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THE IMPACT OF PHYSICAL ACTIVITY FOR SENIOR FALL PREVENTION USING NORTHERN WALKING

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Abstract: *Falling is one of the main problems in the lives of older people. Falls experienced affect the further life of seniors and limit their physical activity. Nordic walking can be used as a means of preventing repeated falls and promoting physical activity. Nordic walking in Lithuania is still a new and completely unexplored methodology, the full benefits of walking have not yet been proven, and little research has been done. Aim of the research was to investigate the improvement of physical activity and fall prevention in the elderly using Nordic walking.Methods of the research: Desmond Fall Risk Questionnaire; Berg Balance Scale and balance samples of Schmitz; The quality of life Questionnaire (SF-36). Results: After 7 weeks of exercises, the risk of fall decreased for all subjects. Physical activity increased statistically after doing Nordic walking, the average physical activity of the study group increased. Control groups results also improved. Conclusions: Physical activity improved statistically significantly ($p < 0.05$) The frequency of falls decreased statistically significantly ($p < 0.05$). The static and dynamic balance of the elderly improved statistically significantly ($p < 0.05$). The risk of falling after NW was statistically significantly reduced ($p < 0.05$).*

***Key words**: **Trauma, Elderly, Physical Therapy., Rehabilitation**.*

many studies. HR can help increase the amplitude of movements and promote the recovery of decreased functions (Fischer M.J., et al., 2015). Nordic walking can be an engagement in the physical activity of all people because it is a safe physical activity that is easily accessible and has a positive impact on people's physical, mental, and social health (Tschentscher M., et al., 2013).

Physical activity reduces the risk of falls and the fear of falling. After analyzing the data of the study, statistically significant correlations were observed between the subjects' fear of collapse and physical activity ($p < 0.05$). People with low physical activity are statistically more likely to experience falls than people with moderate physical activity. Statistically significant correlations between falls and physical activity were also observed ($p < 0.05$). All subjects with low physical activity were more likely to experience falls than those with moderate to high physical activity ($p < 0.05$). In a study conducted with co-authors, A. Harnish points out that in order to reduce the risk of falls in the elderly, it is very important to pay attention to the duration of the program, the variety of exercises, the choice of appropriate workload (Harnish A., et al., 2016).

One way to increase physical activity is Nordic walking. During Nordic walking, more upper body muscles are involved in the work, which is involved without direct human perception. After seven weeks of Nordic walking exercises, there was a statistically significant improvement in the physical activity of all subjects ($p < 0.05$). With the improvement of physical activity, the risk of falls also decreased statistically significantly ($p < 0.05$). In the balance samples, the most difficult for the subjects was to go in a straight line leg to foot, not to swing 360 degrees around its axis, easily losing balance when suddenly pushed. In the Berg equilibrium samples, the most difficult for the subjects was to pick up the object from the ground without falling sideways, forward or backward. It was also difficult to stand on one leg or walk abruptly to change direction. Some patients had difficulty climbing the stairs, climbing only the introductory step, and climbing only to the second floor holding behind the handrails. After the applied balance exercises and Nordic walking, the balance of all subjects improved statistically significantly ($p < 0.05$). The change in equilibrium in the study group was statistically significant than in the control group. Nordic walking

of different ages, integrated rehabilitation methods are needed, especially after the COVID-19 pandemic. So Nordic walking is a very effective tool that can be easily transported, easily adapted to different weather and geographical conditions to a different population groups.

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