

Visual Reaction Time (VRT) in Overweight Adolescents: The Effect of Aerobic Exercises

Samriti Sharma*, Dr. Vidhi Shah

Dr. D.Y. Patil College of Physiotherapy, Dr. D.Y. Patil Vidyapeeth, Pimpri, Pune-411018

*Corresponding author

ABSTRACT

Introduction: Overweight has seen to negatively affect the reaction times. In different literatures, the pathophysiological changes like systemic inflammation, insulin irregularity etc. linked with obesity are seen as reason for prolonged VRT. It has been studied that the aerobic exercisers show better VRT. Aerobic exercises increase concentration & improves attention and weight reduction that might help improve VRT in adolescent age.

Methodology: It was an experimental study, in which 40 overweight adolescents (age: 10-19 yrs) were selected by convenient sampling method. The samples with VRT>200ms and BMI>23kg/m² were recruited in the study. Adolescents with any neurological, orthopedics or psychological disorders, any other co-morbidities were excluded from the study. Informed consent was taken from all the participants prior to inclusion. The readings for VRT were measured using digital reaction time instrument.

Procedure: Pre-intervention readings for VRT were taken using reaction time instrument. The intervention of Aerobic exercises in form of aerobic dance was given for 6 weeks (5 days a week) after pre-evaluation. After the completion of 6 weeks intervention, post data was collected and data analyses was done.

Results: The normal distribution of data was checked using Shapiro-wilk test; the data was normally distributed for VRT of green color, the normal distribution was rejected for VRT of red, blue and yellow colors. The analysis was done using paired t-test and Wilcoxon test respectively. The results showed significant improvement in VRT post-intervention of all the colors (p<0.0001).

Conclusion: The study results concluded that the Visual reaction time is prolonged in overweight adolescents. The findings showed that the intervention of Aerobics proved useful in improving VRT of overweight adolescents.

Keywords: Visual reaction time, Overweight, Adolescents, Aerobic exercises

