

The Effectiveness of Vision Therapy

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INTRODUCTION

The controversy begins with not knowing whether Visual Therapy is effective when viewing improvement with convergence. There are several studies both supporting and denying this claim which makes it difficult to understand which is correct as there can only be one direct answer. A study conducted in 2009 focused on behavioral optometry and mentioned that visual therapy is ineffective as the significance between the placebo test and the actual test are not significant. The evaluators did not mention that each form of therapy was ineffective which strengthens their conclusions as there was no strict pattern of all the therapies tested as being ineffective. Having some tests as work while others do not show that they have done the tests less likely with a bias (Barrett et al, 2009). Other studies done more than a decade later support the idea of Visual Therapy working. After experimenting with the efficacy of Visual Therapy with larger study group and a placebo as a trial it is found that Visual Therapy is efficient for anisometropic amblyopia. There was however a lack of double-blind studies meaning there is a possible bias for nonrandomized studies within the intervention. The scientific evidence by studies is still limited even with research due to the study not being double-blind. This article does acknowledge that further tests with double-blind is necessary before confirming whether Visual Therapy works which is why the topic is controversial (Hernandez-Rodriguez et al, 2020). Within this review article scientific articles will be used to see whether convergence sufficiency is improved by Visual Therapy.

METHODS

Throughout the research, I have looked up nonbiased terms on science-based websites to see what the top recommended sources are for the topic. With the support and feedback and evidence from my peers and instructor I was able to create a research article that had the least amount of bias as possible. This information was collected throughout the quarter to create a research article.

OBJECTIVE

- Understand whether vision therapy is sufficient for convergence depending on different circumstances and backgrounds
- Find evidence for convergent sufficiency
- Evaluate results by evidence & experiment type

FIGURES

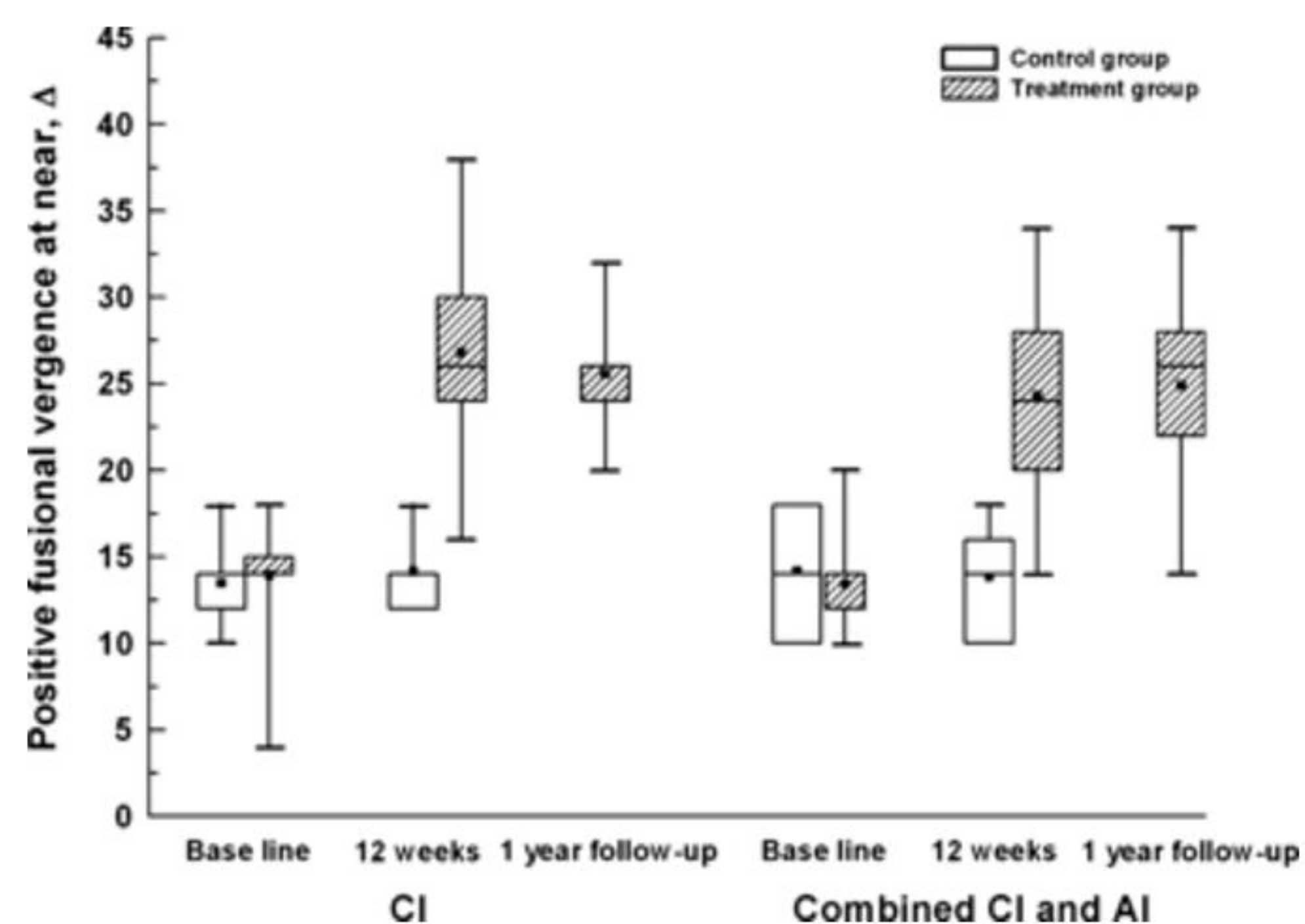


Figure 1. Box-and-Whisker plots of the PFV measurements at base line, 12 weeks of treatment, and 1 year follow-up for convergence dysfunctions.

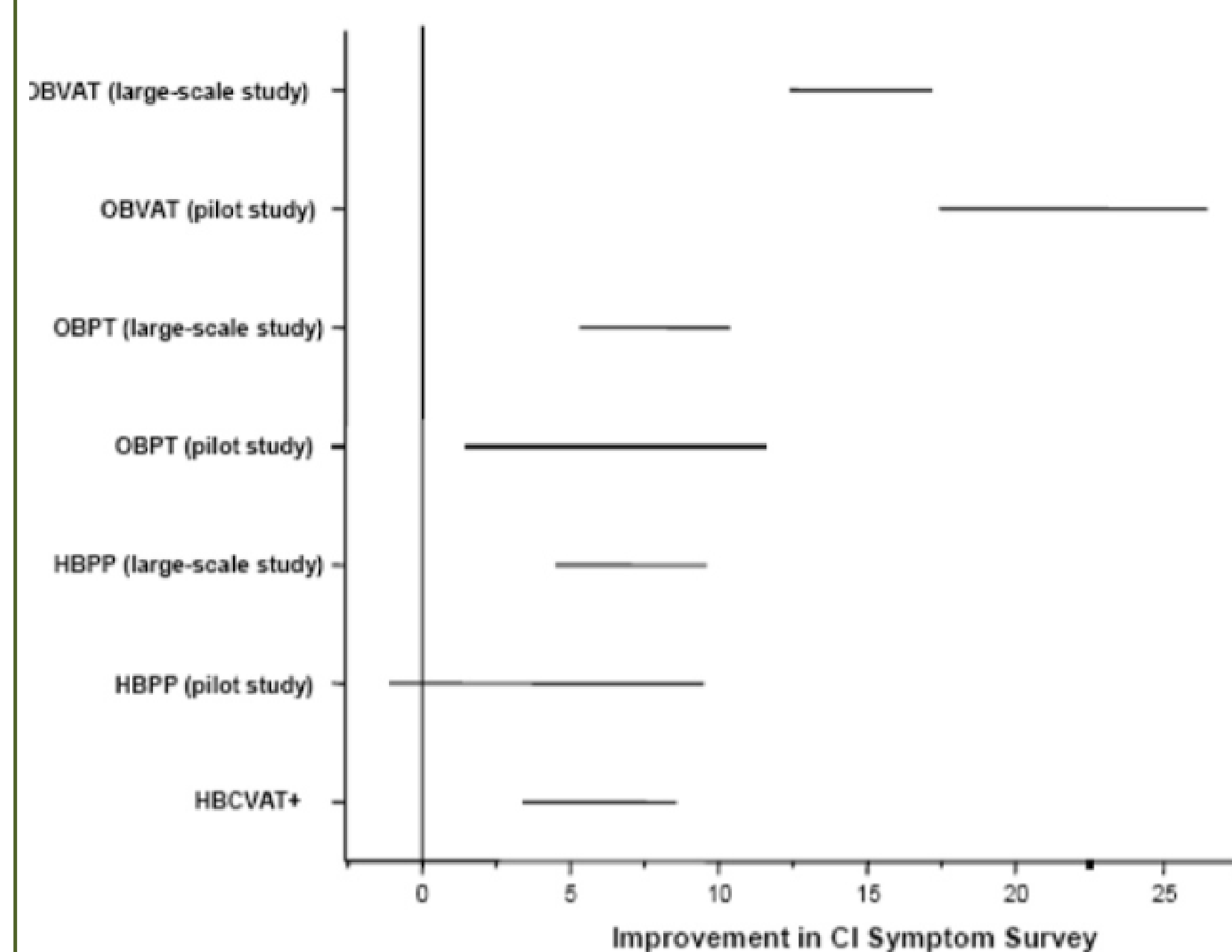


Figure 2. Mean improvement adjusted for baseline in CI Symptom Survey, Near Point of Convergence Break (cm), and Positive Fusional Vergence (Δ). OBVAT: Office-based vergence/accommodative therapy with home reinforcement; OBPT: Office-based placebo therapy with home reinforcement; HBPP: Home-based pencil push-up therapy; HBCVAT+: Home-based computer vergence/accommodative therapy and pencil push-ups.

RESULTS

- Visual Therapy (VT) enhances children's eyesight long term

In order to create a habit of a new environment it is to have the habit help multiple areas. VT strengthens symptomatic convergence sufficiency and accommodative sufficiency. Both sufficiency's go hand and hand with one another as it sets the duration and ability to focus on a particular object which is why they were both accounted for in this study. The common binocular dysfunctions went through an initial clinical measure with both the treatment and control group to find that they were approximately the same. When using the same participants, the following year for an eye examination, it was found that most children had improved symptoms and clinical measures after being in Visual Therapy. Adults on the other hand has less visible results of improvement with the common binocular dysfunctions. The rates of accommodative also sufficiency rose higher than convergence sufficiency in both children and adults (Shin et al, 2011).

- Studies with adults and children have different amounts of time to see results

Visual Therapy was found to be effective when used for 6 or more months (Scheiman M et al, 2009). Being able to apply a form of therapeutics may take time to see results which is emphasized within the study. Other than the timespan mentioned, the individual's case for their eye disease may also affect the convergence sufficiency.

- Every case of VT is unique to the individual

Another argument is that convergence is insufficient due to not having the expected results for different eye issues. There was a study that contained a smaller sample of children which focuses on vision anomaly known as nonstrabismic binocular vision anomalies (NSBVA) for Visual Therapy. The binocular vision assessments were carried out in intervention and nonintervention groups which found that Visual Therapy had significant improvement except for those with negative fusional vergence. The study finished show that vision therapy has a large role in improving binocular vision areas, but they do not go over limitations which shows that they be bias towards Visual Therapy working in a general sense (Hussaindeen, Shah, & Ramani, 2018).

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