Optometry and Vision Science

Home-Based Therapy for Symptomatic Convergence Insufficiency in Children: A Randomized Clinical Trial.

Pediatric Eye Disease Investigator Group

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Post Author Corrections: August 30, 2016

Abstract

Purpose: To compare the effectiveness of home-based (HB) computer vergence/accommodative therapy (HB-C) to HB near target push-up therapy (HB-PU) and to HB placebo treatment (HB-P) among children aged 9 to <18 years with symptomatic convergence insufficiency (CI).

Methods: In this multicenter randomized clinical trial, participants were randomly assigned to computer therapy, near target push-ups, or placebo. All therapy was prescribed for 5 days per week at home. A successful outcome at 12 weeks was based on meeting predetermined composite criteria for the CI Symptom Survey, near point of convergence, and positive fusional vergence at near.

Results: A total of 204 participants were randomly assigned to HB-C (n = 75), HB-PU (n = 85), or HB-P (n = 44). At 12 weeks, 16 of 69 (23%, 95% CI: 14-35%) in the HB-C group, 15 of 69 (22%, 95% CI: 13-33%) in the HB-PU group, and 5 of 31 (16%, 95% CI: 5-34%) in the HB-P group were classified as having a successful outcome. The difference in the percentage of participants with a successful outcome in the HB-C group compared with the HB-PU group was -4% (two-sided 97.5% CI: -19 to +11%; p = 0.56) and with the HB-P group was +5% (two-sided 97.5% CI: -12 to +22%; p = 0.52), adjusted for baseline levels of the composite outcome components.

Conclusions: The majority of participants with symptomatic CI did not have a successful outcome at 12 weeks. Some participants treated with placebo were successful. With recruitment reaching only 34% of that originally planned and differential loss to follow-up among groups, estimates of success are not precise and comparisons across groups are difficult to interpret.