

Abstract

Title of thesis: The effect of manual therapy on visual acuity.

Goal: The main goal is to present theoretical facts about manual eye therapy, to examine the effect of manual therapy of oculomotor muscles on selected parameters: visual acuity, subjective evaluation using a questionnaire and eye muscle pain in patients with refractive errors and eye accommodation disorders.

Methods: The research was completed by 20 patients with refractive errors and eye accommodation disorders, from aged 18 to 55 years. An initial and subsequent treatment and exit examination and of eye muscles with the help of manual techniques, in particular, reciprocal inhibition and mobilization of eyeball were performed. The initial examination was performed by an optometrist, who assessed visual acuity by using an Autorefractometr, Snellen optotype and Red-green test test. After than was performed the subjective evaluation questionnaire, then was performed palpation assessment of attachments of eye muscles. Palpation pain proband evaluated using the Numeric Pain Rating Scale. The resulting data were processed using statistical software R. A paired t-test was used to calculate p-values. Statistical significance was assessed at the critical significance level of 0.05 and 0.01.

Results: Our measurement did not show a statically significant change in visual acuity at the significance level of 5% after intervention with manual therapy ($\alpha = 0.05$). On the contrary, our measurements showed a statistically significant change in the palpable pain of the eye muscles after the intervention of manual therapy ($\alpha = 0.05$), there was also an improvement in parameters such as subjective eye fatigue and eyeball mobility ($\alpha = 0.05$).

Conclusion: Based on the small number of probands, we cannot confidently claim or refuse the effect of manual therapy on vision. There was significant decrease of palpation pain of eye muscle, as well there were significant changes in patient's evaluation of subjective feeligs such as tiredness of eye and eyeball mobility. For better understanding effects of manual therapy on vision, is needed longer intervention period and bigger experimental group.

Keywords: oculomotor muscles, trigger point, manual therapy, vision, range of motion