ABSTRACT

The present study was aimed at exploring possible hemispheric processing differences between stutterers and nonstutterers with reference to verbal tasks and visuospatial tasks. The study was also designed to test the hypothesis of aberrant interhemispheric relations in stutterers. In addition, the study also attempted to find out whether stutterers can be subgrouped according to characteristics like familial history, age of onset and severity, based upon their performance in the tasks.

Thirty male right-handed stutterers were compared with a control group of thirty male right-handed volunteers who were matched for age and education. Subjects ranged in age from 15 to 35 years. Only subjects who could read, write and speak English were selected.

Socio-demographic data was collected by individual interviews. The Edinburgh Handedness Inventory was used to assess handedness. Severity of stuttering was assessed using the Stuttering Severity Instrument. The dual task study consisted of 2 conditions (a) motor task (index finger tapping) and verbal task (word recognition); (b) motor task (index finger tapping) and visuospatial task (face recognition). The dual task paradigm was utilized to study intrahemispheric processing of motor and cognitive tasks. The bimanual handwriting task was used to study interhemispheric processing.
The data was analysed using statistical methods like the t test, the One Way Analysis of Variance (ANOVA), the paired t test and the Repeat Measures ANOVA.

The dual task study found both stutterers and controls to show symmetric interference effects in the tapping-verbal condition with the controls showing overall poorer tapping than the controls. In the tapping - visuospatial condition, the visuospatial task interfered with tapping in stutterers while no interference effects were observed in the controls. In the bimanual handwriting task, stutterers made more mirror reversals than controls in both the dominant and the nondominant hands. No clear pattern emerged when subgroups of stutterers were compared.

The results of the study and its implications are discussed in the light of current knowledge about hemispheric processing and the findings from related studies with stutterers.