BIOMECHANICAL ASPECTS OF INDIVIDUAL SELECTIONS OF TECHNIQUE IN SPORT FIGHTING DEPENDING ON A WEIGHT CATEGORY AND BODY STRUCTURE

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INTRODUCTION

The aim of our work is to study individual peculiarities of conducting competition activities by wrestlers of different weight categories and comparison of received data with biomechanical particularities of motorics of sportsmen.

The researches were made in such a way, that biomecanical peculiarities of motoric of group of sportsmen have been studied during pre-competition period, and after the results of their competition activities were registered [Rubanov M.N. (1981),]. The received data were compared by mathematics statistics.

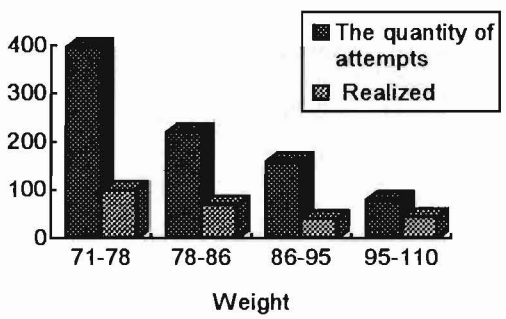
METHODS

Biomecanical methods of video control of a sport technique as well as methods of determination of special qualities of wrestlers and characteristics of motorics were used in researches [Tumanyan .G.S, Martirosov A.G.(1976), Dementiev A.V. (1991-1992)].

RESULTS

Using the method of video control of competition activities of judo wrestlers we defined the volume of used technique in competition activities of highly - qualified wrestlers the intensiveness of conducting of competition fighting for different weight categories coefficient of effectiveness of used technique by the wrestlers of different weight categories. At the scheme the dependence of elements of structure of competition activities technique conduction of different weight categories wrestlers is presented.(Figure #1).

Figure #1
of actions in different weight category



As result of the research it was found out, that not all wrestlers used adequate technique for themselves on the way to victory. Coefficient of effectiveness of used technic actions for many groups of techniques practically are very low. The percentage share of technique throws used by wrestlers of different weight categories and coefficient of effectiveness of their usage are presented in table #1.

Table # 1

Name of a technic	95 + %	Effecti veness ratio	95 %	Effecti venes s ratio	86 %	Effecti veness ratio	78 %	Effectiv eness ratio
Cutting	13	0.6	11	0.4	3	0.1	12	0.2
The catch	3	0.1	11	0.1	17	0.1	11	0.2
The cutting up by leg	3	0.1	1	0.4	0.5	0.02	0.1	0.1
Shot by catch inside	13	0.98	10	0.5	12	0.4	10	0.1
Shot by catch outside	1	0.05	1	0.1	0.5	0.03	0.4	0.1
Forward trip	10	0.7	5	0.6	10	0.3	17	0.2
Back trip	13	0.6	7	0.3	9	0.5	12	0.3
The back throw at the kneeling	3	0.1	15	0.2	16	0.1	13	0.2
The backfall	7	0.5	1	0.4	1	0.4	3	0.5
Side turnover	7	0.2	21	0.4	10	0.2	2	0.4
The knocking down	3	0.7	8	0.4	7	0.4	9	0.6
Painbull for the arm	1	0.1	6	0.1	2	0.1	3	0.1
Syffocant way	10	0.3	1	0.3	7	0.3	2	0.1
he holding	7	0.98	5	0.8	3	0.8	2	0.8

Analysis of a phase structure of execution of main techniques by wrestlers of different weight categories reflected the same. The summary of the results is given at table # 2.

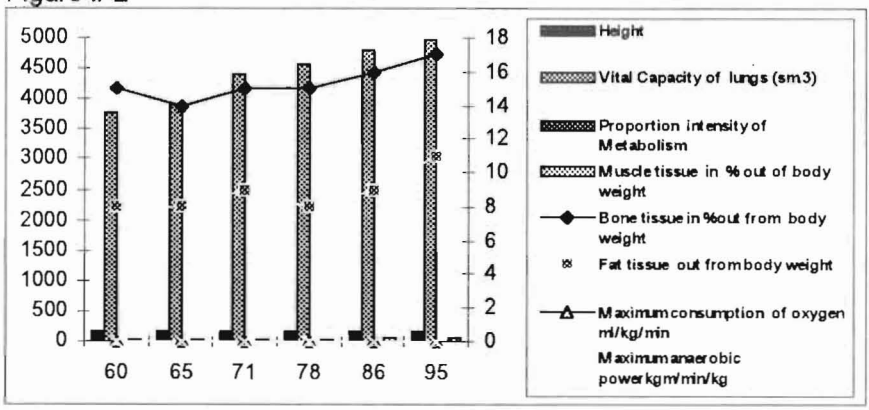
Table # 2

Name of the technique	Weight categories	Denomination of technique phases		
		Training	Entering in seizure	Lift off
1. Shot through the back	60 - 70 êg. 70 - 90 kg.	1.65 c.±0.22 1.72 c.±0.37	1.29 c. ±0.42 1.25 c. ±0.5	1.09 c. ±0.4 0.72 c. ±0.14
2. Shot by bending	60 - 70 kg. 70 - 90 kg.	1.04 c. ±0.09 0.86 c. ±0.08	0.76 c. ±0.07 0.70 c. ±0.08	0.64 c. ±0.07 0.63 c. ±0.05
3. Shot (cut off and catch up)	60 - 70 kg. 70 - 90 kg	0.40 c. ±0.1 0.42 c. ±0.3	0.36 c. ±0.08 0.34 c. ±0.09	0.32 c. ±0.06 0.40 c. ±0.1
4. Shot by catch (inside and outside)	60 - 70 kg. 70 - 90 kg	0.96 c. ±0.19 1.44 c. ±0.21	0.96 c. ±0.19 1.44 c. ±0.21	1.02 c. ±0.21 1.14 c. ±0.24

The results of statistical distribution of the number of wrestlers with different types of nervous system, morphological peculiarities referred to different weight categories also reflected the specific nature of conducting of competition activities of these sportsmen.

The summed up dependence of biomechenical data is presented in figure#2.

Figure # 2



CONCLUSION

As a result of researches, the statistical connection of biomechanic peculiarities of motorics of sportsmen on the conduction of competition fightings of wrestles of different weigtn categories was established.

It made it possible to define the most optimum arsenal of techniques, more effective for wrestlers in each of weight categories. On the base of received data, the special training programs for highly-qualified judo wrestlers were worked out.

REFERENCES

1. Rubanov M.N. (1981) Tactical-characteristics of competitive activity of judo wrestlers.

2. Tumanyan .G.S, Martirosov A.G.(1976) Body constitution and sport.

3. Dementiev A.V. (1991-1992) Analyse of competition activities.

4. Dementiev A.V. (1993) Individualisation of preparation high - class wrestlers.