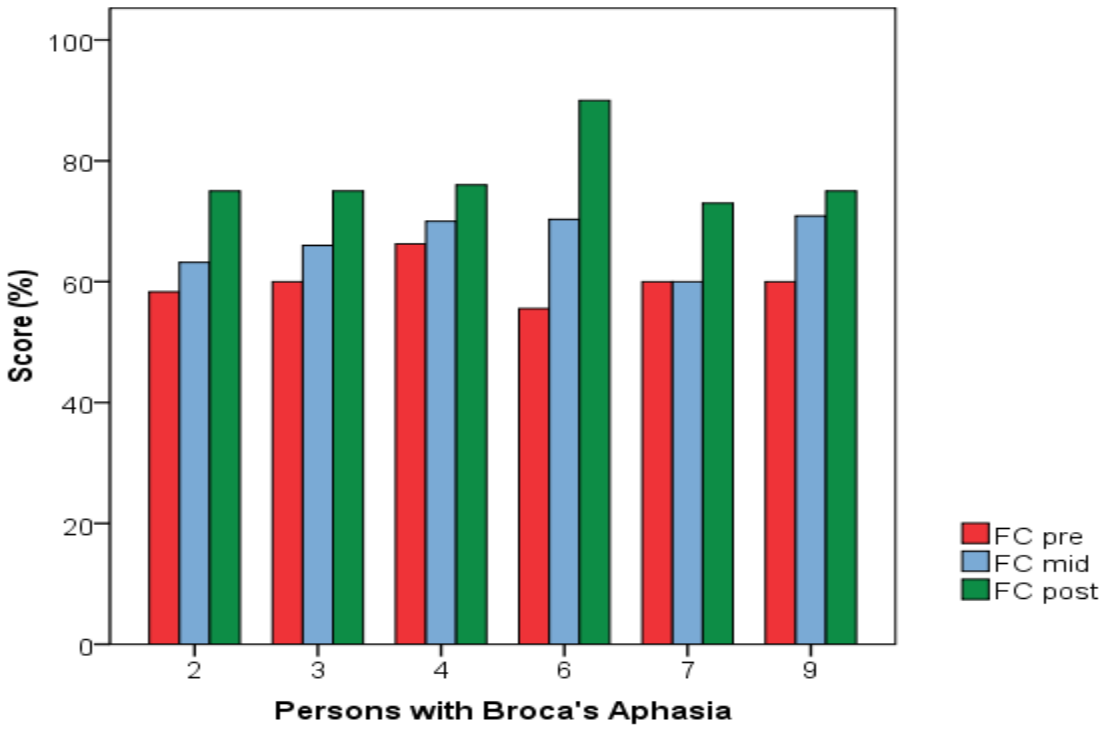

Fig. 2. Response of persons with Broca's aphasia for functional communication domain across pre, mid and post therapy session.

Since the mean scores varied significantly, Friedman's test was used. The results showed that there was statistically significant difference $\{\chi^2 (2) = 11.56, p<0.05\}$ in the 1st, 7th and 15th therapy session. Following this, Wilcoxon signed rank test showed significant difference between pre-mid ($|z|= 2.02$, $p<0.05$), mid-post ($|z|= 2.20$, $p<0.05$), and pre-post ($|z|= 2.02$, $p<0.05$), therapy sessions.

Table 5 depicts the mean and SD values for persons with trans-cortical motor aphasia for functional communication domain for the pre, mid and post therapy sessions.

The three participants with trans-cortical motor aphasia obtained a mean score of 56.66 (SD =7.63), 65.94 (SD=6.39) and 71.48 (SD=4.46) for the 1st, 7th and 15th sessions correspondingly.

Table 6. *Mean and SD values for persons with trans-cortical motor aphasia for functional communication domain.*

	Functional communication		
	Pre therapy session	Mid therapy session	Post therapy session
Mean (N=3)	56.66	65.94	71.48
Std. Deviation	7.63	6.39	4.46

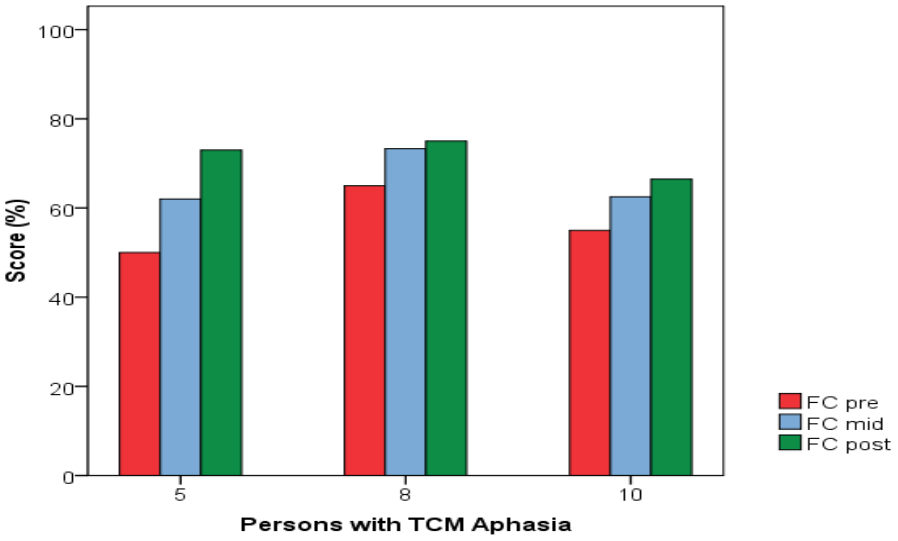

Fig. 3. Response of persons with trans-cortical motor aphasia for functional communication domain across pre, mid and post therapy session.

It can be inferred from Figure 3 that the responses of persons with trans-cortical motor aphasia improved across pre, mid and post therapy session for different sub-sections on functional communication domain. It was seen that there were no statistically significant difference when the Friedman's test was carried out.

The Figure 4 illustrates the responses of a person with global aphasia across the various sub-sections of functional communication domain in pre, mid and post therapy sessions. It is

evident that there is a significant improvement in the performance from pre to post therapy session.

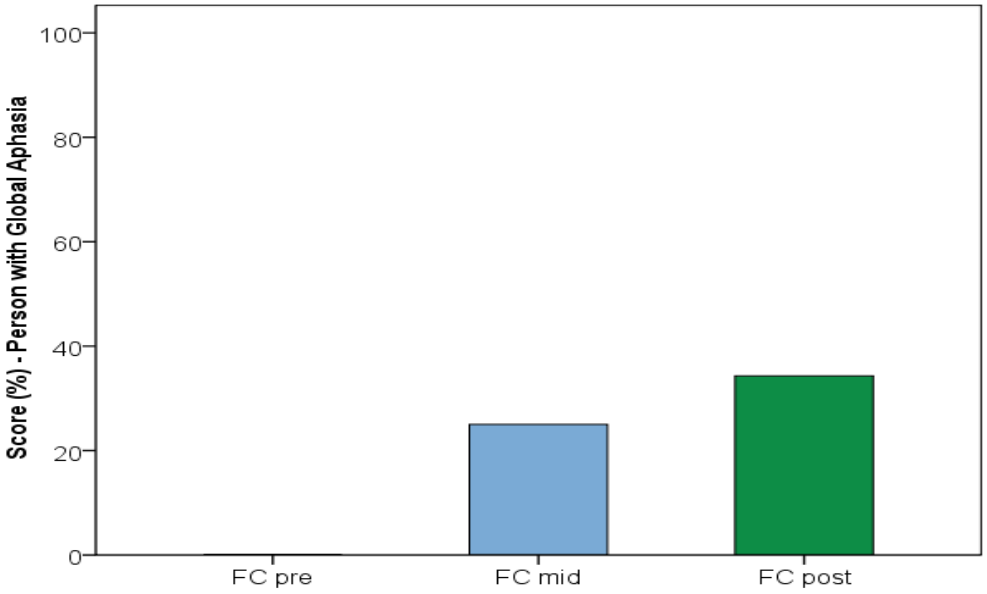

Fig.4. Response of person with global aphasia for functional communication domain across pre, mid and post therapy session

2. Comparison of performances of persons with non-fluent aphasia (N=9), Broca's aphasia (N=6), trans-cortical motor aphasia (N=2) and global aphasia (N=1) on repetition domain for the pre, mid and post therapy sessions (i.e. 1st, 7th and 15th session)

The mean (M) and standard deviation (SD) for pre, mid and post therapy sessions were calculated for nine persons with non-fluent aphasia. The total scores were summed up for all the activities of the sub-sections under repetition domain.

Table 6 and Figure 5 illustrate the mean and SD values for persons with non-fluent aphasia for repetition domain.

Table 7. *Mean and SD values for persons with non-fluent aphasia for repetition domain.*

	Repetition		
	Pre therapy session	Mid therapy session	Post therapy session
Mean (N=9)	51.53	60.17	63.36
Std. Deviation	24.64	23.05	20.40

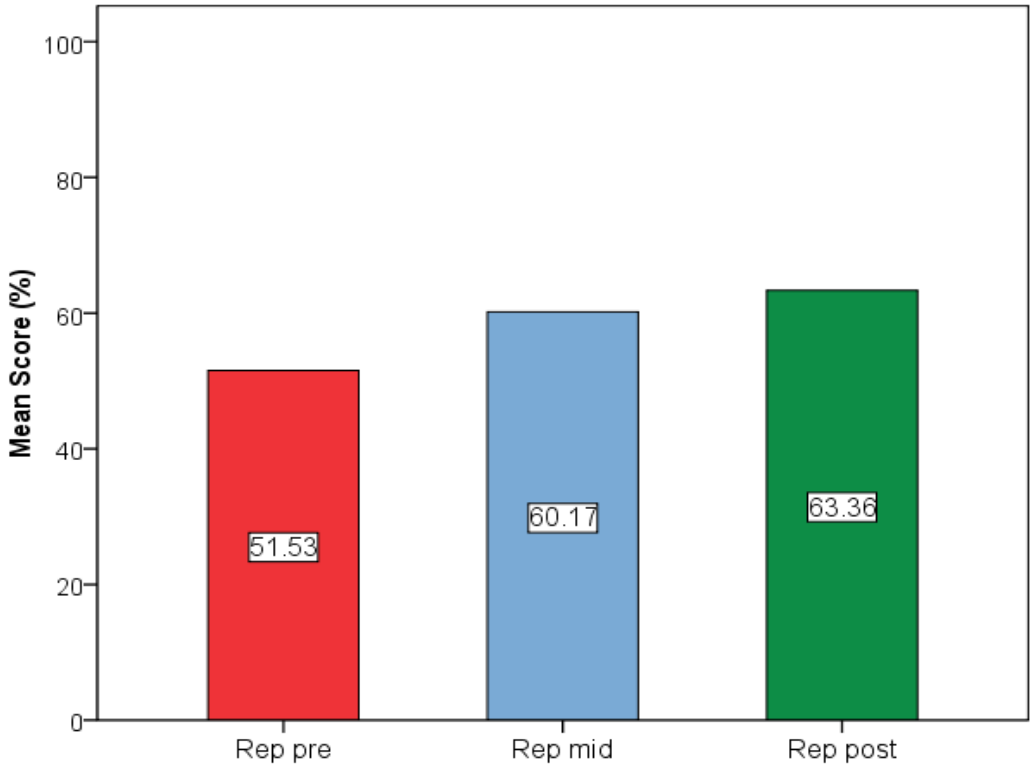

Fig. 5. Response of persons with non-fluent aphasia for repetition domain across pre, mid and post therapy session.

Note: Rep pre: Repetition for pre therapy session, Rep mid: Repetition for mid therapy session, Rep post: Repetition for post therapy session

From Table 7, it can be seen that the ten participants scored a mean of 51.53 (SD =24.64), 60.17 (SD=23.05) and 63.36 (SD =20.40) in pre, mid and post therapy sessions respectively across the various sub-sections in functional communication domain.

It was observed that the results showed that there was significant difference in the mean scores. Therefore, the data was further analysed using Friedman's test. The results showed a significant difference in pre, mid and post therapy session $\{\chi^2 (2) = 11.52, p<0.05\}$. No obvious difference between pre and mid and mid and post therapy sessions on Wilcoxon signed rank test. However, statistically significant difference of ($|z| = 2.66$, $p<0.01$) was evident in the pre and post therapy session on repetition domain of MANAT-K.

Table 8. *Mean and SD values for persons with Broca's aphasia for repetition domain*.

	Repetition		
	Pre therapy session	Mid therapy session	Post therapy session
Mean (N=6)	53.06	62.51	66.04
Std. Deviation	16.00	17.82	13.88

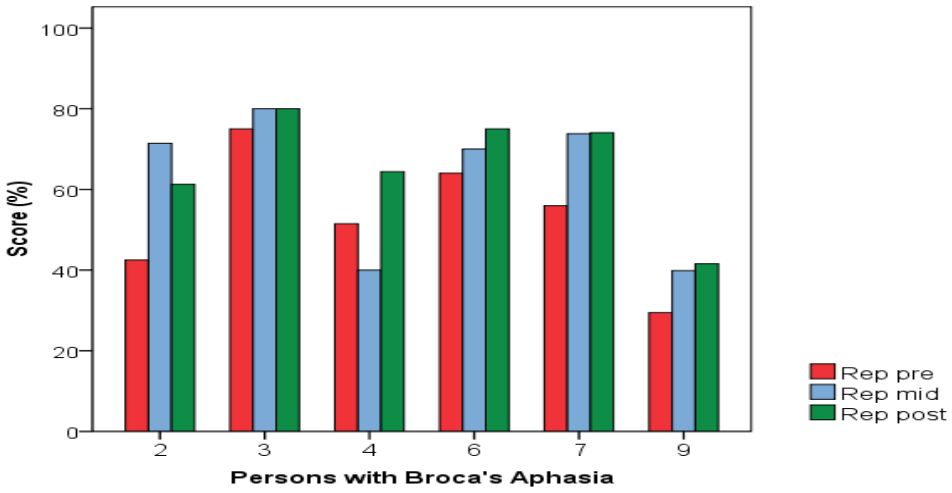

Fig. 6. Response of persons with Broca's aphasia for repetition domain across pre, mid and post therapy session.

The scores obtained by six participants with Broca's aphasia for the repetition domain are illustrated in Table 8. The participants got a mean of 53.06 (SD=16.00) in the pre therapy session, mid therapy session participants secured a mean value of 62.51 (SD=17.82) where as in the post therapy session they got a score of 66.04 (SD=13.88).

The responses of persons with Broca's aphasia for repetition domain across pre, mid and post therapy session is represented in Figure 6. It is indicated that there was a gradual improvement in the performances of participants in this domain from pre to mid to post therapy sessions.

The Friedman test was further carried out which revealed a significant difference across the 1st, 7th and 15th therapy sessions for the six participants. [Pre-mid-post: {χ^2 (2) = 7.91, $p<0.05$}]. Additionally, the Wilcoxon signed rank test was done to analyze pair-wise difference. A statistically significant difference ($|z|= 2.20$, $p<0.05$) was obtained across the pre and post

therapy sessions. Conversely there was no significant difference noted for pre-mid and mid-post therapy sessions.

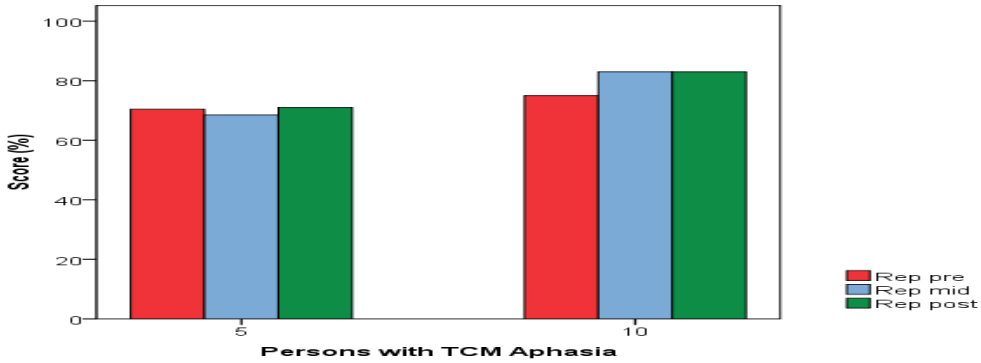

Fig. 7. Response of persons with trans-cortical motor aphasia for repetition domain across pre, mid and post therapy session

From Figure 7, it can be observed that the performance by participant number 5 on the repetition domain did not show obvious improvement from pre to post therapy sessions. On the other hand, participant number 10 exhibited evident improvement on the repetition domain from pre to post therapy sessions.

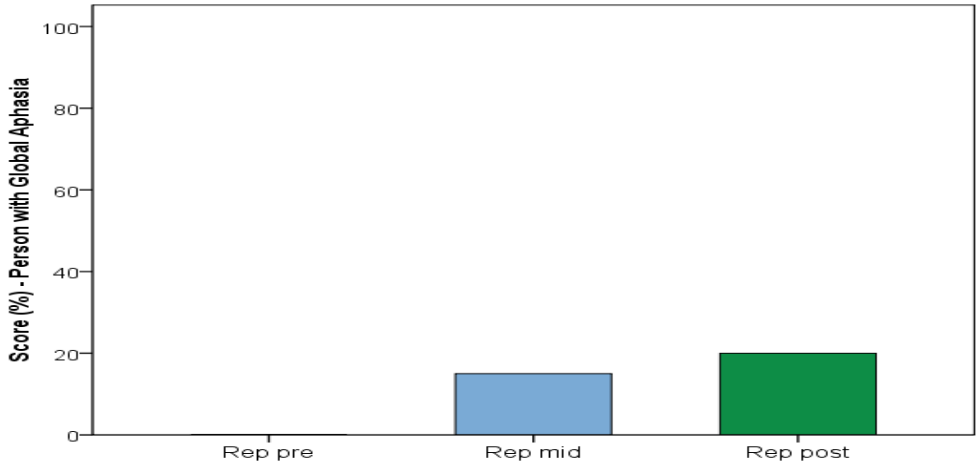

Fig. 8. Response of person with global aphasia for repetition domain across pre, mid and post therapy session.

Figure 8 represents the performance of person with global aphasia on repetition domain for pre, mid and post therapy session. It is apparent from the graph that there is considerable improvement across the therapy sessions.

3. Comparison of performances of persons with non-fluent aphasia (N=10), Broca's aphasia (N=6), trans-cortical motor aphasia (N=3) and global aphasia (N=1) on comprehension domain for the pre, mid and post therapy sessions (i.e. 1st, 7th and 15th session)

The overall scores were summed up for all the activities of the sub-sections under comprehension domain. The mean (M) and standard deviation (SD) for pre, mid and post therapy sessions were calculated for 10 persons with non-fluent aphasia.

Table 8 illustrates the mean and SD values of the ten participants who scored a mean of 57.22 (SD =24.24), 63.95 (SD=23.26) and 65.11 (SD=20.19) in pre, mid and post therapy sessions respectively across the various sub-sections in comprehension domain. The same is represented in Figure 9.

Table 9. *Mean and SD values for persons with non-fluent aphasia for comprehension domain.*

	Comprehension		
	Pre therapy session	Mid therapy session	Post therapy session
Mean (N=10)	57.22	63.95	65.11
Std. Deviation	24.24	23.26	20.19

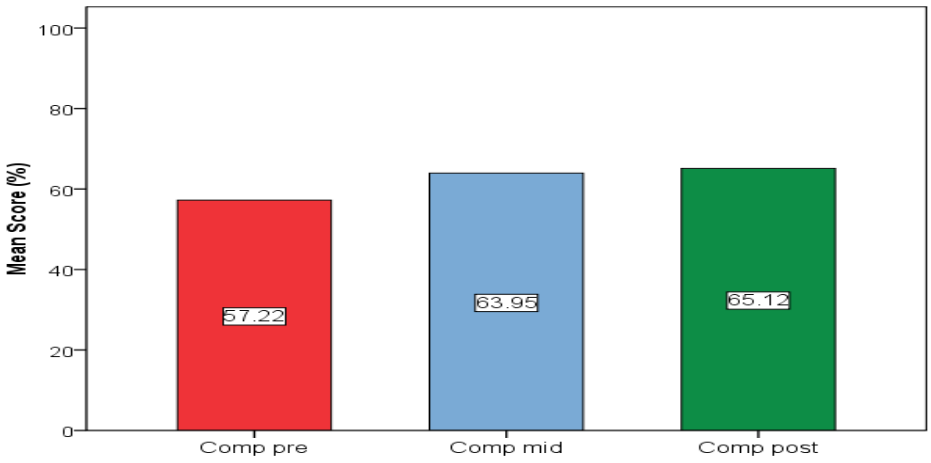

Fig. 9. Response of persons with non-fluent aphasia for comprehension domain across pre, mid and post therapy session.

Note: Comp pre: Comprehension for pre therapy session, Comp mid: Comprehension for mid therapy session, Com post: Comprehension for post therapy session

The Friedman test was further carried out which revealed that there was no significant difference across pre, mid and post therapy sessions.

Table 10 shows the mean and SD values for pre, mid and post therapy sessions of six persons with Broca's aphasia across the comprehension domain.

Table 10. *Mean and SD values for persons with Broca's aphasia for comprehension domain.*

	Comprehension		
	Pre therapy session	Mid therapy session	Post therapy session
Mean (N=6)	67.93	76.42	72.99
Std. Deviation	14.39	11.21	14.78

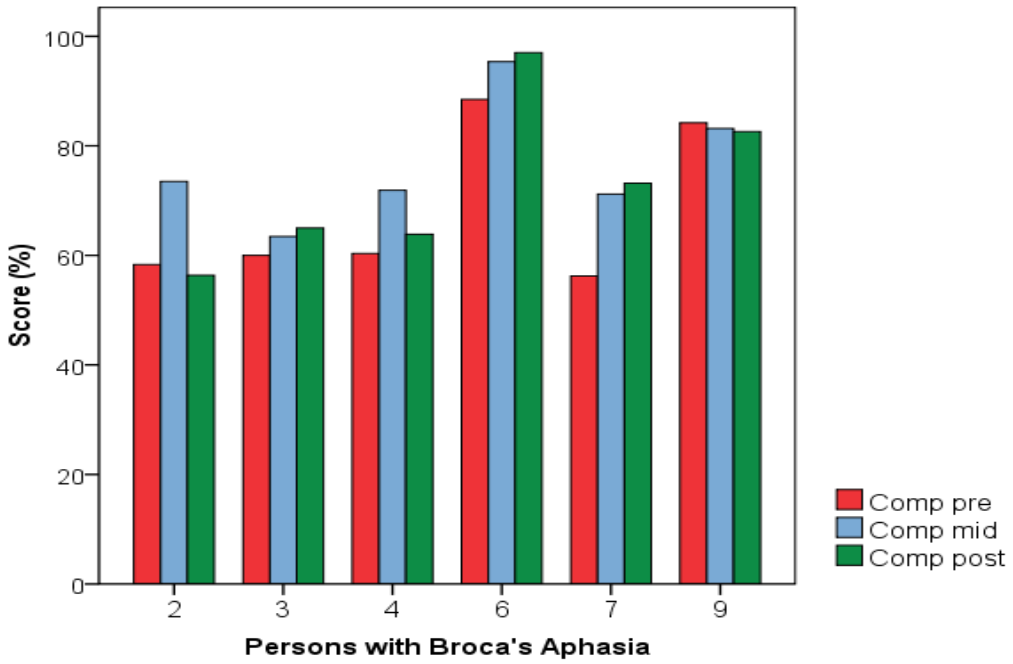

Fig.10. Response of persons with Broca's aphasia for comprehension domain across pre, mid and post therapy session.

The participants in the pre therapy session obtained a mean score of 67.93 (SD=14.39). Like-wise in the mid session they obtained a score of 76.42 (SD=11.21) and in the post therapy session the score was 72.99 (SD=14.78). No statistically significant difference was observed for any of the therapy sessions.

Figure 10 depicts the responses of the persons with Broca's aphasia for the various activities under the sub-section of comprehension domain from 1st through the 15th sessions. It can be observed that the performances of participant number 3, 6 and 7 considerably improved over the pre, mid and post therapy sessions. In participant number 2 and 4 the performance was better in the mid sessions compared to the 15th sessions. Participant number 9 showed same performance in this domain over the sessions.

Persons with trans-cortical motor aphasia scored a mean of 51.92 (SD=23.90) in the 1st session 54.77 (SD=20.25) in the 7th session and 61.60 (SD=20.22) in the 15th session. Using Friedman's test it was found that there was no statistically significant difference observed for the comprehension domain across the sessions.

Figures 11 and 12 illustrate the performances on the different tasks of comprehension domain for pre, mid and post therapy sessions in persons with trans-cortical motor and global aphasia respectively. In Figure 11, it can be seen that there was noticeable improvement in the performance of the participant 5 and 8 over the therapy sessions. (1st, 7th and 15th sessions). However, participant number 10 did not exhibit such an obvious raise in the performance across the sessions.

The responses of the person with global aphasia for the 1st, 7th and 15th sessions, for the various tasks on the comprehension domain showed remarkable improvement which can be inferred from Figure 12.

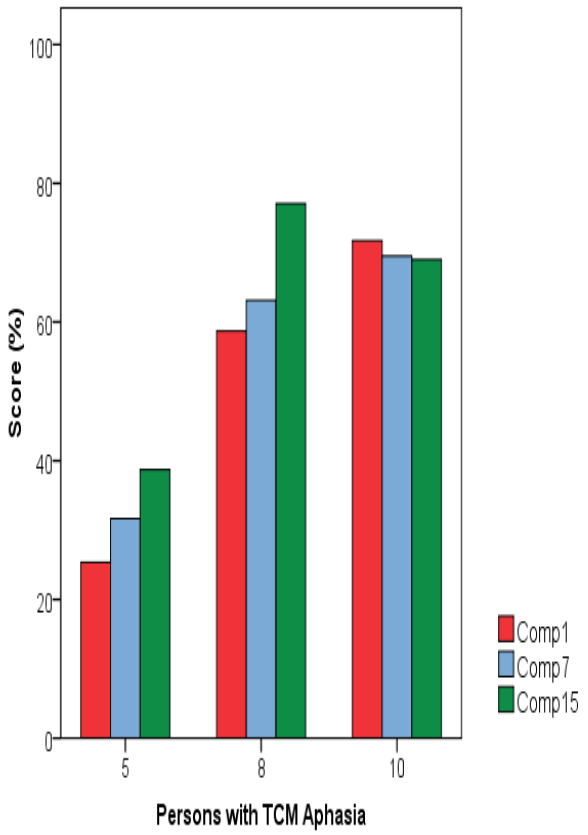

Fig.11. Response of persons with trans-cortical motor aphasia for comprehension domain across pre, mid and post therapy session.

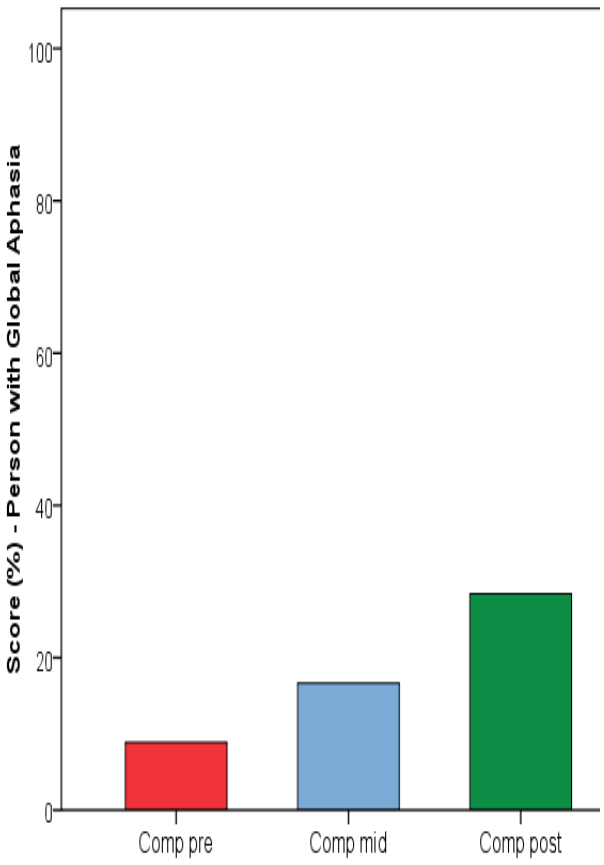

Fig.12. Response of person with global aphasia for comprehension domain across pre, mid and post therapy session.

4. Comparison of performances of persons with non-fluent aphasia (N=10), Broca's aphasia (N=6), trans-cortical motor aphasia (N=3) and global aphasia (N=1) on expression domain for the pre, mid and post therapy sessions (i.e. 1st, 7th and 15th session)

The mean percentage values of the persons with non-fluent aphasia were compared across the pre, mid and post therapy sessions. The mean (M) and standard deviation (SD) were calculated

by summing up the percentage scores obtained in the expression domain. These mean and SD values of are presented in Table 11 and Figure 13.

On this domain, the participants obtained a mean percentage of 49.06 (SD=16.77), 61.04 (SD=17.76), 63.12 (SD=14.20) respectively across the therapy sessions.

Table 11. *Mean and SD values for persons with non-fluent aphasia for expression domain.*

	Expression		
	Pre therapy session	Mid therapy session	Post therapy session
Mean (N=10)	49.06	61.04	63.12
Std. Deviation	16.77	17.76	14.20

On the Friedman's test, it was observed that for all the 10 participants with non-fluent aphasia there was a significant difference [Pre-mid-post: $\{\chi^2 (2) = 15.80, p<0.05\}$] through the 1st, 7th and 15th sessions in the performance of expressive skills. Further Wilcoxon signed rank test revealed significant difference ($|z|= 2.80, p<0.01$) for pre and mid sessions and ($|z|= 2.80, p<0.01$) for pre and post therapy sessions. There was no statistically significant difference seen for mid and post therapy sessions.

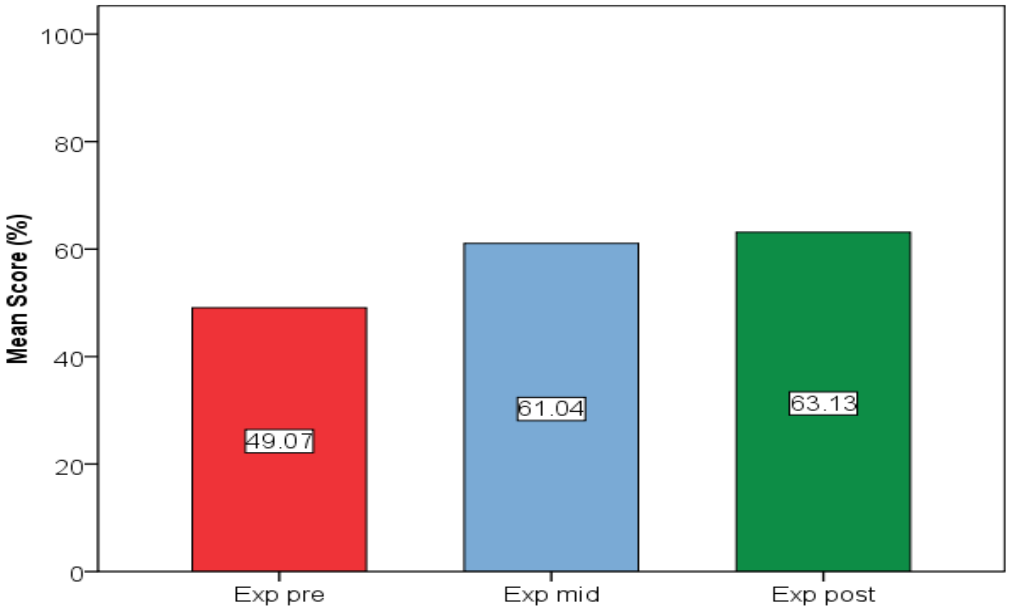

Fig.13. Response of persons with non-fluent aphasia for expression domain across pre, mid and post therapy session.

Note: Exp pre: Expression for pre therapy session, Exp mid: Expression for mid therapy session, Exp post: Expression for post therapy session.

The mean and SD values of the expression domain across the therapy sessions obtained by the persons with Broca's aphasia are represented in Table 12.

Table 12. *Mean and SD values for persons with Broca's aphasia for expression domain.*

	Expression		
	Pre therapy session	Mid therapy session	Post therapy session
Mean (N=6)	57.79	66.57	67.23
Std. Deviation	8.55	10.34	8.66

The mean values secured by the six participants in the 1st, 7th ad 15th session was 57.79 (SD=8.55), 66.57 (SD=10.34) and 67.23 (SD=8.66) respectively. In order to find out whether there was statistically significant difference Friedman's test was used. The results revealed that there was a significant difference across pre-mid-post therapy sessions $\{\chi^2 (2) = 9.33, p<0.05\}$. In addition, Wilcoxon signed rank test revealed a significant difference ($|z|= 2.20$, $p<0.05$) for pre and mid sessions and ($|z|= 2.20$, $p<0.05$) for pre and post therapy sessions. There was no statistically significant difference seen for mid and post therapy sessions.

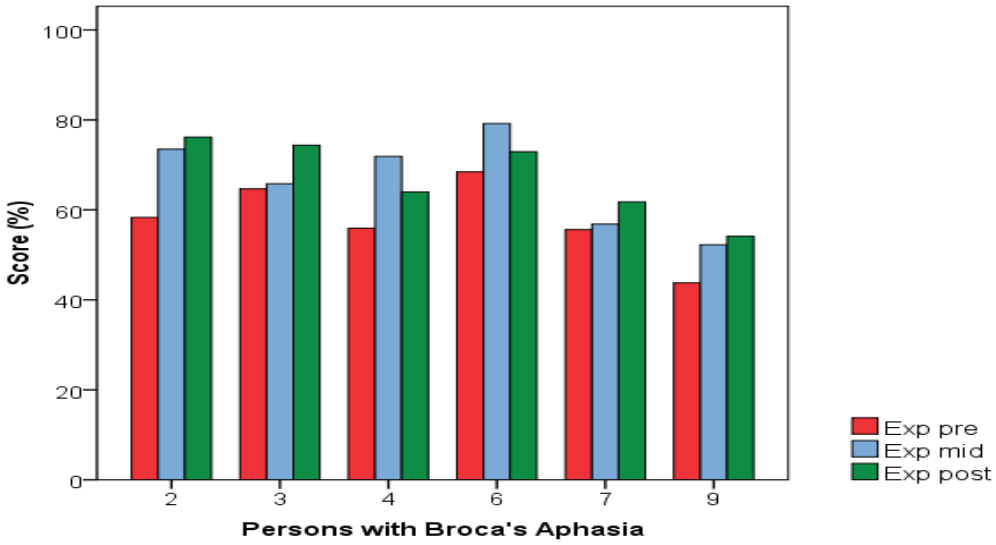

Fig.14. Response of persons with Broca's aphasia for expression domain across pre, mid and post therapy session.

Figure 14 represents the performances of the participants with Broca's aphasia in the expression domain across pre, mid and post therapy sessions. It can be deduced from the figure that there is a progress in the performance of all the six participants from pre to post therapy sessions.

The overall mean and SD scores for the pre, mid and post therapy sessions obtained by the persons with trans-cortical motor aphasia were 45.01 (SD=4.70), 64.77 (SD=7.40) and 66.77 (SD=4.11) correspondingly on MANAT-K. The data was analyzed using Friedman's test which did not show any statistically significant difference.

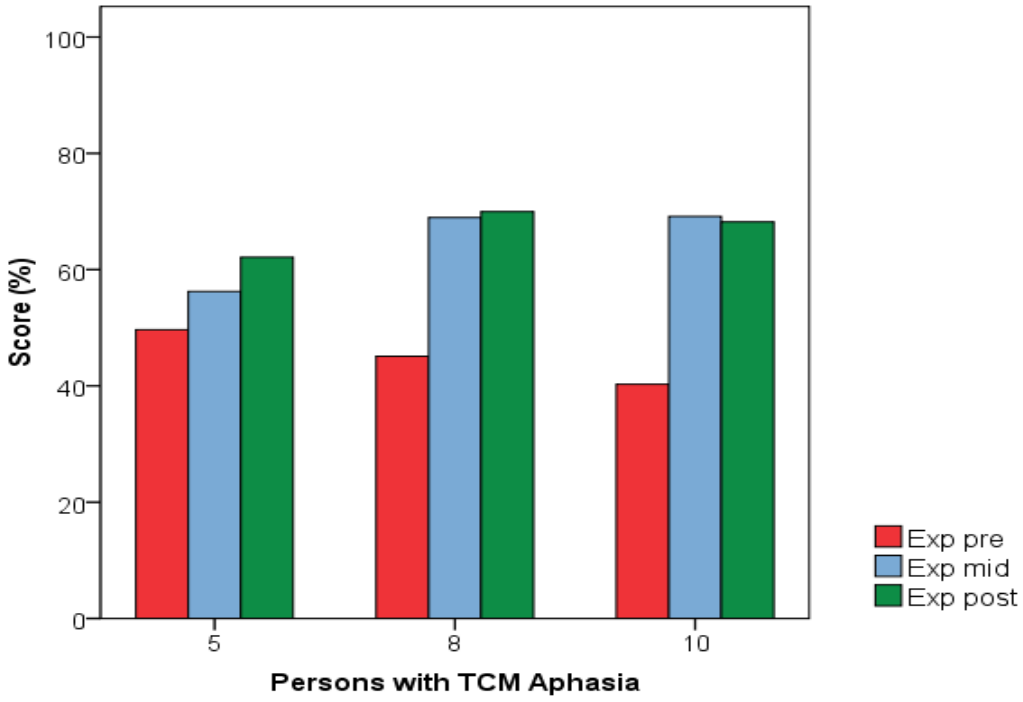

Fig.15. Response of persons with trans-cortical motor aphasia for expression domain across pre, mid and post therapy session.

The above figure represents the performances of the participants with trans-cortical motor aphasia for expression domain across pre, mid and post therapy sessions. It can be inferred from the graph that there is a progress in the performance of all the three participants from pre to post therapy sessions.

It can be concluded from Figure 16 that the person with global aphasia improved in expressive skills over the mid and post sessions in comparison with baseline obtained during pre therapy session.

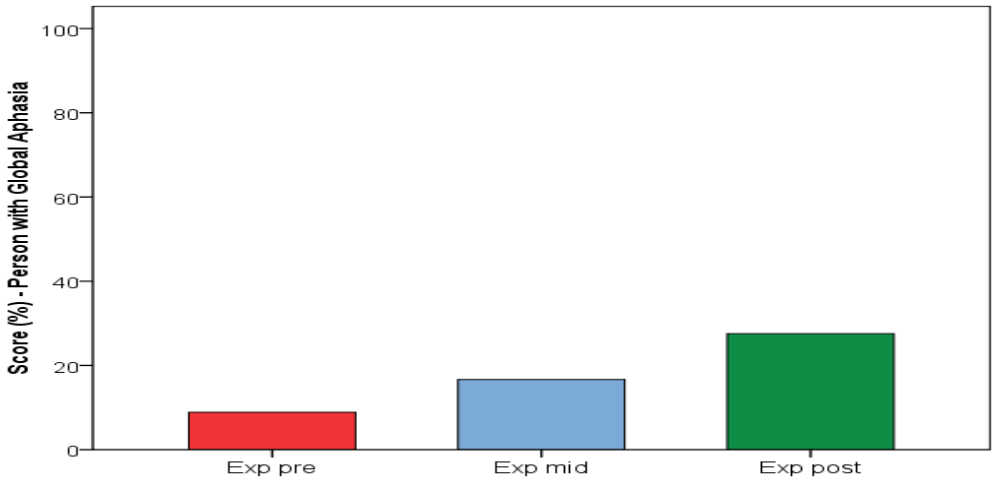

Fig.16. Response of person with global aphasia for expression domain across pre, mid and post therapy session.

5. Comparison of performances of persons with non-fluent aphasia (N=7), Broca's aphasia (N=4), trans-cortical motor aphasia (N=3) on naming domain for the pre, mid and post therapy sessions (i.e. 1st, 7th and 15th session)

The overall total mean percentage scores was obtained by compiling the percentage scores on different sub-sections for the naming domain for seven participants in the pre, mid and post sessions.

Table 13. *Mean and SD values for persons with non-fluent aphasia for naming domain.*

	Naming		
	Pre therapy session	Mid therapy session	Post therapy session
Mean (N=7)	50.59	56.91	63.32
Std. Deviation	14.56	16.45	14.88

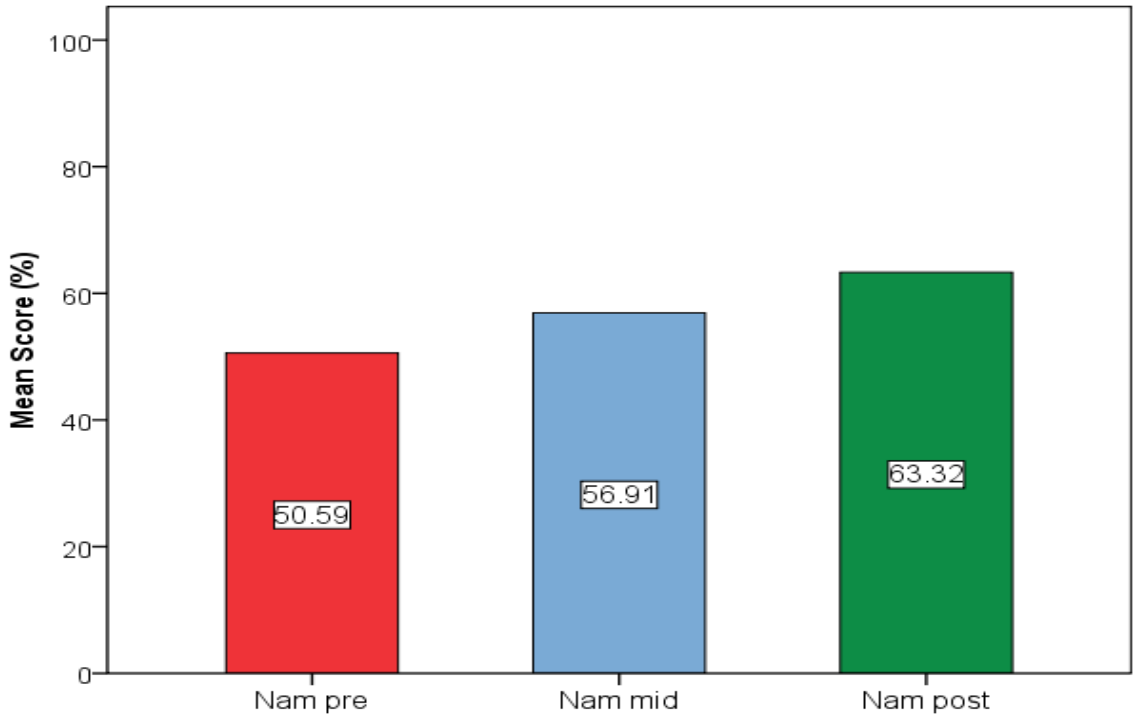

Fig.17. Response of persons with non-fluent aphasia for naming domain across pre, mid and post therapy session.

Note: Nam pre: Naming for pre therapy session, Nam mid: Naming for mid therapy session, Nam post: Naming for post therapy session

The overall mean scores achieved by the seven participants are presented in Table 13 and Figure 17. The participants for the pre, mid and post therapy sessions obtained a score of 50.59 (SD=14.56), 56.91 (SD=16.45) and 63.32 (SD=14.88) correspondingly. Thus, the result showed a gradual trend in naming abilities of the seven participants from 1st to 15th session. This was supported by the findings of Friedman's test where a significant difference {χ^2 (2) =10.28, $p<0.01$} was revealed. Subsequently the data was analyzed using Wilcoxon signed rank test which also showed a significant difference for pre and post and mid and post therapy sessions

with (|z|= 2.36, p<0.05) and (|z|= 2.02, p<0.05) respectively. However, for the pre and mid sessions there was no significant difference.

The participants (Broca's aphasia; N=4) showed a mean and SD value of 57.41 (SD=10.73), 59.79 (SD=14.17) and 67.26 (SD=8.97) in the pre, mid and post therapy sessions for the naming domain. Additionally, the Friedman's test was carried out, which did not reveal any statistically significant difference across the pre-mid-post therapy sessions.

The mean and SD were calculated for the persons with trans-cortical motor aphasia (N=3). A mean score of 41.48 (SD=15.69), 53.08(SD=21.74), 58.05 (SD=21.70) in the 1st, 7th and 15th session respectively. On Friedman's test the analysis of the results revealed that there was no statistically significant difference.

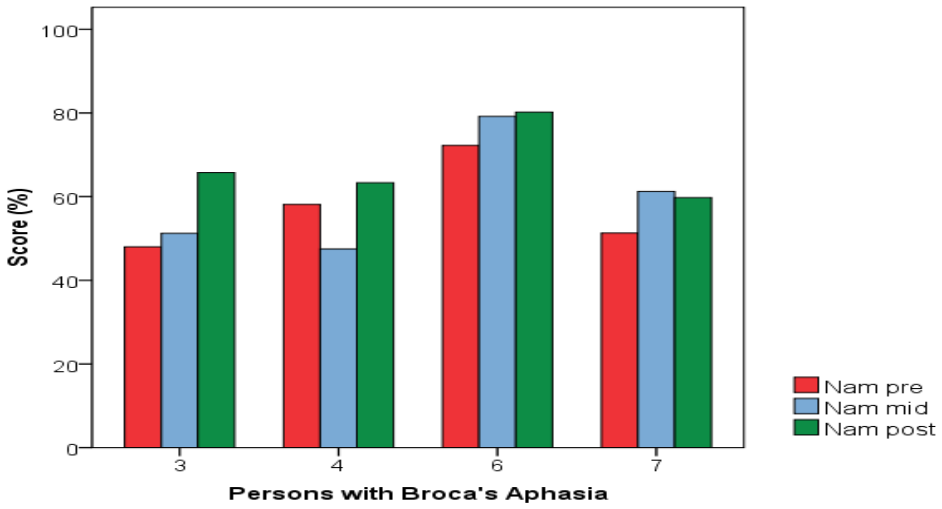

Fig.18. Response of persons with Broca's aphasia for naming domain across pre, mid and post therapy session.

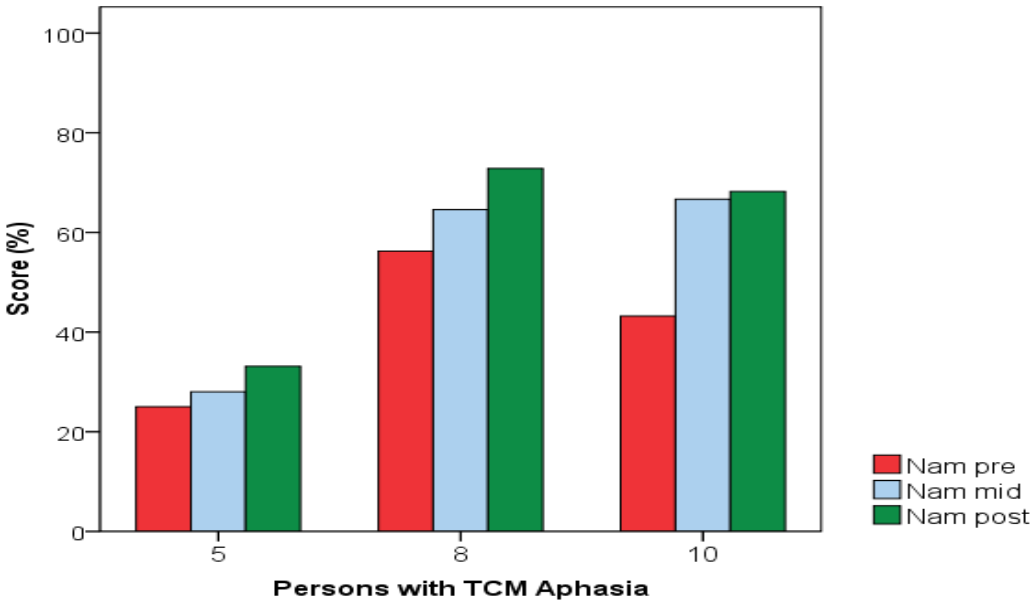

Fig.19. Response of persons with trans-cortical motor aphasia for naming domain across pre, mid and post therapy session.

It is evident from Figures 18 and 19 that performances of persons with Broca's (N=4) and trans-cortical motor (N=3) aphasia in the sub-sections of the naming domain considerably increased from 1st to 15th session.

6. Comparison of performances of persons with non-fluent aphasia (N=2), trans-cortical motor aphasia (N=2) on reading and writing domain for the pre, mid and post therapy sessions (i.e. 1st, 7th and 15th session)

As the number of participants who were subjected to MANAT-K on the domain of reading and writing were limited (N=2), the data could not be analyzed using any objective statistical tests. The mean percentage values of the two participants have been depicted graphically. The same is shown in Figures 20 and 21. It can be concluded from that the mean

percentage scores for participant 8 were 66.70, 65.00 and 67.13 for pre, mid and post therapy sessions respectively. For the 10th participant in the pre and mid therapy sessions the mean percentage scores were 71.67 and 79.76 respectively.

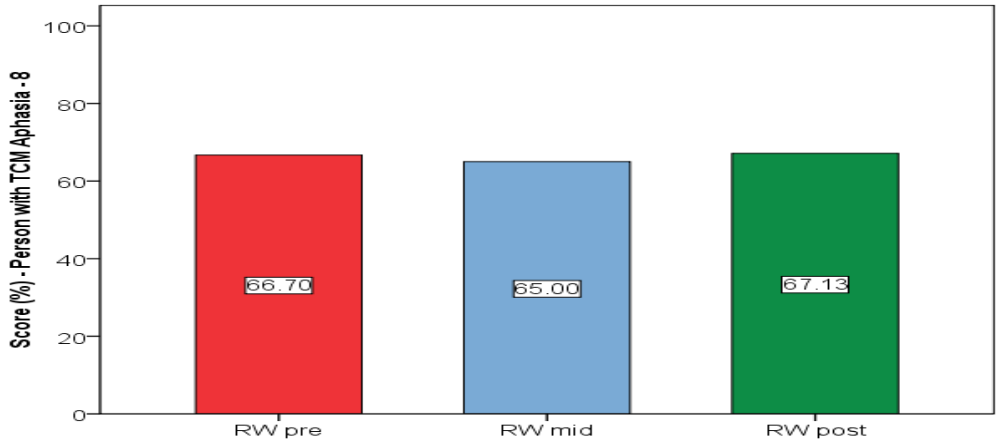

Fig.20. Mean percentage score of 8th participant with trans-cortical motor aphasia for reading and writing domain across pre, mid and post therapy session.

Note: *RW pre: Reading and writing for pre therapy session, RW mid: Reading and writing for mid therapy session, RW post: Reading and writing for post therapy session*

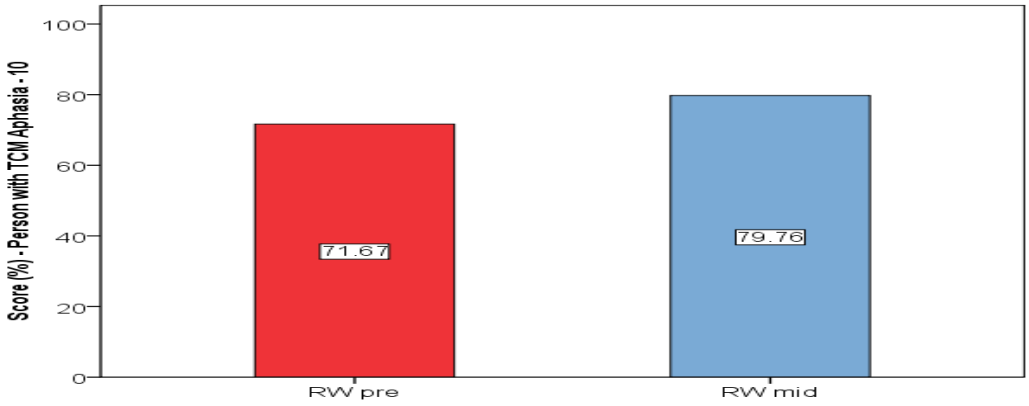

Fig.21. Mean percentage score of 10th participant with trans-cortical motor aphasia for reading and writing domain across pre and mid therapy session.

7. Comparison of performances of persons with Broca's and Trans-cortical motor aphasia on various domains for the pre, mid and post therapy sessions (i.e. 1st, 7th and 15th session)

The Mann Whitney U-test was carried out to find out the significant difference between the two groups namely Broca's and trans-cortical motor aphasia. It was observed that there was no statistically significant difference amongst the two groups across the sessions (pre, mid and post) on various domains of MANAT-K.

II. Quantitative analysis of overall communication abilities in persons with non-fluent aphasia

The data collected from all the ten participants for the various domains on MANAT-K across pre, mid and post therapy sessions (1st, 7th and 15th) were summed up and analyzed and represented in the Table 14. The overall mean and standard deviation achieved by the persons with non fluent aphasia are 53.04 (SD=18.79), 60.50 (SD=16.67) and 64.37 (SD=14.69) for 1st, 7th and 15th therapy sessions respectively

Table 14. *Mean and SD values for overall communication skills in persons with non-fluent aphasia for various domains in MANAT-K across pre, mid and post therapy sessions.*

	Overall communication skills		
	Pre therapy session	Mid therapy session	Post therapy session
Mean (N=10)	53.04	60.50	64.37
Std. Deviation	18.79	16.67	14.69

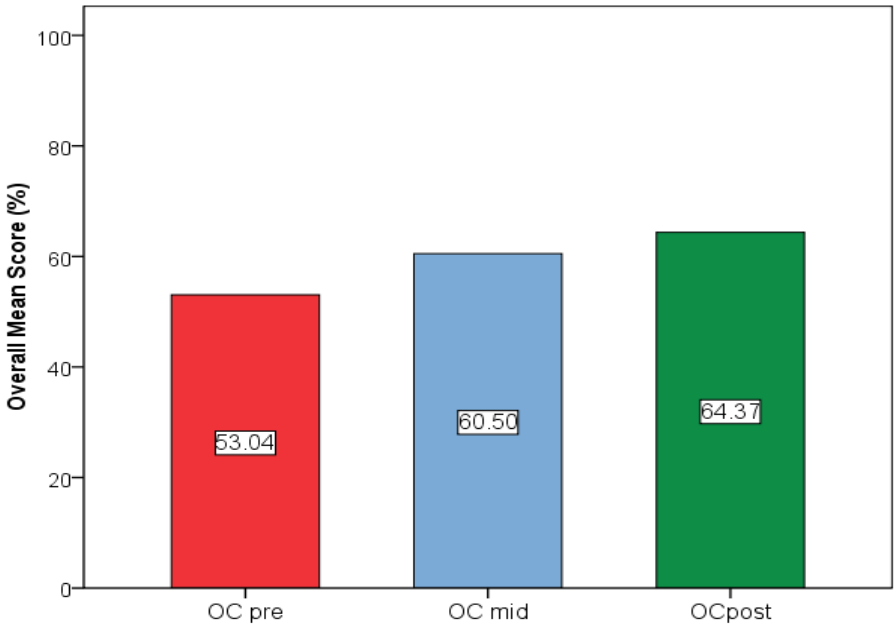

Fig.22. Percentage scores of overall communication skills in persons with non-fluent aphasia for various domains in MANAT-K across pre, mid and post therapy sessions.

Overall communication skills of persons with non fluent aphasia for the sub-sections under different domains of MANAT-K have been depicted in Figure 22. It is evident that there was a significant progress in the performance of the participants in overall communication skills as the therapy sessions moved from 1st to 15th. Non-parametric statistical analysis (Friedman's test) did reveal a significant difference [pre-mid-post: $\{\chi^2$ (2) = 14.60, $p<0.05\}$], in the attainment of overall communication by non fluent aphasia. The Wilcoxon Signed Rank Test was further carried out which revealed a significant difference across pre-mid ($|z|= 2.49$, $p<0.05$), mid-post ($|z|= 2.39$, $p<0.05$) and pre-post ($|z|= 2.80$, $p<0.05$) therapy sessions.

Table 15. *Mean and SD values overall communication skills in persons with Broca's aphasia for various domains in MANAT-K across pre, mid and post therapy sessions.*

`	Pre therapy session	Mid therapy session	Post therapy session
Mean (N=6)	59.03	66.81	70.03
Std. Deviation	5.91	6.85	6.96

It can be observed from Table 14, that the overall communication proficiency of persons with Broca's aphasia (N=6) for pre [59.03 (SD=5.91)], mid [66.81 (SD=6.85)] and post [70.03 (SD=6.96)] were obtained for all the sub-sections on the different domains of MANAT-K.

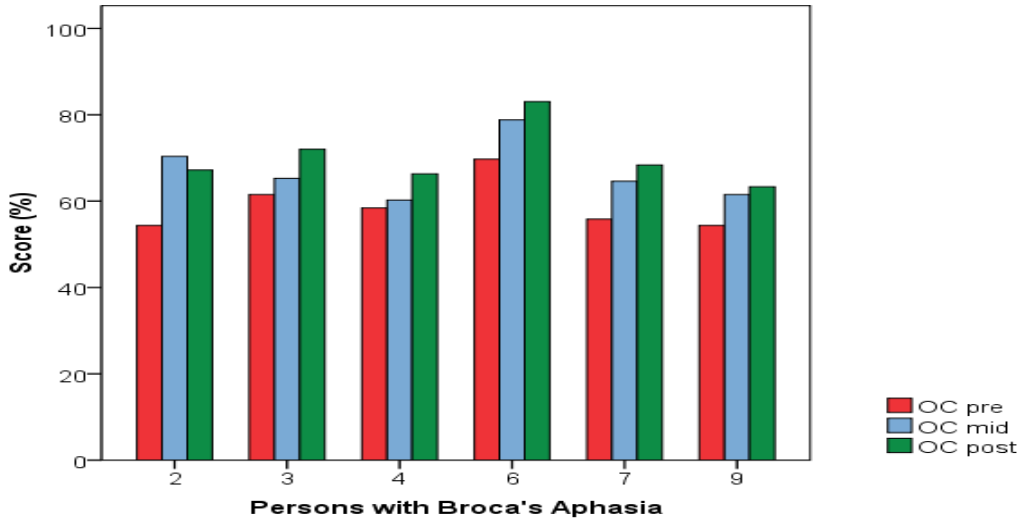

Fig.23. Percentage scores of overall communication skills in persons with Broca's aphasia for various domains in MANAT-K across pre, mid and post therapy sessions.

Additionally the Friedman's test results for the overall communication abilities in persons with Broca's aphasia indicated a significant difference across pre-mid-post therapy sessions {χ^2 (2) = 10.33, p<0.01}. Since the results showed a significant difference Wilcoxon signed rank test

was carried out, which signified a statistical difference in pre-mid ($|z|= 2.20$, $p<0.05$) and pre-post ($|z|= 2.20$, $p<0.05$) therapy sessions, although, this difference was not observed for mid-post sessions.

Figure 23 illustrates the overall communication abilities responses of persons with Broca's aphasia for various domains in MANAT-K across pre, mid and post therapy sessions (1^{st}, 7^{th} & 15^{th}). The six participants showed an overall progress in their communication abilities across sessions.

Table 16 exemplifies the mean and SD values of the overall communication skills of the persons with trans-cortical motor aphasia for all the domains of MANAT-K across the pre, mid and post therapy sessions.

Table 16. *Mean and SD values of overall communication skills in persons with trans-cortical motor aphasia for various domains in MANAT-K across pre, mid and post therapy sessions.*

`	Pre therapy session	Mid therapy session	Post therapy session
Mean (N=3)	57.26	61.92	65.32
Std. Deviation	13.65	11.03	8.70

It is evident from the Table 15 that the mean scores increased from pre [57.26 (SD=13.65)], mid [61.92 (SD=11.03)] and post [65.32 (SD=8.70)] therapy sessions in the overall communication abilities of the persons with trans-cortical motor aphasia. However, on the Friedman's test the progress was not statistically significant.

Fig. 24 represents the overall communication abilities responses of persons with trans-cortical motor aphasia for various domains in MANAT-K across pre, mid and post therapy

sessions (1st, 7th & 15th). The three participants showed an overall progress in their communication abilities from pre to post therapy sessions.

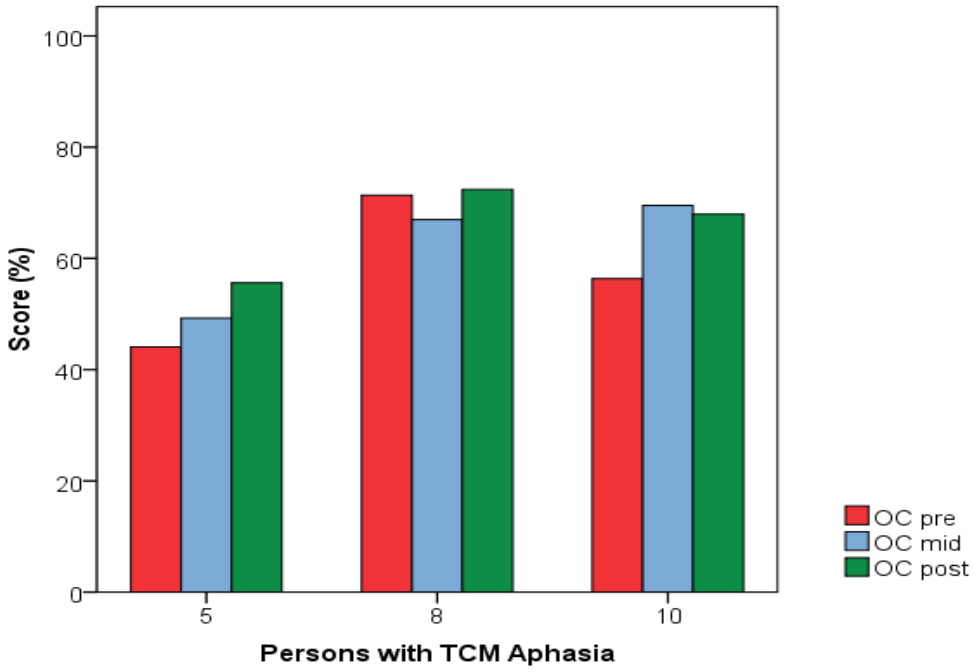

Fig.24. Percentage scores of overall communication skills in persons with trans-cortical motor aphasia for various domains in MANAT-K across pre, mid and post therapy sessions.

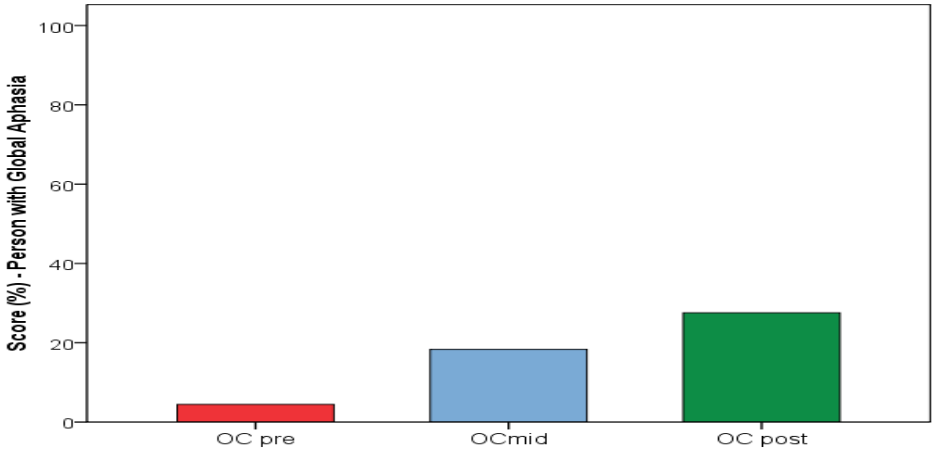

Fig.25. Percentage scores of overall communication skills in person with global aphasia for various domains in MANAT-K across pre, mid and post therapy sessions.

Figure 25 depicts the percentage scores of overall communication skills for various domains in MANAT-K across pre, mid and post therapy sessions in person with global aphasia. It can be observed that there was obvious improvement in the communicative abilities in the person with global aphasia across the different domains of MANAT-K.

In order to find out, if there was any group difference, amongst the persons with Broca's and trans-cortical motor aphasia, the Mann Whitney U-test was carried out. This test revealed that there was no significant difference among the two groups for the overall communication skills across the therapy sessions using MANAT-K.

III. Qualitative analysis of the clinicians' and care-givers' responses about the overall effectiveness of the treatment manual.

The 12 speech-language pathologists (SLPs) who rated the manual based on a feedback questionnaire as shown in Table 17. It is evident from the Table 17 that the two professionals rated the manual as "excellent" on the simplicity, complexity, accessibility scoring pattern and coverage of parameters. Familiarity, arrangement, relevance, feasibility and generalization were rated as "excellent" by three SLPs. The size of picture, color and appearance were rated as excellent by five SLPs. One professional rated the volume and iconicity parameter as "excellent". Flexibility, stimulability and scope of practice were graded as "excellent" by three professionals. Highest number (7) of SLPs rated the manual as "excellent" in terms of trainability.

Table 17. *Responses of the judges regarding the manual.*

Sl. No	Parameters	Very Poor	Poor	Fair	Good	Excellent
1	Simplicity			1	9	2
2	Familiarity			2	7	3
3	Size of the picture			2	5	5
4	Color and appearance			5	2	5
5	Arrangement			4	5	3
6	Presentation		2	2	8	
7	Volume			3	8	1
8	Relevance				9	3
9	Complexity			3	7	2
10	Iconicity			5	6	1
11	Accessibility			4	6	2
12	Flexibility				8	4
13	Trainability			1	4	7
14	Stimulability			1	7	4
15	Feasibility			1	8	3
16	Generalization		2	3	4	3
17	Scope of practice			2	6	4
18	Scoring Pattern			7	3	2
19	Publications, Outcomes and Developers (professional background) *	Yes	2			
		No	10			
20	Coverage of parameters (Reception and expression)			1	9	2

**The SLPs were asked to rate this parameter in terms of "Yes" or "No*

Nine judges rated as "good" grade for simplicity, Relevance and coverage of parameters. Seven SLPs rated as "good" for familiarity, complexity and stimulability parameters. Five professionals rated as "good" on the size of the picture and arrangement parameters. Two professionals reported that the color and appearance were "good" in this manual. Eight SLPs judged the manual to be "good" on the presentation, volume, flexibility and feasibility parameters. Six judges rated the manual as "good" on iconicity, accessibility and scope of

practice parameters. Trainability and generalization was rated as “good” by four judges. Three judges rated the scoring pattern as “good”.

One professional rated the manual as “fair” on the simplicity, trainability, stimulability, feasibility and coverage of parameters. Two judges rated the familiarity, size of pictures, presentation and scope of practice parameters as “fair”. Color and appearance, iconicity was rated as “fair” by five judges. Four SLPs rated the arrangement and accessibility as “fair”. One judge rated the trainability, stimulability and feasibility and coverage of parameters as “fair”. The rating “fair” was given by seven judges on scoring pattern parameter. However, only two professionals rated the presentation and generalization parameters as “poor”. Also for the publications, outcomes and developers (professional background) domain, two professionals reported that they were aware of other materials available which can be used for improving language skills in persons with aphasia (i.e. UNICEF cards), and ten professionals stated that they were not aware of any other manuals available either in the Western or Indian contexts. Though, two professionals reported that UNICEF cards are available, these cards are not exclusively meant for persons with aphasia.

Consequently, it can be stated that this manual received grading ranging from excellent, good or fair from most of the judges. Therefore, the professionals were of the opinion that this manual can be used effectively on persons with non-fluent aphasia.

The caregivers of the persons with non-fluent aphasia were asked to give a feedback of the manual regarding its effectiveness on 10 parameters. It can be seen from the Table 18 that most of the caregivers rated the manual as “frequently” in the parameters listed, while few caregivers rated the manual as “most of the time” on the various parameters. All the caregivers stated that they were not using any other material to improve the communication skills for them.

Table 18. *Responses of the caregivers about the expediency of the manual MANAT-K.*

SL No	Parameters	Not at all	Sometimes	Frequently	Most of the time
1	Does this manual provide support and confidence to carry out activities at home?			8	2
2	Do you feel whether the activities in the manual are helpful and flexible to improve communication?			8	2
3	Does the manual provide better understanding of the ongoing treatment communication process?			9	1
4	Are the activities given in the manual in each section useful in different situations?			8	2
5	Are the activities and related items used in the manual familiar?			10	
6	Does the manual contain appropriate number of stimuli in each section?			7	3
7	Whether the picture stimuli are easily recognizable and representational?			9	1
8	Whether the manual is user-friendly and trainable?			10	
9	Whether the amount of effort and time involved in rehabilitation is satisfactory?			10	
10	Are you using any other training material(s) of the same kind? If yes how the materials used are different from each other?	10			

CHAPTER VI

DISCUSSION

The results of the study have shown that the performance of the ten participants with non-fluent aphasia improved on the various domains of MANAT-K i.e. functional communication, repetition, comprehension, expression, naming, reading and writing. The improvement seen in the participants varied across various domains in MANAT-K within the non-fluent group. The results have demonstrated that there was a considerable improvement shown by the participants on the functional communication domains for the pre therapy session (M= 53.01 in mid pre therapy session; M=62.32 & M=71.72 in post therapy session). In the repetition domain the participants obtained a mean score of 51.53, 60.17 and 63.36 in the pre, mid and post therapy sessions respectively. The mean scores for comprehension in the pre therapy session, mid pre therapy session and post therapy sessions were 57.22, 63.95 and 65.11 respectively. The participants, for the expression domain obtained a score of 49.06, 61.04 and 63.13 for pre therapy, mid pre therapy and post therapy sessions correspondingly. For the naming domains participants attained a score of 50.59 (pre therapy session); 56.91 (mid pre therapy session) and 63.32 (post therapy session). Further, persons with Broca's aphasia, trans-cortical motor aphasia and global aphasia showed a considerable amount of improvement on functional communication skills from pre to post therapy sessions. It was also seen that the person with global aphasia improved remarkably on this domain from pre to mid to post therapy sessions.

Functional Communication Domain

It suggests that adaptation of appropriate stimuli immediate to one's environment (E.g. activities of daily living) is essential. The activities for persons with non-fluent aphasia have been developed and field tested in this manual. The use of these activities shows improvement in the communication skills at functional level in persons with non-fluent aphasia. The treatment for aphasia often depends on the needs and preferences of persons with aphasia and their family members which will vary from one person to the other. It is imperative that the speech-language pathologists incorporate tasks which are functional in nature, keeping in mind the assets of an individual with aphasia. For example, a bank employee may be given a word retrieval task which requires him to name various activities needed for his job. Evidence comes from the research work by La Pointe, 2005, who reported that treatment should focus on "bridging language skills and adaptations into the real-life needs of the person with aphasia". Thus, the activities mentioned under the functional domain of MANAT-K facilitate the persons with aphasia to relearn the activities of daily living and thereby enhancing a person's participation in communication. Therefore, indirectly or directly the communication skills which were lost in a person with aphasia can be strengthened using the various activities stated in the functional domain of MANAT-K, which inturn improves the quality of life. Researchers like Cruice, Worrall, Hickson and Murrison (2003) have reported that it is imperative that the skills of persons with aphasia in the area of language functioning, functional communication, emotional and social health, and physiological well being are critical aspects which professionals should consider while planning their rehabilitation program.

Repetition Domain

Participant 2 and 4 showed different patterns in their performance for the sub-sections of repetition domain. Participant 2 showed a decrease in the performance in the post therapy session as compared to mid therapy session. On the other hand participant 4 showed a decrease in the performance in the mid therapy session as compared to the post therapy session. The performances of these participants have been discussed later in this chapter as these participants presented other deficits as well. On repetition domain the participants performed relatively better over the sessions across the varied activities in this domain. Training for the repetition tasks for participant 2 and 4 was taken up from the basic level i.e. equivocal responses. However, participant number 8 (transcortical motor type) did not receive the training on repetition tasks since he had already met the criteria of 75% in his performance i.e. he was able to repeat at phrase and sentence level. The better repetition skills in this participant could be attributed to the nature of aphasia. This shows that activities under equivocal (yes/no), egocentric, automatic speech and environmental stimuli are arranged in such a way that appropriate responses from persons with non-fluent aphasia can be elicited and an improvement in the communication skills becomes evident over a period of time. Though, typically repetition is an important aspect to improve the communication skills, these repetition tasks needs to be integrated with the activities involved in improving the auditory comprehension and expression. Further, repetition tasks juxtaposed with the traditional aphasia therapy techniques like Melodic Intonation Therapy, Context-based approach, Response elaboration technique etc. facilitate the sub-vocal rehearsals which inturn helps a person with non-fluent aphasia to monitor their comprehension and expressive skills. Thus, it can be stated that the activities mentioned under repetition tasks in MANAT-K does facilitate the verbal communication skills. Therefore, the activities in this task

can either be carried out independently depending on the repetition skills of a person or can be integrated along with other tasks. Thus, the activities illustrated under this domain have shown that they are flexible enough to bring a change in the verbal output. This is evident from the performance of all the participants including the person with global aphasia.

Comprehension Domain

The performances of all the participants with non-fluent aphasia across the various activities were not statistically significant, but the mean values did show a difference across the sessions. This indicates that persons with non-fluent aphasia did show an improvement in this domain which is relatively better in the post therapy sessions in comparison to the pre therapy sessions. However, in the Broca's aphasia group there was a different trend exhibited by participant number 2 and 4. Also the performance of the participant number 9 did not vary across the sessions. The performances of these participants have been discussed in the later half of this chapter. In the trans-cortical motor aphasia group, participant number 5 and 8 exhibited significant improvement in this domain over the pre, mid and post therapy sessions, although the same was not observed for participant 10. This could be attributed to the presence of better comprehensive abilities at word and phrase levels, where his performance at the baseline was adequate. This shows that though the persons with trans-cortical motor did not show comprehension deficits at gross level, they exhibited deficits at a subtle level. The results also revealed that the person with global aphasia also showed improvement in his comprehension skills over a period of 15 sessions. The improvement shown reflects that the activities illustrated in the manual did bring about a gradual and steady progress in this domain.

Thus, in this manual there is a provision that the activities can be started at different levels depending on the residual and/or restored skills of persons with non-fluent aphasia.

Evidence also comes from the research work done by Caramazza, Capasso, Capitani and Miceli, 2005 who reported that there seems to be no simple forms of impairment of comprehension in persons with Broca's aphasia and this they attributed to the variation of its comprehension level and large cognitive and linguistic heterogeneity in the task.

It is also proposed and advocated that using the present manual the clinician should present the stimulus with reduced rate, no background noise and with different types of cues (auditory, visual, gestural and orthographic) and gradually fading the cues as the therapy session progresses. For word comprehension, several variables can be manipulated to adjust difficulty. The lexical stimuli may be presented with the printed word. Redundant verbal context might help in identifying an object. Picture stimuli can be varied in semantic relatedness and can be supplemented with printed words. Therefore, the activities illustrated in the manual can also be varied for improving the comprehension of a person with non-fluent aphasia by manipulating the stimuli depending on the responses.

Expression Domain

On the expression domain, all the participants showed substantial improvement from 1st to the 15th therapy sessions. It is observed that the performance of the persons with Broca's aphasia was quantitatively significant over the pre to post therapy sessions. However, participant number 4 and 6 revealed a different pattern where there was a subtle decrease in the performance in the post therapy sessions compared to the mid therapy sessions, although their performances

from pre to post therapy sessions showed a significant improvement. The performances of these participants have been discussed later on in this chapter as these participants presented other deficits. Additionally in persons with trans-cortical motor aphasia (N=3), there was substantial amount of progress in this domain across the sessions. However, for participant 10 there was considerable improvement from 1st to 15th therapy sessions, though not much enhancement in this skill was observed from 7th to 15th session. This could be due to the varied presentation and complexity of stimuli and also reduction in the amount and mode of cueing by the clinician.

Furthermore, the person with global aphasia (participant 1) also performed well on the tasks under this domain from pre to the post therapy sessions which is evident from the results. This participant's responses in the expression domain were primarily non-verbal. He responded to the clinician using gestures like head nod/tilt, eye gaze and smile-frown. As the sessions progressed he was able to greet others through handshake and smile. He could communicate his basic needs through eye gaze. This shows that the manual covers a wide range of activities which are framed to elicit the non-verbal responses as well. For this particular participant, activities to improve oro-motor strength were included along with the other activities in the expression section.

Naming Domain

The results in this domain showed that there was an improvement in naming abilities in the 15th session in persons with Broca's (N=4) and trans-cortical motor aphasia (N=3) in comparison to the pre therapy session. It was observed that the persons with Broca's (participant 3, 4, 6 &7) and transcortical motor aphasia (5, 8 &10) performed remarkably well on various sub-sections of naming skills illustrated in the manual over the pre, mid and post therapy

sessions. This typifies that the activities presented in the manual are stimulable for eliciting responses for the naming tasks. These participants were stimulable and a wide range of tasks were available in the manual to elicit the responses. The stimulus presentation moved in hierarchy i.e. category specific to general naming.

Cueing strategies provided to the participants were also faded as the sessions progressed. This reveals that systematic presentation of stimuli and use of appropriate cueing techniques helps persons with non-fluent aphasia to improve their naming abilities. Also working on naming skills in persons with aphasia augments comprehension and expression abilities which in turn help the person to communicate better. This finding is in agreement from the study by researchers like Howard, Patterson, Franklin, Orchard-Lisle and Morton (1985b) and Horton and Byng (2000) who reported that the semantic therapy for anomia is well established both in research and in clinical practice. In addition, for the participant 8 and 10 orthographic cues were provided to elicit responses on the naming tasks, since sight-word reading was well preserved. This finding is in accord with the research report by Henaff Gonon, Bruckert and Michel (1989); Best, Hickin, Herbert, Howard and Osborne (2000) who have reported that orthographic cues have been proven to be effective in facilitating naming by persons with aphasia. Among the facilitation techniques used, the phonemic cue has been generally found to be the most efficacious, but its facilitating effect is short-lived (Patterson, Purell & Morton, 1983).

On the other hand participant number 2 and 9 did not receive therapy for naming domain. The performances of these participants have been discussed later in this chapter as these participants presented other deficits such as apraxia of speech, recurrent epileptic attack, fluctuations in mood.

In addition, activities in this domain were not carried out for person with global aphasia, since the participant's communication was limited to non-verbal mode; he could not name the objects or picture.

Basso, Marangolo, Piras and Galluzi (2001) compared multiple cueing strategies such as repetition, orthographic cueing and reading aloud reported that repetition therapy did not have a long-term improvement in naming for persons with word finding difficulties while orthographic cueing resulted in being long term gain for naming for persons who had left temporal lobe lesions. Howard, Patterson, Franklin, Orchard-Lisle and Morton 1985b; Pring, White-Thomson, Pound Marshall and Davis, 1990 have reported that the semantic training tasks such as pointing on auditory command to one of four pictures and making semantic judgments about the stimuli facilitates naming abilities in persons with aphasia.

There have been research reports by Kiran and Bassetto, 2008 who have reported that treatment should be focused on the restitutive and substitutive approaches. The manual does provide provision for activities which either act as restitutive or substitutive to facilitate naming skills. Further, Chapey, 2008 also reports that persons with aphasia undergo a sequence of semantically involved cues to induce naming of the target word.

Reading and Writing Domain

The activities in this domain were taken up for participant number 8 and 10 as their sight-word reading was well-preserved. In the reading and writing domain participant number 8 (pre therapy session: 66.70; mid pre therapy session: 65.00, post therapy session: 67.13) and participant 10 (pre therapy session: 71.67; mid pre therapy session: 79.76) performed well across

the pre and post therapy sessions. Since the participant 10 met the maximum criteria of 75%, this activity was not further carried out.

For participant number 8 the activities taken up enhanced his reading and writing abilities, though the activities mentioned in the manual are very basic and focuses on day-to-day usage of such reading, writing and arithmetic skills. For the other participants the activities were not carried out because, either they were not literate or due to the varied nature of aphasia, responses in reading and writing could not be elicited such as in persons with global aphasia.

Varied performance of participant number 2, 4, 6 and 9.

Participant number 2 (on the tasks of repetition, comprehension & naming domain), participant number 4 (on the tasks of repetition, comprehension & expression domains), participant number 6 (on the tasks of expression domain) and participant number 9 (on the tasks of comprehension & naming domains) showed varied pattern in their performances. For the participant number 2 and 4, this kind of pattern in their performances could be attributed to the fact that as the therapy session progressed, the stimuli being presented also increased in number and complexity. Further, participant number 2 encountered recurrent epileptic attack during the course of therapy sessions due to which his performance was found to be deteriorated. Additionally, this participant was not able to bring out the verbal responses at word level on picture naming tasks, due to his severe apraxic component, responses could not be elicited.

Further participant number 4 due to his apraxic component exhibited in his speech, could not maintain a consistent response over the sessions. Over-shooting and under-shooting of oral movements was observed whenever he attempted to initiate and complete the tasks. Thus, in

persons with Broca's aphasia, if the performance does not match in par with the baseline, this does not indicate that the participant is not improving, but the improvement shown is being masked by other variables such as apraxia of speech, recurrent epileptic attack, fluctuations in mood, increase in the number and complexity of stimuli. Thus, professionals should be careful in interpreting and documenting the improvement over the sessions and any low scores should not be taken overlooked, but such should be considered as improvement though not in par with the expected responses. Such prejudice should be avoided.

Participant number 6, demonstrated a different pattern in which his performance was better in the mid therapy session as compared to the post therapy session in the expression domain. This could be ascribed to the verity that this participant exhibited obvious deficits in his verbal output, since he was a person with non-fluent aphasia (Broca's aphasia). His speech was characteristically slow, halting and telegraphic (restricted to word/phrase level). He also showed signs of certain speech sound errors at a mild level owing to apraxia of speech.

On the other hand, participant number 9 revealed evident deficits on the comprehension tasks. This may be due to the resolving condition from global to Broca's type. This also explains the heterogeneous nature of the condition where this particular participant demonstrated very obvious comprehension deficits despite being a non-fluent aphasic, in whom generally comprehension abilities is said to be better preserved than the fluent type.

Overall Communication Abilities

It can be observed from the results that the persons with non-fluent aphasia (N=10) improved appreciably over the sessions across all the domains. This is obvious from the overall

mean values [53.04 (SD=18.79), 60.50 (SD=16.67) and 64.37 (SD=14.69) for 1st, 7th and 15th therapy sessions correspondingly]. It is also evident from the results that the participants in the Broca's aphasia group performed considerably well across all the domains over the 15 sessions. However, there was no significant difference noticed for the mid to post therapy sessions. On the other hand, persons with trans-cortical motor aphasia performed well on the various tasks listed in the domains of MANAT-K.

Furthermore, it is also evident from the results that the person with global aphasia also showed obvious improvement in overall communication skills across the sessions. Hence, it can be stated that using MANAT-K, there was a noticeable trend in terms of improvement in overall communication skills of persons with non-fluent aphasia. This improvement was evident when the performances of the participants were compared for their performances across the various domains over the sessions.

This shows that MANAT-K paves way for speech-language pathologists to carry out the activities in a more methodological manner. The activities exemplified in the different sub-sections of the domains provide scope for flexibility and can be used by the clinicians at ease. The clinicians can use this manual along with the traditional therapy techniques used for enhancing communication abilities in persons with non-fluent aphasia. Further, it is also advocated in the manual that the cues play the role of catalyst and if used adequately and appropriately, will bring about the desired responses from persons with non-fluent aphasia hence making the clinical use of the manual more effective. Apart from the use of cues to elicit the responses from persons with non-fluent aphasia, there is also a provision to use other strategies such as vocal/sub-vocal rehearsals, self-correction, repetition, rephrasing, rate of stimulus

presentation and speaking. Also using this manual appropriate feedback can be given for the person with non-fluent aphasia and also to their caregivers.

The sub-sections of the different domains cover a series of activities which can be carried out by the clinicians to fortify a wide range of responses from the persons with non-fluent aphasia. This manual also caters the needs of a person with aphasia whose verbal output is minimal (E.g.persons with global aphasia). Moreover, the strategies used in this manual also give way for the persons with non-fluent aphasia either to restore or compensate the lost communication skills. This view receives support from researchers namely Beukelman, Fager, Ball and Dietz, 2007.

It can be inferred from the results that the feedback given by the speech-language pathologists ranged from “fair” to “excellent” about the manual. This reveals that professionals opined that this manual has good scope in terms of improving the communication skills in persons with non-fluent aphasia. Similarly the ratings from the caregivers of the participants indicated that the overall utility of the manual ranged from “frequently” to “most of the time” from the results. This shows that the caregivers found this manual quite useful bringing about an enhancement in communication skills.

CHAPTER VII

SUMMARY AND CONCLUSIONS

The existing Manual for Adult Non-fluent Aphasia Therapy in Kannada (MANAT-K) developed by Venugopal and Goswami (2004) was reviewed. The study aimed at field testing this manual. The changes were incorporated in the existing manual based on the suggestions given by the 12 speech-language pathologists. This manual was further field tested on 10 persons with non-fluent aphasia who were native speakers of Kannada. These participants were in the age range of 28-73 years. Functional communication, repetition, comprehension and expression naming, and reading and writing are the five main domains which formed the basis of the manual. Each domain also consisted of several sub-sections. The importance of various activities arranged in a systematic manner listed in these domains was intended to improve the communication skills of persons with non-fluent aphasia. Along with the activities, scoring pattern, progress criteria and treatment recording sheet are provided for documenting the responses of persons with non-fluent aphasia. The treatment recording sheet helps the professional in assessing the baseline performance and also recording the improvement over time. The data of the current study was quantitatively analyzed for performances by all persons with non-fluent aphasia (N=10) across various domains and overall communication abilities across sessions. The qualitative analysis of clinicians' and care-givers' responses about the overall effectiveness of the treatment manual was also carried out.

The field tested results have shown that all the 10 persons with non-fluent aphasia did show improvement on various domains i.e. functional communication, repetition, comprehension, expression, naming, reading and writing. The improvement shown by persons

with non-fluent aphasia reflects that this manual helps in improving various communication skills. The stimuli presented in the manual have been field tested and thus has proved to be effective in the management of persons with non-fluent aphasia.

Furthermore, it is also evident from the results that this manual is quite effective in eliciting responses even in persons with minimal/no verbal responses. Since the manual covers a wide range of activities covering different domains to improve linguistic skills, it provides scope for flexibility and the speech language pathologists can carry out the activities to elicit maximum responses from the person with non-fluent aphasia. Also, using this manual suitable feedback can be given to persons with non-fluent aphasia and also to their caregivers. In addition, it is emphasized to use this manual along with various traditional therapy techniques, appropriate cueing strategies as stated in the manual can bring about a difference in the communication skills in persons with non-fluent aphasia.

By using this field tested manual, it is expected that speech language pathologists can be provide better and effective rehabilitation for persons with aphasia. MANAT- K is quite handy for speech language pathologists who face the problem of using appropriate activities for improving various communication skills in persons with aphasia. This will facilitate the professionals in documentation of activities and responses in a scientific manner and make way for a better evidence based practice.

Implications of the study

The field tested manual as stated before is quite flexible and can be used by speech language pathologists, student clinician and caregivers of persons with non- fluent aphasia to

improve the communication abilities, additionally, the training material in this manual can be easily modified by the clinicians to suit the individual needs of persons with aphasia.

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APPENDIX I

Feedback questionnaire for Aphasia Treatment Manuals

Sl. No	Parameters	Very Poor	Poor	Fair	Good	Excellent
1	Simplicity					
2	Familiarity					
3	Size of the picture					
4	Color and appearance					
5	Arrangement					
6	Presentation					
7	Volume					
8	Relevance					
9	Complexity					
10	Iconicity					
11	Accessibility					
12	Flexibility					
13	Trainability					
14	Stimulability					
15	Feasibility					
16	Generalization					
17	Scope of practice					
18	Scoring Pattern					
19	Publications, Outcomes and Developers (professional background) *					
20	Coverage of parameters (Reception and expression)					

Put a tick (√) in the appropriate box

Any other suggestions:-

Definitions of Parameters

1. Simplicity: Are the test stimuli comprehendible?
2. Proverbiality: Is the test material familiar to the user?
3. Size of the picture: Whether the picture stimuli are of appropriate size?
4. Color and appearance: Are the picture stimuli appropriate in terms of colour and dimension?
5. Arrangement: Whether the picture stimuli are within the visual field of an individual?
6. Presentation: Are the number of stimuli in each section placed appropriately?
7. Volume: Is the overall manual appropriate in size?
8. Relevance: Whether the test material is culturally and ethically acceptable?
9. Complexity: Is the material arranged in the increasing order of difficulty?
10. Iconicity: Does the picture stimuli appear to be recognizable and representational?
11. Accessibility: Is the test material user-friendly?
12. Flexibility: Can the stimuli be easily modified?
13. Trainability: Can the stimuli be used for intervention purposes in different milieu?
14. Stimulability: Does the stimulus material elicit responses from the individuals?
15. Feasibility: Whether the test material is viable?
16. Generalization: Can the test material be generalized to any other adult language disorders and various settings?
17. Scope of Practice: Is the test material within the profession's scope of practice or within the personal scope of practice?
18. Scoring Pattern: Whether the scoring pattern followed in the resource material applicable?
19. Publications, outcomes and developers (Professional Background): Is there any other resource material similar to this test material which you are aware of?
20. Coverage of parameters (Reception & Expression): Does the resource material contain the essential language components to be treated?

APPENDIX II

Feedback questionnaire about the expediency of the manual from the caregivers

Sl. No	Parameters	Not at all	Sometimes	Frequently	Most of the time
1.	Does this manual provide support and confidence to carry out activities at home?				
2.	Do you feel whether the activities in the manual are helpful and flexible to improve communication?				
3.	Does the manual provide better understanding of the ongoing treatment communication process?				
4.	Are the activities given in the manual in each section useful in different situations?				
5.	Are the activities and related items used in the manual familiar?				
6.	Does the manual contain appropriate number of stimuli in each section?				
7.	Whether the picture stimuli are easily recognizable and representational?				
8.	Whether the manual is user-friendly and trainable?				
9.	Whether the amount of effort and time involved in rehabilitation is				

	satisfactory?				
10.	Are you using any other training material(s) of the same kind? If yes how the materials used are different from each other?				

APPENDIX III

Eight Step Continuum Treatments (Rosenbek et al. 1973)

1. The clinician tells the person to "watch me" and "Listen to me" and says the target word. They then both say the target word in unison.
2. The clinician tells the person to "watch me" and "Listen to me" and says the target word. Then, while the clinician silently mouths the word, the person says the word aloud.
3. The clinician tells the person to "watch me" and "Listen to me" and says the target word. The person then repeats the word independently.
4. The clinician tells the person to "watch me" and "Listen to me" and says the target word. The person then repeats the word several times independently.
5. The clinician presents the target word written on paper, and the person says the word while looking at it.
6. The clinician presents the target word written on paper, and removes it, and then the person says the word.
7. The person says the word in response to a question from the clinician. For example, if the target word were the person's name, the clinician would ask, "What is your name?" the person would then say his or her name.
8. Role playing with the clinician, family, or friends is used to evoke the target word in an appropriate conversational context.

Note: The following list is a summary of what the clinician and the person with apraxia of speech do in each of the eight steps. Not all persons with apraxia of speech do in 1 or move through every step. Some will be able to skip steps, depending on the severity of their deficits.

APPENDIX IV

Lip Strengthening Exercise Using Button and String (Dworkin, 1991)

A lip-strengthening task that uses a button and string. For this exercise, a nickel-sized button and a 12-inch piece of string are needed. Thread the string through the buttonholes and tie a knot in the end. Place the button against the central incisors and behind the midline of the lips. Instruct the person to close the lips around the button and resist efforts to pull the button from the mouth. The clinician should rest the middle, ring, and little fingers against the person's chin and tug the string by the index finger and thumb. The clinician should maintain a steady tugging force that challenges the person but does not break the lip seal easily. Right or left lip strength can be exercised by placing the button against the teeth and behind the lips at each corner of the mouth. The clinician should pull gently and encourage the person to press the lips together as tightly as possible for about 5 seconds. Repeat until 10 consecutive trails are completed.

Lip Puckering

In this strengthening task, the person is asked to pucker the lips fully and hold them in that position for a given amount of time, perhaps 10 seconds. The clinician should determine if the person is able to move the pucker to one side of the mouth, hold it, and then move it to the other side. Repeat this side-to-side lip puckering movement until 10 consecutive trails are completed.

Holding a Smile

Ask the person to smile as possible and hold the lips in that position for about 5 to 10 seconds. Swigert (1997) suggested that the clinician use the thumb and index finger to try pushing the lips into a pucker while the person resists the action by maintaining the smile.

Jaw Muscle Strengthening

The initial steps in strengthening the jaw muscles should concentrate on merely opening and closing the mouth fully. For example, the person should attempt to complete 3 sets of 10 full mouth openings and closings each session. Once the person is able to fully close the mouth, treatment should emphasize increasing the strength of the closure. The person is encouraged to sustain for about 5 seconds on each trial.

Treatments for Phonation Deficits

- **Pushing and pulling procedures**- Pushing and pulling procedures help the vocal folds adduct by providing an overall increase in muscle contractions in the torso and neck. Given enough time and practice, these procedures might increase muscle strength in the larynx. Examples of these techniques include having a sitting person push up on the arms of a chair while phonating an open vowel or having the person pulling up on the edge of a heavy table while prolonging a vowel.
- **Holding breath-** Holding a deep breath of air requires the ability to fully adduct the vocal folds. The tighter the adduction, the better the air will be held in the lungs. Ask the person to inhale deeply and hold his or her breath. Use a small mirror under the nostrils to detect leaking air.

Work to the point where the person can hold a breath of air for about 15 seconds over 10 consecutive trials. Be sure to give sufficient rest periods between the trials.

- **Head turning and sideways pressure on the larynx-** When there is unilateral weakness or paralysis of one vocal fold, phonation will be breathy because the weak fold will not be able to fully adduct to the midline of the glottis. With some persons, a more complete vocal fold adduction may be achieved either when head is turned toward the affected side or when the larynx is pushed by hand from the affected side (that is, pushed toward the unaffected side). In both instances, the weakened vocal fold can be brought closer to the opposite fold, thereby improving the quality of the phonation.

APPENDIX V

Treatment recording sheet

Activity	Stimulus number	Stimulus mode	Response mode	Target response	No. of trials										% correct responses
					1	2	3	4	5	6	7	8	9	10	

Appendix VI

Profile analysis form of the overall communication skills for persons with aphasia

Improvement in terms of Percentage	Functional communication Domain								Repetition domain					Auditory Comprehension domain			Naming domain				Expression Domain			Reading and writing domain			
75% and above																											
51-75%																											
26-50%																											
0-25%																											
Activities	1	2	3	4	5	6	7	8	1	2	3	4	5	1	2	3		1	2	3	1	2	3	1	2	3	4

Note: The clinician shades the columns for the responses in terms of percentage across each domain. This signifies that more the shaded area the better is the performance.

KEY

Functional communication domain

1-Responding to own name

2- Recognition of family members

3-Recognition of familiar objects

4-Comprehension of action verbs

5-Comprehension of simple verbal commands

6-Functional verbal language

7-Activities of daily living

8-Activities of independence

Auditory Comprehension domain

1-Semantic level

2- Syntax level

3-Discourse level

Repetition domain

1-Equivocal response

2- Automatic speech

3-Egocentric stimuli

4-Environmental stimuli

5-Phrases and sentences

Expression domain

1-Picture description

2 -Narration

3- Spontaneous speech

Naming domain

1-Confrontation naming2-Responsice naming

3-Lexical generative naming

Reading and writing domain

1-Functional reading and writing

2-Advanced reading

3-Advanced writing

4-Arithmetic skill