Manual for Adult Non-Fluent Aphasia Therapy-in Kannada (MANAT-Kannada)

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Abstract

Language treatment for the aphasic patient has taken many different forms. Some methods, such as Schuell and Associates (1964), stimulation treatment, were designed to be adaptable to aphasic patients in general whereas Melodic Intonation Therapy (Sparks, 1981) applies only to patients who meet specific language profile criteria. Treatment varies in their underlying philosophies. Some derive directly from the aphasiologists belief of what aphasia represents. It is assumed that the clinician is not teaching new material to the aphasic patient, but rather is attempting to improve, reorganize, or maximize the efficiency of the impaired language system. The training material are available in English, but in Indian context a very few attempts have been made. One such manual for aphasia therapy in English has been developed by Longerich, (1968). A manual for treatment of adult non-fluent aphasics in Hindi was also developed by Despande, (2004). Thus there is a need for the development of a manual in Kannada. The present manual consists of five sections namely Functional Communication, Repetition, Comprehension, Expression, and Naming. The illustrations of various activities are based on the principle of aphasia management. Scoring and progression criteria are also provided. This manual would provide the clinician as well as the caregiver with a readymade training material.

Introduction

It is very difficult to know, what aphasia therapy is. What occurs under the heading of aphasia rehabilitation in one place may have nothing in common with what occurs in a different place except for the fact that a speech therapist and a patient interact with each other (Basso, 1989).

The management of aphasic patients is a complex undertaking that involves the coordinated efforts of a rehabilitation team representing several disciplines. This means that speech language pathologists must use language treatment programs that have proved to be efficacious and that have been described in sufficient detail so that they can be reliably utilized by practicing clinicians rather than restriction to the designer's use alone.

Darley (1972), in his classic article, challenged the profession to answer three important questions.

1. Does language treatment provide significant positive benefits beyond those expected due to spontaneous recovery?
2. Are the treatment gains worth the time, efforts and cost incurred in achieving them?
3. Which methods of language treatment are most effective?

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Various therapy techniques have been devised over the years for the treatment of specific impairments in the language aspects for e.g. the Helm Elicited Language Program for Syntax Stimulation (Helm-Estabrooks and Ramsburger, 1986) which targets the syntatic ability of a language. Likewise, some therapy methods believe in overall language stimulation e.g. Language Oriented Treatment (Bandur and Shewan, 2001).

Need for the Study

The training material are available in English, but in Indian context a very few attempts have been made. One such manual for aphasia therapy in English, has been developed by Longerich, (1968). A manual for treatment of adult non-fluent aphasics in Hindi was also developed by Despande, (2004). Thus there is a need for the development of a manual in Kannada, which would provide the clinician as well as the caregiver with a readymade training material. The illustrations of various activities are based on the principle of aphasia management.

Review of Literature

Kertesz (1985) defined aphasia as "an acquired loss of language due to cerebral damage, characterized by errors in speech (paraphasias), impaired comprehension and word finding difficulties.

Aphasia is the loss of or deterioration of verbal communication due to an acquired lesion of the nervous system involving one or more aspects of the process of comprehending and producing verbal messages" (Basso and Cubelli, 1999).

Classification of Aphasia

Over the years, clinicians have indulged in the intellectual exercise of separating varieties of aphasia on the basis of their observation of clusters of language Symptoms. Goodglass and Kaplan (1983) classified aphasia based on the fluency of language as:

1. Fluent. 2. Non-fluent.

Non-fluent	**Fluent**
Broca's Aphasia	Wernicke's Aphasia
Transcortical Motor Aphasia	Transcortical sensory Aphasia
Global Aphasia	Conduction Aphasia
	Anomic Aphasia

Following is the classification system given by Kertesz (1979)

1) Broca's 2) Wernicke's 3) Conduction 4) Transcortical Motor 5) Transcortical Sensory 6) Isolation 7) Anomic and 8) Global aphasia.

Howes and Geschwind (cited in Kertesz, 1979) classified aphasia into two sub-categories:

a) Type A (Non-Fluent)

b) Type B (Fluent)

Non-Fluent aphasia has stressed the importance of non-linguistic factors such as disconnection of cortical areas, memory capacity, the effect of stimulus variables on verbal output and compensatory strategies on patient's language production. The characteristics of

above-mentioned types of aphasia vary as the site of lesion varies and deficits can be seen in linguistic, extra-linguistic and non-linguistic spheres.

Listed below are the various deficits, which are often associated and co-occur with aphasia. Usually these disorders are seen in non-fluent type of aphasia, which may create confusion during differential diagnosis. The main reason of highlighting the factors is that these deficits seen will help in profiling the strength and weaknesses of the aphasic patients.

Non-linguistic factors

The non-linguistic factors which include neurological and behavioral complications of aphasia that are incompletely understood go unrecognized and interfere with both the diagnosis and the treatment of aphasia.

I. Sensory disorders

- *Hemisensory loss*
- *Visual-Field Defect*
- *Agnosia*

II. Motor Disorders

- *Apraxia*
- *Pseudobulbar palsy*
- *Extraocular Motor Paralysis*
- *Hemiparesis*

III. Disorders of awareness

- *Confusional State*
- *Inattention*
- *Inintention*

IV. Behavioral changes

- Variability of response
- Emotional liability
- Perseveration
- Euphosia as self-defense
- Depression

V. Disorder's of cognitive function

- *Amnesia*
- *Dementia*
- *Gerstman syndrome*
- *Epilepsy*

Linguistic deficits in non-fluent aphasics

Aphasia exhibits many linguistic deficits, which is the main concern for Speech Language Pathologists, and these aspects should be kept in mind when an aphasic patient is intervened. These aspects are:

- Articulation
- Loss of verbal fluency
- Word finding difficulty
- Repetition
- Loss of grammar and syntax
- Paraphasia
- Auditory comprehension
- Reading
- Writing

Extralinguistic deficits

A) Impairments of abstract attitude

- Prepositional language is worse than emotional language.
- Difficulty in grasping shift in attitudes.
- Control over the correctness of automatism is lost.
- Can utter word but not able to use them as symbols.
- Ambiguity of words is lost.
- Metaphorical use of words is lost.

In summary, the deficits seen in aphasics vary depending on the site, extent, type of aphasia, age and emotional ability. Clinically, when profiled no two aphasics resemble in terms of deficits. Thus clinical testing and management should be tailoring made, keeping in mind the individual needs of the aphasic patient. The several approaches in literature have been reported which are being discussed.

Approaches to language treatment

Language treatment for the aphasic patient has taken many different forms. Some methods, such as Schuell and Associates (1964), stimulation treatment, were designed to be adaptable to aphasic patients in general whereas Melodic Intonation Therapy (Sparks, 1981) applies only to patients who meet specific language profile criteria.

Treatment varies in their underlying philosophies. Some derive directly from the aphasiologists belief of what aphasia represents. If the language impairment in aphasia does not represent a loss, then treatment cannot be viewed primarily as a re-education program. This view is supported by Schuell and Co-workers (1964) and Poeck (1982), who stated that aphasia language treatment is neither retraining language teaching language to an adult as a second language nor teaching language to a child who has not yet acquired it. It is assumed that the clinician is not teaching new material to the aphasic patient, but rather is attempting to improve, reorganize, or maximize the efficiency of the impaired language system.

Another school of thought regarding language treatment views aphasia as representing a reduced efficacy of functioning. Perhaps two sub-groups of thought should be distinguished in this approach.

The language system is impaired and therefore operates less efficiently and perhaps differently from normal.

Access to the language system is cut off, thereby resulting in disturbed language performance. Treatment approaches aligned with this view of aphasia generally attempt to stimulate language processing in the patient.

The various approaches used to treat language aspect for Non-fluent aphasia are:

- Response Elaboration training (RET)
- Melodic Intonation Therapy (MIT)
- Voluntary control of Involuntary Utterances (VCIU)
- Language Oriented Treatment (LOT)
- Helm Elicited Language Program for Syntax Stimulation (HELPSS)
- The equivocal response
- Visual Action Therapy (VAT)
- Gestural communication
- Promoting Aphasics Communicative Effectiveness (PACE)
- Communication Boards
- Writing
- De-blocking

The therapy techniques suggested in the literature focus mainly on one or two language aspects. These therapy techniques follow different principles, which make them unique. The content relevance of a language has strong impact on the communication abilities (Longerich and Boreaux, 1954). Though the history of aphasia treatment is long, most of the literature basically refers to Western culture and English language. The vast ethno-cultural and language factors make it impossible to apply these therapy techniques directly in Indian clinical situations.

Therefore, treatment program has to be tailor-made for each aphasic individual. Along with this a detail social history, individual's pre-morbid lifestyle interest, skills, attributes, detail family history and information on family structure are important in each individual case. (Longerich, 1968).

Aim of the Study:

The aim of the study was to develop a treatment manual for adult non-fluent aphasics in Kannada.

Method

- The present manual is designed based on general principles and guidelines prescribed in the literature for non-fluent adult aphasias.
- The books, journals and Internet sites were used to review literature regarding management of non-fluent aphasics and the intervention strategies, the information was organized and compiled.
- The treatment parameters considered were formulated under the following five headings:
  - ❖ Functional Communication (FC).
  - ❖ Repetition (R).

- ❖ Comprehension & Expression (C & E).
- ❖ Naming (N)

- Vocabulary and sentences used in everyday situation were chosen as the training material. The training material was tested for familiarity with 10 Speech and Language Pathologists (student clinicians who were native Kannada speakers). They were asked to judge the training items as "familiar" or "unfamiliar". Those, which were judged as "unfamiliar or ambiguous" were deleted.
- Professional artists drew pictures to depict the training material, wherever necessary.
- The pictures were tested for "ambiguity" by 5 Speech Language Pathologists and were judged as "unambiguous".
- The speech language pathologists were also asked to comment on the appropriateness and hierarchy of items used in the training material.

Development of the manual

The present manual comprises of 5 sections, they are:

- Functional Communication (FC)
- Repetition (R)
- Comprehension (C)
- Expression (E)
- Naming (N)

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

Functional Communication (FC)

This is a section where it covers aspects related to daily living like common verbs, nouns and simple reading and writing tasks which are basic and are applicable in everyday life.

- Responding to own name.
- Recognition: Names of family members.
- Recognition: Familiar objects.
- Understanding verbal directions.
- Functional verbal language.
- Fill up
- Functional reading (comprehension)
- Functional writing.

Repetition (R)

This section again is sub-divided into several sub-sections which cover aspects like phrases, greetings, egocentric stimuli etc. where the patient has to repeat the stimuli provided by the clinician.

- Equivocal response
- Automatic speech
- Egocentric stimuli
- Environmental stimuli
- Greetings
- Phrases

Comprehension and Expression (C & E)

This section has many sub-sections where it covers aspects related to semantics and syntax. It has mainly three sections namely vocabulary, syntax and semantics. It focuses on improving the comprehension and expression aspect at different linguistic levels. The sub-sections are as follows:

- Vocabulary
- Syntax
  - ❖ Person, Number, Gender
  - ❖ Tenses
  - ❖ Sentence Types
  - ❖ Comparatives
  - ❖ Voice
  - ❖ Case markers
  - ❖ Clauses
- Semantics
  - ❖ Polar questions
  - ❖ Antonymy
  - ❖ Synonymy
  - ❖ Syntagmatic and paradigmatic relations
  - ❖ Semantic similarity
  - ❖ Semantic contiguity
  - ❖ Semantic anomaly

- Naming (N): This section aims at improving the naming aspect of an individual which in turn help in building the vocabulary and fluency. Following are the sub-section
  - ❖ Lexical generative
  - ❖ Category specific
    - o Word fluency
    - o Phoneme fluency
    - o Confrontation naming
    - o Responsive naming.
  - ❖ The activities of each sub-section are arranged in hierarchical order.
  - ❖ Scoring pattern and the progress criteria have been provided for the beginning of each subsection.
  - ❖ Overall progress criterion is also provided for moving from one level to another.

MANAT – KANNADA

Manual for Adult Non-Fluent Aphasia Therapy- In Kannada (MANAT)

MANAT - Kannada comprises of 5 main sections which are as listed below:

I. Functional Communication (FC)

The focus of this sub-section is to enable the aphasic patient to use some minimal amount of language in his daily life. The pictures in this section are arranged in hierarchical order.

II. Repetition (R)

Pictures are not provided for this particular section. Here the patient is expected to repeat the stimuli with the help of auditory cues alone. Stimuli are arranged in hierarchical order.

III. Comprehension and Expression (C & E)

This sub-section focuses on providing intensive training in various aspects of language. Patient is exposed to simpler and lesser number of stimuli initially. As the patient progresses to later stages of the sub-section, the number of stimuli increases. However, in the subsections like tenses, comparatives and case markers the patient is expected to function at a higher level.

IV. Naming (N)

Pictures are provided for all the confrontation naming activities. Initially the patient is exposed to two pictures and slowly the number of pictures increase as the patient progresses. Cues are provided for each sub-section.

Scoring:

The scoring pattern for the above sections would be as follows where:

"0" score will be given if there is no response, unintelligible or incorrect response.

"1/2" score will be provided if responses are partially intelligible and correct.

"1" score will be provided if responses are intelligible and correct.

Progress criterion list

1. Begin with Functional communication and comprehension simultaneously. Only when the total score in each of these sections reaches 25%, move to the next level.
2. The activities of the repetition section should be introduced now. When the patient scores 25% in repetition and 50% in functional communication and comprehension, each, move to the next level.
3. When the patient scores 100% on both functional communication and comprehension and 50% on repetition, move to the next level.
4. The activities of expression should be introduced now. When 25% score is reached in the expression section and 75% in repetition move to the next level.
5. 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.

Conclusion

The present manual MANAT-Kannada was prepared based on the linguistic characteristics of the non- fluent aphasics. The main domains addressed in the present manual are:

1. Functional communication (FC)
2. Repetition (R)
3. Comprehension and Expression (C & E)
4. Naming (N)

These sections focus on a structured program to improve linguistic abilities under various domains.

a. The material in the sub-sections is familiar and is arranged in hierarchical order.

b. A scoring pattern and progress criterion is given for each subsection.

c. Progress criterion for the progression from one subsection to the other is also given.

Implications of the study

Trained Speech-Language Pathologists and student clinicians can use the manual. Further, the clinicians can easily modify the training material according to the individual patient's needs.

Limitations of the study

1. The other parameters of language like reading, writing and cognition have not been taken up (except few basic skills in the functional communication section).
2. Due to time constrains the manual could not been administered on the patients.

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