

Abstract

Title: Physiotherapy of functional disorders of the orofacial area in wind instrument players

Objective: The areas of interest of this diploma thesis are temporomandibular joint (TMJ), wind instrument playing and health problems affecting the orofacial area related to playing of the wind instruments. The aim of this diploma thesis was to determine the current functional state of the orofacial area in wind instrument players and to evaluate the effectiveness of the chosen type of physical therapy.

Methods: This experiment-centered pilot study included a total of 21 wind instrument players aged 15–30. After taking anamnestic data, the subjects underwent kinesiological examination focused on the orofacial area. To evaluate the results, a visual analog pain scale (VAS) and examination of the active range of motion of TMJ using a millimeter ruler were used. If the proband experienced any TMJ pain, had a reduced active range of TMJ, or both of the previous, the patient was prescribed an one month autotherapy targeted on the orofacial area. Once the therapy was finished, the probands underwent the second orofacial examination. Horn's procedure, Wilcoxon's test and Microsoft Excel 2021, were used to analyze the collected data.

Results: During the initial kinesiological examination, 38 % of the woodwind players and 25 % of the brass wind players reported the TMJ pain. The active range of TMJ movement was also measured during this examination, and it was found that the mandible protrusion was reduced in the study group. The results of the initial kinesiological examination were analysed by the Horn statistical method using the significance level of $\alpha = 0.05$. The results show that the 95% confidence interval of the mean value in the case of mandible protrusion was $4.13 \leq \mu \leq 5.87$, i.e. it is lower than the lower limit of the physiological range of motion interval (6–9 mm). The results of the follow-up kinesiological examination after at end of the autotherapy did not show a clinically significant reduction of the TMJ pain. However, the increase in the range of the TMJ movement was reported. The reported results for the mandibular protrusion, right lateral excursion and maximum mouth opening were analyzed and confirmed ($p < 0.05$) using the Wilcoxon test with the selected level of significance $\alpha = 0.05$.

Keywords: temporomandibular joint, temporomandibular disorders, orofacial pain, wind instruments