

ABSTRACT

Thesis title: The impact of activity plan on knee-joints hypermobility.

Thesis aim: Assembly of information on constitutional hypermobility and its impact on knee-joints including the scheme of preventative measures.

Suggestion of suitable activity plan, verification of such programme in practice.

Method: The theoretical part deals with the method of exploration used for constitutional hypermobility investigation with a view to knee-joints especially.

The practical part presents a longitudinal experiment together with comparison of the two sets being monitored. The impact of activity plan with both the experimental as well as the control set of probands was monitored. Also the impact of tapping method was observed, this with the experimental set of probands only.

The activity plan took four months in total, 20 probands were participating (17 women, 3 men). The programme was mostly composed of compensation and balance exercises.

The impact of the programme has been evaluated on the basis of results proposed by the investigative methods applied (hypermobility investigation, knee-joint extension, investigation of Q – angle and of the longitudinal flatfoot, investigation of contracted muscles and of legs strength quantity, balance investigation and pain measurement). The evaluation of the programme was also supported by health questionnaire EQ-5D representing a generic measure of health status.

Results: The results proved three out of four hypotheses.

The results proved the positive impact of the programme on parameters in view with both sets: Q angle extended by 43,8 % on average, balance improved by 36,0 %, muscle contraction lowered by 18,5 %, distribution of flatfoot lowered by 15,0 % and the muscle strength increased by 8,8 %. The quantity of hyperextension lowered by 15,0 % and frequency of hypermobility by 10,0 % with the experimental set only. The subjective view of pain intensity lowered by 39,9 % and the self-evaluation of health state improved by 20,3 %. All in all, the experimental set where the tapping method was applied showed better percentage improvement (the difference of 7,7 %).

Key words: constitutional hypermobility, hypermobility syndrome, knee-joint, balance, pain, body-building exercises, balance exercises.