Abstract

**Title:** The effectiveness of compensation practices after training at badminton player

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**Aims:**

The aim of this study was to determine the effect of compensation exercise after training on shortened muscles or muscle groups, the presence of trigger points in muscles and the presence of pain in musculoskeletal system at badminton players.

**Methods:**

This is a randomized pilot study based on a mixed type of research (quantitative, qualitative parameters), the methodological principle is a two-factor and multi level. Research was attended by 14 players aged 13-17 years, boys and girls. The whole group of players was examined by a physiotherapist, which included examination of shortened muscles by Janda, palpation assessment of the presence of trigger points in the muscles. The muscles which were assessed for the presence of trigger points were the same as the muscles, which in vestigates shortening and eventually every player will be asked for pain musculoskeletal system and evaluate numerical pain rating scale. Then, this group was divided by reported pain present in two groups: intervention and control group, so that in each group as far as possible the same number of players with pain. The intervention group subsequently completed a two-month compensation program, which was included after each badminton training. That was focused on the release of joint structures and the stretching of shortened muscles. After two months of compensation has been carried out and then output the results were compared.
**Result:**

The experiment confirmed the positive impact of compensatory exercise after training on the shortened muscles throughout the intervention group showed a decrease in the percentage of muscles or muscle groups shortened to level 2 by Jandy from 27% to 5%. The percentage of muscles or muscle groups shortened to level 1 by Jandy from 32% to 42%, which we attribute that most of the muscles or muscle groups to extend about 1 degree by Janda. The total number unshortened muscles and muscle groups, ie level 0 Janda from 41% to 54%. There was also a drop in trigger points in the muscles. The original amount of trigger points in intervention group was 35. At the end the amount of trigger points was only 15. In the control group, the number increased from 30 to 31 trigger points. Influence of compensatory exercises on pain in the musculoskeletal system was also positive. In the intervention group showed an elimination of pain by evaluating the numeric scale of pain by 72%. In the control group increased the subjective perception of musculoskeletal pain by 10%.

**Keywords:** badminton, load compensation, methods, muscular imbalance.