Word Retrieval Manual in Hindi for Individuals with Aphasia

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Abstract

Lexical retrieval problems are pervasive in aphasia and are often an important focus of treatment. The purpose of the present study was to develop a treatment manual for word retrieval deficits for individuals with aphasia speaking Hindi. The manual was based on general principles and guidelines reported in the literature for word retrieval deficit in individuals with aphasia. The treatment task was divided under two categories i.e. performance task and speed task. Under these tasks various naming categories have been presented. Line drawing pictures have been used under various categories as stimulus. Stimulus has been judged by the SLPs speaking Hindi for its semanticity and familiarity. Stimulus has been arranged ranging from simple to complex order.

Introduction

The ability to refer to objects by names may be at the root of human language development in phylogeny as well as in ontogeny (Terrace, 1985). Naming is a relatively straightforward cognitive operation whose outlines are well understood. Naming uses only a limited number of cognitive processing stages and the nature of these stages are fairly well known.

Naming problems are a core symptom of aphasia and all persons with aphasia have naming problems. Different sites of lesion responsible for these problems differ among aphasia syndromes and even within an individual with aphasia but their prevalence and effect on communication make them a natural target for treatment. Word retrieval failure can stem from either phonologic or semantic stages of lexical processing; it is of interest to examine whether treatments that target purported stages of lexical dysfunction have greater influence on recovery of word retrieval.

Investigations of word retrieval impairment have moved their focus from nouns to verbs. Some recent treatment investigations have been influenced by cognitive neuropsychological models that recognize that word retrieval involves complex series of processes and representations. Researchers generally acknowledge that word retrieval of familiar words requires, at a minimum, semantic and phonologic lexical mechanism whereby word meanings and corresponding spoken forms is activated for familiar words.

Various therapy techniques have been devised over the years for the treatment of specific impairments in the parameters of language. There are number of manuals available in western

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context as well as in Indian context but most of them are not treatment specific. In India Richa (2004) and Venugopal (2005) developed a Therapy manual for adult non-fluent aphasia in Hindi and Kannada respectively.

The vast ethno cultural and language factors make it difficult to apply these therapy materials directly in clinical situations and substantial work has not been done in Indian context. There is a dearth of training material in Indian languages. Thus the present manual in Hindi is an attempt to develop remediation strategies of word retrieval deficit in all individuals with aphasia which can provide readymade material to the clinician and caregivers.

The aim of this study is to develop a treatment manual for word retrieval deficits in Hindi speaking individuals with aphasia.

Method

This manual was based on general principles and guidelines reported in the literature for word retrieval deficits in individuals with aphasia. Intervention strategies were reviewed from books, journals, internet sites and other possible sources.

The treatment tasks were divided under two broad categories

- Level I
- Level II

Level I: Task of maximal performance (Cronbach, 1970)

Performance task were designed to assess what a person can do under the conditions represented by the testing situations.

Level II: Speed task

Speed task refers to the ability of an individual to name as many items as possible in one minute (Heaton, Grant & Matthews, 1992; Spreen & Straus, 1991).

Performance Task

3. **Repetition Naming**: Repetition is to determine if patient can repeat word or phoneme. E.g., Repeat letter 'P' or repeat word 'Duck'.
4. **Category Naming:**
   - Semantic Category: classifying on the basis of generalized idea of class of objects. E.g., Animals, fruits, body parts
   - Perceptual category: sensory quality of stimulus. E.g., Shape, size
5. **Confrontation Naming:** By representing objects, action, events and relationship or pictures. E.g., can you name this picture/object?
6. **Responsive Naming:** It refers to a task where in the patient provides a substantive word in response to contextually related questions e.g., what color is snow? Task also helps retrieval of other word categories such as action words and nouns.

7. **Automatic closure naming:** The capacity to complete a close ended sentence or phrase such as "The sky is_____" (Blue).

Speed Task

1. **Automatic serial naming**: Recitation of over learned material. E.g., Days, months, counting
2. **Verbal Fluency**: The word fluency task involves producing a number of words to single stimulus. Two types of word fluency tasks include producing words starting with a letter and a lexical category (Denton & Spreen, 1967). E.g., Phoneme fluency and semantic fluency respectively
   - Different tasks were categorized keeping in mind different symptoms of individuals with aphasia i.e., in anterior aphasia stress was given equally to speed and performance task while in posterior aphasia more emphasis was given to performance tasks.
   - Stimuli used were line drawing pictures, objects, written form material.
   - Pictures were taken from internet sites and a professional artist drew few.
   - The pictures were tested for ambiguity.
   - Stimuli were arranged in hierarchy keeping in mind the level of word retrieval

Visual Material	Verbal Material
Real Objects	Content Words
Line Drawing Pictures	Noun
Words, Letters	Adjective
	Verb
	Function Words

   - Total number of tokens ranged from 12 to 20 in different section
   - Performance criteria or progression criteria are 25%, 50%, 75% cutoff:

     Level 1: 25%
     Level 2: 50%
     Level 3: 75%
   - Progression criteria for each level of activity are given below each subsection.
   - Hindi speaking SLP's judged the training material for its familiarity and semanticity
   - Daily used vocabulary and sentences were chosen as the training material.

Scoring:

The responses will be scored as correct or incorrect responses. '0' score will be allotted for incorrect response and '1' for every correct response. The scoring sheet was designed for keeping the record of patient's responses.

WORM-HA: consists of two main sections

1) Performance task

2) Speed task

Performance Task: Aims to enable the individuals with aphasia to retrieve as many words as possible through various sub-tasks. Under performance task there are five sub-tasks which are ordered hierarchically. These sub-tasks are:

I. Repetition naming (RA): It consists of three levels

a. Level-1: Includes repetition of syllables and words. A total of 12 items with 6 tokens for each syllable and word repetition

b. Level-2: includes repetition of phrases (total 4 tokens)

c. Level-3: includes repetition of phrases (total 4 tokens)

II. Category Naming (CAN): it consists of two main categories

d. Semantic category (class of object)

e. Perceptual category (shape & size)

Semantic category: it consists of 14-sub categories including daily object, body parts, furniture, clothes, fruits, vegetables, colors, professionals, kitchen objects, animals, vehicles, birds, electronic items and tools.

Total number of tokens range from 8 to 20 in each section.

Perceptual category: Consists of shapes and sizes with total no. of tokens being 14

III. Confrontation naming (CON): consists of object or picture naming with 32 tokens.

IV. Responsive naming (REN): it is task which provides a substantive word in response to contextually related questions with 20 tokens.

V. Automatic closure naming (CAN): refers to complete close-ended sentences or phrases. Total no. of tokens in this category is 20.

Speed Task

This aims to improve the reaction time of the individuals with aphasia on a given task. Speed task has two sub-sections:

I. ***Automatic serial naming***: it includes retrieval of over learned behavior. Eg. tell the numbers or alphabets

II. ***Verbal fluency:*** includes two types of fluency tasks namely semantic and phonemic fluency.

a) Semantic fluency consists of within category and remote category fluency. It has three stages namely stage1, stage 2 and stage 3.
b) Phoneme fluency: consists producing the words starting with specified syllable. Eg. Tell the word that starts with syllable /pa/. It has three stages namely stage 1, stage 2 and stage 3.

Cueing hierarchies

i Named with visual cues
ii Named with phonemic cues
iii Named with fill in cues
iv Named without any cues

Progression Criterion

Performance task begins with repetition naming. The repetition activity has different levels and when the patient scores 25% at first level move to the next level.

- Level 1: 25%
- Level 2: 50%
- Level 3: 75%

In category naming if patient achieves 25% criteria move towards next level and more number of pictures can be added

Note: within category progression criteria should be 50% (Eg. Within the category of animals two sub-categories like wild and domestic animals; subject should have 50% of performance in one category following which the other can be taken up.)

Speed task begins with automatic serial naming

Instructions are provided for each task separately

Scoring

The responses will be scored as correct or incorrect responses. '0' score will be allotted for incorrect response and '1' for every correct response.

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