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FEATURES OF MUSCLE TONE IN PHYSIOTHERAPY STUDENTS

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Introduction. The professional activity of physical therapists requires proper development of skeletal muscles. This is necessary for demonstrating movements, performing a range of rehabilitation procedures, as well as assisting patients. However, the educational program for these students includes a small amount of hours devoted to sports disciplines. Therefore, it is important to investigate the level of development of muscles in physiotherapy students and to what extent additional non-professional training can influence it.

Research Organization and Methods. The study involved students from the Department of Therapy and Rehabilitation at Ivan Bobersky Lviv State University of Physical Culture (Table 1).

Table 1

Main parameters of the research groups (M ± SEM)

Group	N	Sex	Age, y	Additional physical loads	Height, cm	Weight, kg
M1	16	male	17.30±0.09	-	178.6±1.30	70.76±1.79
M2	9	male	17.32±0.11	≤ 5 h per week	178.79±1.31	71.74±1.67
F1	18	female	17.42±0.15	-	166.19±0.83	60.13±1.93
F2	9	female	17.56±0.41	≤ 5 h per week	166.83±1.86	56.77±1.99

All participants provided informed consent to participate in the research. Hand grip strength was measured using the Camry Digital Handgrip Dynamometer (Model EH101), while the tone of finger flexors was measured using the Szirmai myotonometer.

Results. It has been found that the hand grip strength of male and female students (Table 2) falls within the average range of healthy individuals of corresponding age [1]. Additional non-professional training did not have a significant impact on these indicators.

Table 2

Muscle strength and tone in students of the faculty of therapy and rehabilitation with different levels of physical activity (M ± SEM)

Parameters	Groups			
	M1	M2	F1	F2
Hand grip strength (kg)	46.79±1.82	49.56±3.25	32.34±1.18	30.13±1.67
Strength index (%)	66.10±2.40	71.27±4.60	55.04±3.01	58.92±4.29
Resting tone (myotone)	68.41±1.87	72.00±3.42	62.89±2.08	64.33±2.60
Tension tone (myotone)	99.72±3.50	110.44±5.45*	87.17±4.56	98.33±4.54*
Relaxation tone (myotone)	77.04±2.15	76.00±4.25	67.00±3.32	69.50±2.75
Tone amplitude (myotone)	56.39±4.66	71.33±5.31*	44.44±5.23	68.40±7.08*

*Note: * – $p \leq 0.05$.*

Additional non-professional training led to an increase in tension tone and tone amplitude indicators in both groups of students (by 11% and 27% respectively) and female students (by 12% and 54% respectively).

Conclusion. Additional non-professional training contributes to an increase in tension tone and tone amplitude indicators of finger flexor muscles in both male and female students specializing in physical therapy.

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