Structural Variation and Diadochokinetic Sequencing in the Cerebral Palsied and Normals

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The present study was aimed at finding out the possible relationships between the different oral structures and the diadochokinetic tasks in the normals and the cerebral palsied population. The study also aimed at comparing the performance of different age groups in normals and C.P. subjects on the isolated, combined and isolated Vs combined diadochokinetic tasks, cognate pair comparison on the different DDK tasks and to see if a developmental trend exists in the normal and C.P. population.

The subjects taken for this study were 57 (thirty normals and twenty seven cerebral palsied) in the age range of 4 to 14 years.

The chosen diadochokinetic speech task required the active participation of the articulators, that is the lips, jaw, tongue and velopharynx. also a combination of the above structures namely lip-jaw, jaw-tongue, lip-velopharynx, lip-tongue, jaw-velopharynx and velopharynx.-tongue were selected to measure the combined action of the oral structures.

The subjects were required to repeat rapidly the isolated and combined diadochokinetic tasks for a duration of five seconds with least distortion in the speech sounds. The number of phonemes for five seconds was counted using the count by time method. The final scores of five seconds was converted to per minute scores and were subjected to statistical analysis. The following summarizes the findings of the study.

1. The normals have shown a better performance in terms of diadochokinetic scores in all the diadochokinetic tasks compared to C.P. population.
2. Isolated Vs combined performance in normals shows that jaw-tongue and jaw-velopharynx diadochokinetic task performance were better than jaw diadochokinetic task performance. The lip-tongue performance was better than lip diadochokinetic performance.
3. Isolated Vs combined performance in C.P. population shows that jaw-velopharynx diadochokinetic task was better than jaw diadochokinetic task and jaw-tongue was better than jaw diadochokinetic task.