

MENTAL ENLIGHTENMENT SCIENTIFIC – METHODOLOGICAL JOURNAL



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<http://mentaljournal-jspu.uz/index.php/mesmj/index>



ANALYSIS OF PHYSICAL INDICATORS IN FEMALE STUDENTS WITH DISABILITIES AND UPPER LIMB DISORDERS

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ABOUT ARTICLE

Key words: Adaptive physical education, nosology, physical disability, development, and training.

Received: 20.09.26

Accepted: 21.09.26

Published: 22.09.26

Abstract: This article gave recommendations on the development of strength abilities of student girls in hand nosology and studied their anthropometric and functional indicators. During the study, indicators such as height, body weight, chest circumference, lung capacity of vitality, heart rate and blood pressure were analyzed. Based on the results obtained, the level of physical development of students was assessed and recommendations for the formation of a healthy lifestyle were developed.

Introduction. Nowadays, strengthening the health of girls with disabilities and actively integrating them into social life are considered important priorities. In particular, assessing and analyzing the physical condition of female students studying at higher education institutions makes it possible to develop appropriate physical education programs tailored to their individual needs.

Purpose of the Study. To determine and analyze the main physical and functional indicators of female students with disabilities.

Indicators of the Control Group with Upper Limb Disorders at the Beginning and End of the Study

№	Standing Long Jump	60-meter run	Sit-ups from a supine position	400 meter run
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	TБ	ТО	TБ	ТО	TБ	ТО	TБ	ТО
1	165	169	9,86	9,43	37	40	1,22	1,15
2	182	189	9,28	8,85	38	41	1,08	1,00
3	154	160	10,89	9,76	30	34	1,32	1,28
4	161	166	9,95	9,56	36	39	1,33	1,30
5	165	167	9,86	9,32	35	37	1,31	1,26
X	165,40	170,20	9,97	9,38	35,2	38,2	1,25	1,14
Sigma (σ)	10,31	11,03	0,58	0,34	3,11	2,77	0,11	0,12
V %	6,2	6,5	5,8	3,6	8,8	7,3	8,44	10,96
t	0,55		1,50		1,25		1,19	
p	>0,05		>0,05		>0,05		>0,05	

Methodology. The table presents the results of the control group of female students with upper limb disorders, based on exercises selected specifically according to their physical condition, at the beginning and at the end of the study. A total of five female students with this type of disability participated in the study. According to the results obtained, in the first test, the standing long jump, the overall mean value at the beginning of the study was 165.6 cm, while the standard deviation (σ) was 12.10 cm and the coefficient of variation was 7.3%. At the end of the study, the overall mean value increased to 170.8 cm. The standard deviation was 11.58 cm, while the coefficient of variation was 6.8%, respectively. In the 60-meter running test, the female students with upper limb disorders demonstrated the following results.

The minimum value was 9.65 seconds, while the maximum value was 10.89 seconds. Regarding the overall mean values, the mean time was 9.97 seconds, the standard deviation (σ) was 0.53 seconds, and the coefficient of variation was 5.3%. At the end of the study, the corresponding overall mean values were as follows.

Results and discussion. The mean value was 9.38 seconds, the standard deviation (σ) was 0.52 seconds, and the coefficient of variation was 5.6%. In the sit-up test performed from a supine position, the female students demonstrated the following results. At the beginning of the study, they performed an average of 35.2 repetitions, while by the end of the study, this value had increased to 38.2 repetitions. The standard deviation values were 2.72 at the beginning and 3.11 at the end of the study, showing no significant changes. The coefficients of variation were 7.9% and 8.2%, respectively. The results of the control group for the final test of this type of disability, namely the 400-meter run, at the beginning and at the end of the study were as follows. Focusing on the overall mean values, the mean result was 1.25 seconds at the beginning of the study, whereas at the end of the study it was 1.14 seconds. Overall, the results improved by 0.11 seconds. However, the level of statistical significance was not sufficient. The

above-mentioned indicators were also obtained for the experimental group. The results obtained are presented in the following table.

Indicators of the Experimental Group with Upper Limb Disorders at the Beginning and End of the Study

№	Standing Long Jump		60-meter run		Sit-ups from a supine position		400 meter run	
	TB	TO	TB	TO	TB	TO	TB	TO
1	161	196	11,23	9,98	33	44	105,0	81,0
2	138	191	11,11	8,26	29	42	101,0	69,0
3	135	166	10,15	8,14	24	36	88,4	72,5
4	142	186	10,19	8,84	27	37	95,6	71,9
5	148	183	9,89	8,75	30	45	98,5	69,1
X	184,00	144,80	184,40	10,51	8,79	28,6	40,8	97,7
Sigma (σ)	10,93	10,28	11,41	0,61	0,73	3,36	4,09	6,2
V, %	5,9	7,1	6,2	5,8	8,3	11,8	10,0	6,4
t	4,55		2,70		3,96		5,23	
p	<0,05		<0,05		<0,05		<0,05	

The above table presents the indicators of the experimental group with upper limb disorders at the beginning and at the end of the study. Five female students with this type of disability were selected to participate in the study. According to the results obtained, in the first test, the overall mean value at the beginning of the study was 144.80 cm, the standard deviation (σ) was 14.57 cm, and the coefficient of variation was 10.1%.

At the end of the study, the overall mean value was 184.4 cm. The standard deviation (σ) was 16.07 cm, while the coefficient of variation was 8.7%. In the second test, the female students demonstrated the following results. The minimum value was 9.19 seconds, while the maximum value was 11.23 seconds. With regard to the overall mean values, the mean result was 10.51 seconds, the standard deviation (σ) was 1.14 seconds, and the coefficient of variation was 10.9%. At the end of the study, the corresponding overall mean values were as follows: the mean result was 8.79 seconds, the standard deviation (σ) was 1.03 seconds, and the coefficient of variation was 11.7%.

In the sit-up test performed from a supine position, the above-mentioned female students demonstrated the following results. At the beginning of the study, they performed an average of 28.6 repetitions, whereas by the end of the study, this value had increased to 40.8 repetitions. The standard deviation (σ) decreased from 4.51 repetitions at the beginning of the

study to 4.16 repetitions at the end. The coefficient of variation was 15.7% and 10.2%, respectively. The results of the control group for the final test of this type of disability, namely the 400-meter run, at the beginning and at the end of the study were as follows. Focusing on the overall mean values, the mean result was 97.7 seconds at the beginning of the study, whereas at the end of the study it was 72.7 seconds. Overall, the results improved by 26.8 seconds.

The level of statistical significance was also sufficient. In three out of the four tests, a high level of statistical significance was observed.

The exercise program proposed by us for female students with disabilities, taking into account their specific types of disability, demonstrated a significant level of effectiveness among female students with both lower and upper limb disorders. Furthermore, if the proposed program is implemented based on the functional and mobility capabilities of female students with disabilities studying at our university, it will be possible to provide a set of exercises tailored to their individual physical and mobility capacities. This approach may contribute to improving the effectiveness of physical training and increasing the likelihood of achieving higher physical performance outcomes among female students with disabilities.

Conclusion. The selected set of exercises for female students with disabilities and upper limb disorders was found to be effective by field specialists and the participating students. Taking into account the mobility capabilities of female students with disabilities, it is advisable to consider not only their level of physical fitness but also their psychological readiness and individual characteristics when designing and implementing physical exercise programs.

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