Discovering Word-Class Deficits in Persons with Aphasia

Authors : Yashaswini Channabasavegowda, Hema Nagaraj

Abstract : Aim: The current study aims at discovering word-class deficits concerning the noun-verb ratio in confrontation naming, picture description, and picture-word matching tasks. A total of ten persons with aphasia (PWA) and ten age-matched neurotypical individuals (NTI) were recruited for the study. The research includes both behavioural and objective measures to assess the word class deficits in PWA. Objective: The main objective of the research is to identify word class deficits seen in persons with aphasia, using various speech eliciting tasks. Method: The study was conducted in the L1 of the participants, considered to be Kannada. Action naming test and Boston naming test adapted to the Kannada version are administered to the participants; also, a picture description task is carried out. Picture-word matching task was carried out using e-prime software (version 2) to measure the accuracy and reaction time with respect to identification verbs and nouns. The stimulus was presented through auditory and visual modes. Data were analysed to identify errors noticed in the naming of nouns versus verbs, with respect to the Boston naming test and action naming test and also usage of nouns and verbs in the picture description task. Reaction time and accuracy for picture-word matching were extracted from the software. Results: PWA showed a significant difference in sentence structure compared to age-matched NTI. Also, PWA showed impairment in syntactic measures in the picture description task, with fewer correct grammatical sentences and fewer correct usage of verbs and nouns, and they produced a greater proportion of nouns compared to verbs. PWA had poorer accuracy and lesser reaction time in the picture-word matching task compared to NTI, and accuracy was higher for nouns compared to verbs in PWA. The deficits were noticed irrespective of the cause leading to aphasia.