Effects of cyclic meditation in psychomotor performance on children

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ABSTRACT

Background:

The two-fold process in the Cyclic Meditation (CM) namely concentration as stimulation to break the stagnation of mind and sustained attention to calm down the distraction of the mind helps in the growth of practitioners. Six Letter Cancellation for the first and Digit Letter Substitution test for the second are apt tools to their measures. No normality tools were available for Indian Students as also data related to use of CM for students. Hence, this study was taken up.

Aims

The aim was to 1) Establish the normative data for (a) Six Letter Cancellation Task (b) Digit Letter Substitution Task. 2) Study the effect of CM on (a) Six Letter Cancellation Task (b) Digit Letter Substitution Task.

Methods

The study was performed on school students (Male =528; Female = 315) with age range from 13 to 16 years group mean age ± S.D. (13.94±0.98). The base line data was used for the developing normative data. In the self as control design students were participated in two sessions, i.e. Cyclic Meditation (CM) and Supine Rest (SR) for a period of 22:30 min. Six Letter Cancellation Task and Digit Letter Substitution Task were administered before and immediately after each session.

Results and Discussions

Study on normative data

The present study was set out to obtain normative data (currently unavailable) for the school students between 9 and 16 years of age. The Six Letter Cancellation Task (SLCT) and Digit Letter Substitution Task (DLST) were used as measures of psychomotor performance of concentration and sustain attention, attention span and information processing speed.

For the SLCT the Multiple linear regressions provided a multiple R value of 0.538 with a corresponding R^2 determination index of 0.29, indicating that 29% of the score variance was explained by the combination of age and sex. The model equation was: SLCT score = -4.307 + 2.545×Age − 4.25×Sex.

For the DLST the Multiple linear regressions provided a multiple R value of 0.688 with a corresponding R^2 determination index of 0.474, indicating that 47% of the score variance was explained by the combination of age and sex. The model equation was: DLST score = -13.45+ 5.313×Age − 5.647×Sex.

The availability of the Indian normative data for the SLCT and DLST will allow wider application of this test in clinical practice.

Study effectiveness of CM

The Six Letter Cancellation Task study on 255 school going students showed after both practices, significant increased net scores. However, the magnitude of change was more after Cyclic Meditation than after Supine Rest (14.9% versus 11.56%). Following both practices, the net scores were significantly increases in

gender and in different age groups. There were non-significant changes in whole, gender and in different age groups in scores for wrong cancellations after Cyclic Meditation and Supine Rest.

The Digit Letter Substitution Test was study on 249 school students. After both practices, the net scores were significantly increases, but these changes were not statisticaly significant. There were significant changes in scores for wrongly letter substitution after Cyclic Meditation and Supine Rest. Following both practices, the net scores were significantly increases in both sex gender and in age groups.

Conclusion

These results suggest that both CM and SR lead to improve in performance in this task. Further study requires following long-term practice and experience compared to novices.