

The theoretical part deals with the characteristics of Nordic Walking and Nordic Running, which are modern physical activities based on walking and running, therefore the natural motions of humans, however, combined with significant movements of the arms and upper body as a result of the use of sticks. These activities require mastery of proper technique and selection of appropriate equipment, especially shoes and poles. Simultaneous involvement of upper and lower limbs along with the upper part body muscles leads to equal distribution of weight, respectively relieving joints, and to balanced physical training, which is reflected in increased demands on the circulatory and respiratory systems.

The research part first examines the difference in heart rate of Nordic Walking and walking without poles. The observed differences are then compared with the results of other studies. According to our research the difference in heart rate is 13%, which is comparable with the results of the referential studies that came to the values of 14-16%.

Another area of the research is to identify the maximum speed of Nordic Running and to determine the best time and the highest average speed of Nordic Running over a distance of 100 m. The maximum speed determined in the study is 22.1 km/hr., the best time for the 100 m is 18.0 seconds and the highest average speed of 100 m is 20 km/hr.

Within the research it is also considered a possible positive relationship between speed of Nordic Running and the length of the lower limbs. The relationship is based on the assumption that longer steps, or jumps, supported by pushing of arms with poles, can achieve higher speeds of Nordic Running, and that individuals with the longer legs, capable of longer jumps, can thus reach higher speeds of Nordic Running. However, research does not confirm this assumption, and therefore the relationship between the speed of Nordic Running and the length of the lower limbs can be considered invalid.