

CONSTRUCTION OF TRAINING PROCESS OF HIGHLY SKILLED PLAYERS IN MINI-FOOTBALL FOR COMPETITION PERIOD

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Annotation. Analyzed the structure and content of the competition period in mini-football. It was determined that the structure of the competition period consists of 4 competitive mesocycles. In each mesocycle includes various types of micro-cycles (competitive, cross-game and rehabilitation). Reflects the ratio of specific and non-specific (general preparations) means training work. So in the competitive period for competitive mesocycles general preparations exercises ranged from 38.3 to 42.4%, special-preparation - from 29.9 to 32.6%, competitive - from 20.9 to 23.3%. The intensity of the training load in intergame microcycles less than competitive. This corresponds to the strategy of building the training process in the competitive period. During the competition period the ratio of the training load was: aerobic focus - 49.2%, mixed - 46.1%, anaerobic alactate - 2.4%, anaerobic glycolytic - 2.3%. Defines the scope and focus of the training load: longer the aerobic work, then - mixed, anaerobic- alactate and anaerobic-glycolytic. The comparative characteristics of the intensity of the training load in competitive and intergame microcycles.

Keywords: microcycle, mesocycle, training process, training sessions, physical training.

Introduction

One of main factors of sports results' stability in a season is building of competition period. Practically there were no experimental researches devoted to foundation of building of competition period in indoor soccer and, on the one hand this witnesses about urgency of the present research and on the other hand – stimulates for searching of ways for solution of this problem: building of competition period in annual cycle of sportsmen's training in this kind of sports.

At present time, analysis of training process building's problem in team kinds of sports during annual macro-cycle, witnesses that the most practical foundation has theory of periodization of sports training. Main peculiarity of building of training process in team kinds of sports in competition period is schedule of competitions. The program of players' preparation in meso- and micro-cycles is planned in compliance with it, as well as in the course of separate trainings [3; 6; 8; 9; 11]. Alongside with it, the need in correction of preparation to competition period still exists.

Purpose, tasks of the work, material and methods

The purpose of the research is analysis and determination of building of competition period in indoor soccer.

Pedagogic research was carried out on the base of team "Fortetsia" (Kam'yanets-Podilskiy), which was a participant of Ukrainian championship in indoor soccer among teams of first league.

Results of the researches

Competition period of the mentioned above team was more than 6 months (189 days) from October of previous and to April of next year. It consisted of 4 meso-cycles, every of which included in certain sequence competition, inter-matches and recreational micro-cycles (see fig. 1).

Rather long competition period required application of different means of training process for maintaining of proper form. That is why the structure of every competition meso-cycle was composed not only of competition and recreational micro-cycles but also of inter-match ones, which were aimed at maintaining proper physical conditions and functional preparedness of players.

As per the schedule of competition and tasks to be solved in competition period we developed 4-, 5-, 6- and 7-days' inter-match micro-cycles.

With organizing of competition micro-cycles, as a rule, three tasks should be solved: maintaining of optimal physical, functional and game tonus up to scheduled match, carrying out of scheduled match itself at high motion and emotional level, recreation of players' sport workability after scheduled match. Basing on this fact we used four types of trainings in competition micro-cycles: scheduled match, developing, maintaining and recreational trainings. Besides, depending on duration of competition micro-cycle, we used one-time and two-times trainings during a day. For example, in 4-days' micro-cycle we used only one-time trainings, in 5-days' two-times trainings were used only on the second day, in 6-days' micro-cycle there were two such trainings and in 7-days' – three (see fig.2).

It should be noted that with building of different by duration competition micro-cycles we observed theoretical-methodic approaches, concerning alternation of load's and rest's phases in appropriate cycles of training process [4; 5; 9; 11; 12], as well as based on scientific data about recreation of sportsmen's sport workability after loads of different value and orientation [9; 13].

Thus, with building of competition micro-cycles, depending on their duration, we observed certain sequence of alternation of developing, maintaining and recreational trainings. For example, in 4-days' competition micro-cycle in the 1st and 2nd training days there were maintaining trainings, in the 3rd – scheduled match, in the 4th – recreational training (see fig. 2a).

In 5-days' competition micro-cycle during the first day there was one maintaining training, in the second day – there were one maintaining and one developing training, in the third day - - one maintaining, in the fourth – scheduled match and in the fifth day – recreational training (see fig. 2b).

The same trend was noticed with building of 6- and 7-days' competition micro-cycles (see fig.2c and fig.2d). I.e., two days before scheduled match there were developing trainings, the day before scheduled match – maintaining training and the next day after scheduled match – recreational training.

Competition period from October 22 to April 30.	
Meso-cycles	Micro-cycles
1 st competition m-c (from October 22 to December 10)	1-st 5days' competition
	2nd-5days' competition й
	1-st – 3 days' recreational
	3-rd – 7-days' competition
	1-st – 7 days' inter-match
	4-th – 4 days' competition
	2-nd – 7 days' inter-match
	5-th – 6- days' competition
	2-nd – 3 days' recreational
	1-st – 4 days' competition й
2 nd competition m-c (from December 11 to January 28)	2 nd – 7 days' competition
	1 st – 3-days' recreational
	1 st – 4-days – inter-match
	2-nd – 7-days' inter-match
	2 nd – 3-days recreational
	3-rd – 5-days' competition
	3 rd , 7 – inter-match
	4 th – 6 days – competition
	3 rd – 3-days recreational
	1 st 4-days' competition
3 rd competition m-c (from January 29 to March 31)	1 st – 7 days' inter-match
	2 nd – 7 days' competition
	1 st – 3 days recreational
	2 nd – 4 days inter-match
	3 rd 7-days' competition
	4 th – 7 days' competition
	5 th – 7 days' competition
	2 nd – 7 days' recreational
	3 rd – 6-days' inter-match -
	3 rd – 3-days' recreational
1 st competition m-c (from April 1 to 30)	1 st – 5-days competition
	1 st – 3 days' recreational
	2 nd – 5-days' competition
	3 rd – 7 days – competition
	4-th – 7 days' – competition
	2-2 nd – 3-days' recreational

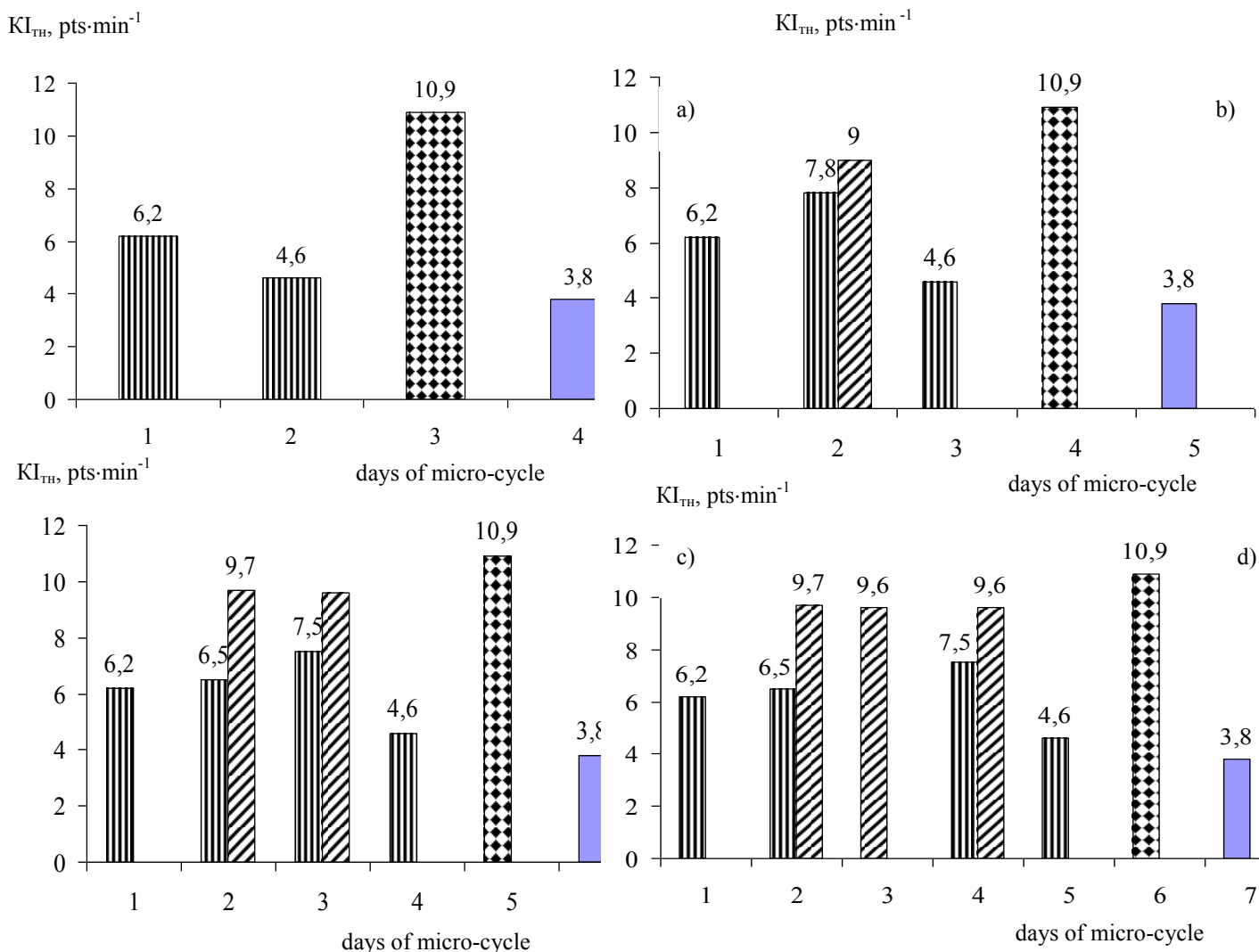
Fig.1. Structure of competition period of highly qualified indoor soccer players' training (first league).

It should be also noted that every competition micro-cycle starts from maintaining load of moderate value (see fig.2).

So, with building of competition micro-cycles we used the following approaches:

- Before every scheduled match we planned one maintaining training of low tension and after match – recreational training of low tension;
- In order to keep players' optimal physical and psychological state up to the match, developing trainings were used only in 5-days', 6-days' and 7-days' micro-cycles. With it, in 5-days' micro-cycles there was only one such training, in 6-days' – two and in 7-days' – three such trainings. This permitted to keep optimal good form of players during all competition period;
- We guessed that intensity of training loads should be less than the same of scheduled match. In this case main psychological stress was during scheduled match. On the other hand, if during competition micro-cycle there would be two or three peaks of training and competition loads' intensity instead of one, it, in our opinion, would result in incomplete recreation of players before scheduled match and consequently reduce effectiveness of players' competition activity.

The same trend took place with building of inter-match micro-cycles in competition period (see fig.3). At the same time, comparing with competition micro-cycles, inter-match micro-cycles envisaged more developing trainings in 4-days' inter-match micro-cycle. On the other hand, the training loads in inter-match micro-cycles were less intensive that, in general, corresponds to strategy of building of players' training process in competition period, and inter-match micro-cycles were applied for maintaining of appropriated sports form (see fog.4).



Notes: pts·min⁻¹ – points per minute⁻¹

Fig.2. Variants of building of competition micro-cycles of highly qualified indoor soccer players:

a) – 4-days, b) – 5-days, c) – 6-days, d) 7- days' micro-cycles;

▣ – scheduled match; ▨ – developing training; ▩ – maintaining training; ■ –recreational training

It should be noted that against the background of observing of training loads' intensity, methods of general physical training, athletic and cross country trainings are used to larger extent in inter-match micro-cycles.

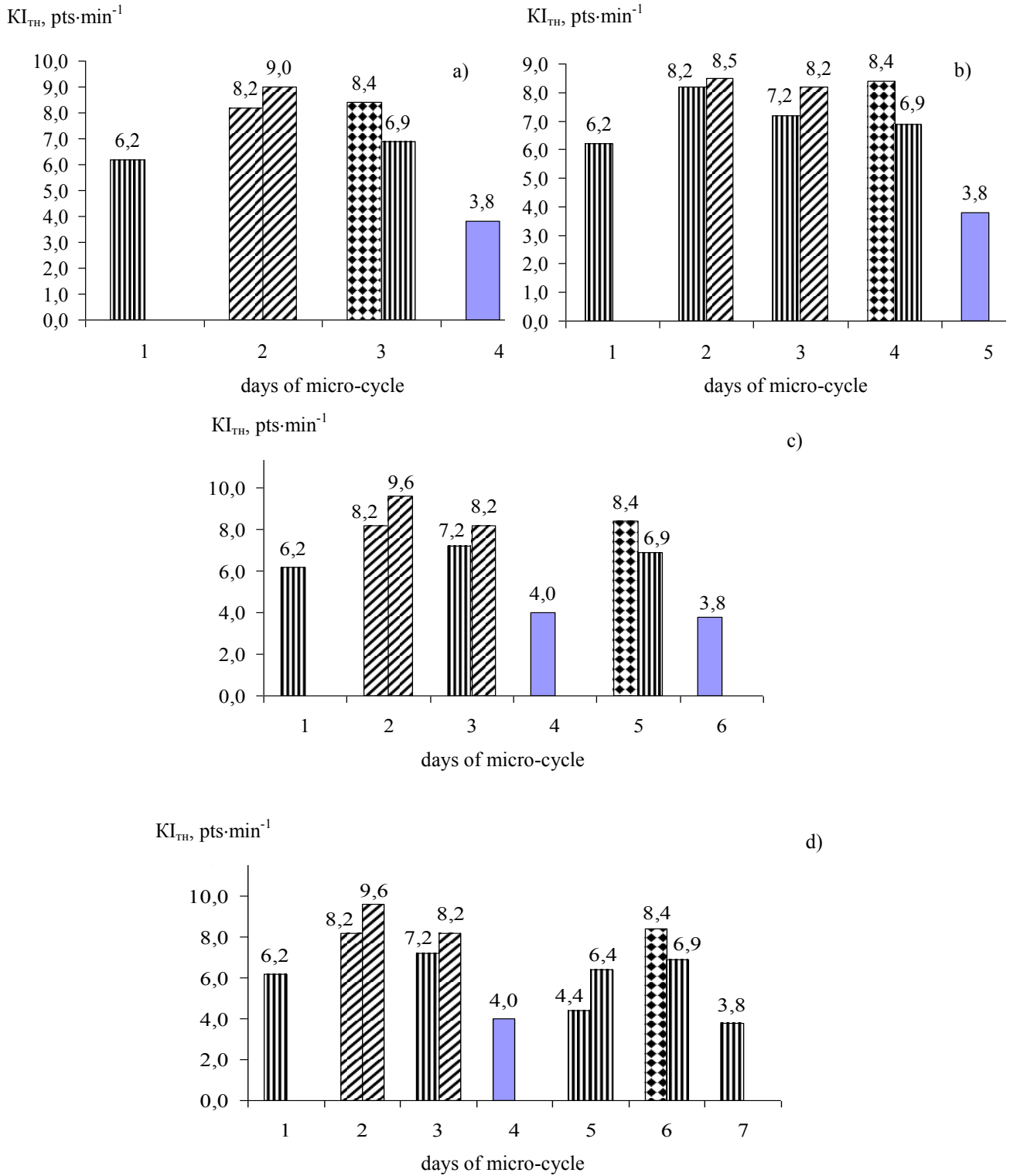
So, in competition period, in the course of competition meso-cycles general-training exercises had scope from 38.3 to 42.4%, special training exercises- from 29,9 to 32,6 %, competition exercises from 20,9 to 23,3 % (see table 1).

As it can be seen in table 1 in every meso-cycle of competition period there is practically equal correlation of training work's means.

However, the most general exercises are used in 4 days and 7 days micro-cycles (26,4 %), maintaining sport form exercises – in 6 days competition micro-cycles (37,6 %), special preparatory – in 4 days inter-match micro-cycles (8,9 %), general-preparatory – in 7-days inter- match micro-cycles \ (42,9 %).

Application of training work's means conditioned certain correlation of players' training load in competition period (see table 2). Analysis of the table witnesses that during competition and inter-match micro-cycles of this period aerobic loads were within the limits from 40,3 (4-days inter-match micro-cycle) to 53,6 % (4-days competition micro-cycle). Application of mixed (aerobic-anaerobic) loads in competition period of indoor soccer players' trainings varied from 45,0 (7-days inter-match micro-cycle) to 53,1 % (4-days inter-match micro-cycle).

In total, in competition period non-specific means of training work with highly qualified indoor soccer players were 40,2 %, specific means - 59,8 %, including special-preparatory means– 6,6 %, maintaining sport form – 30,9 % and competition– 22,3 % (see fig. 5).



Notes: pts·min⁻¹ – points per minute⁻¹

Fig.3. Variants of building of inter-match micro-cycles of highly qualified indoor soccer players:

a) – 4-days, b) – 5-days, c) – 6-days, d) 7- days' micro-cycles;

▣ – control match; ▨ – developing training; ▩ – maintaining training; ■ –recreational training

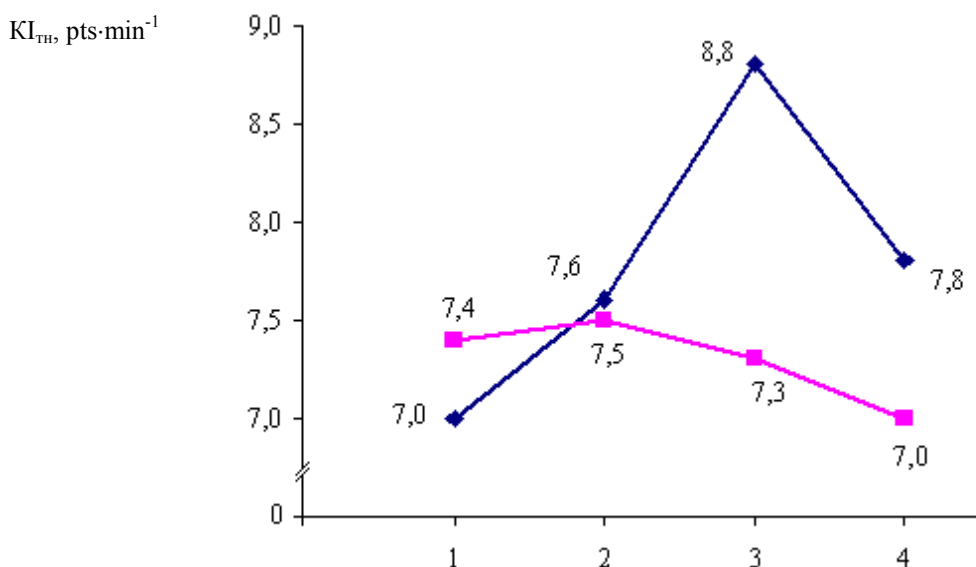


Fig.4. Intensity of training loads in competition and inter-match micro-cycles of highly qualified indoor soccer players in competition period:

1 – 4-days, 2 – 5- days, 3 – 6-days, 4 – 7-days micro-cycles;
■ – inter-match ◆ – competition micro-cycles

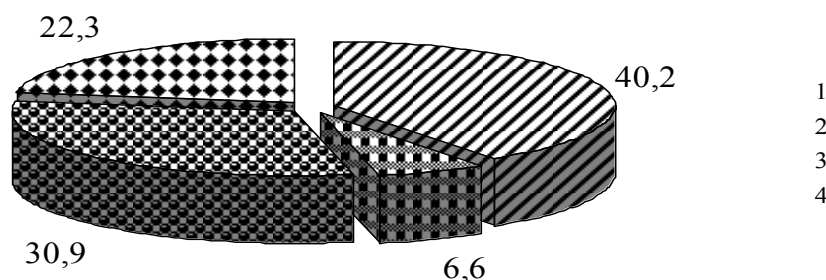


Fig.5. Correlation of training work's means applied with highly qualified indoor soccer players during competition period, %:

▨ – general-preparatory exercises; ▩ – special-preparatory exercise;
 ▤ – maintaining sport form exercises; ▥ – competition exercises

Table 1

Scope of training work's means in micro-cycles of competition meso-cycles of preparation of highly qualified indoor soccer players

Micro-cycles	Quantity of days	Scope of means, min. (%)				Total
		Non-specific	specific			
			General-preparatory	Special-preparatory	Maintaining sport form	
First competition meso-cycle						
4- days, competition	1	102 (33.7)	12 (4.2)	108 (35.7)	80 (26.4)	302
5- days, competition	2	322 (34.1)	36 (3.9)	346 (36.6)	240 (25.4)	944
6- days, competition	1	206 (30.4)	56 (8.4)	255 (37.6)	160 (23.6)	677
7- days, competition	1	218 (28.8)	62 (8.4)	275 (36.4)	200 (26.4)	755
7-days, inter-match	2	772 (42.9)	144 (8.2)	520 (28.9)	360 (20.0)	1796
3-days, recreational	2	290 (100)	–	–	–	290
Total	9	1910 (40.1)	310 (6.5)	1504 (31.6)	1040 (21.8)	4764
Second competition meso-cycle						

4- days, competition	1	102 (37.7)	12 (4.2)	108 (35.7)	80 (24.)	302
5- days, competition	1	161 (34.1)	18 (3.9)	173 (36.6)	120 (25.4)	472
6- days, competition	1	206 (30.4)	56 (8.4)	255 (37.6)	160 (23.6)	677
7- days, competition	1	218 (28.8)	62 (8.4)	275 (36.4)	200 (26.4)	755
7- days, inter-match	1	179 (39.6)	39 (8.9)	133 (29.4)	100 (22.1)	451
7- days, inter-match	2	772 (42.9)	144 (8.2)	520 (28.9)	360 (20.0)	1796
3-days, recreational	3	435 (100)	–	–	–	435
Total	10	2073 (42.4)	331 (6.8)	1464 (29.9)	1020 (20.9)	4888
Third competition meso-cycle						
4- days, competition	1	102 (33.7)	12 (4.2)	108 (35.,7)	80 (26.4)	302
7- days, competition	4	872 (28.8)	248 (8.4)	1100 (36.4)	800 (26/4)	3020
4- days, competition	1	179 (39.6)	39 (8.9)	133 (29.4)	100 (22.1)	451
6- days, inter-match	1	296 (41.0)	60 (8.5)	205 (28.4)	160 (22.1)	721
3- days, recreational	2	290 (100)	–	–	–	290
7- days, recreational	1	320 (74.4)	–	30 (7,0)	80 (18.6)	430
Total	10	2059 (39.6)	359 (6.9)	1576 (30.2)	1220 (23.3)	5214
Forth competition meso-cycle						
5- days, competition	2	322 (34.1)	36 (3.9)	346 (36.6)	240 (25.4)	944
7- days, competition	2	436 (28.8)	124 (8.4)	550 (36.4)	400 (26.4)	1510
3- days, recreational	2	290 (100)	–	–	–	290
Total	6	1048 (38.3)	160 (5.8)	896 (32.6)	640 (23.3)	2744
Total for competition period	35	7090 (40.2)	1160 (6.6)	5440 (30.9)	3920 (22.3)	17610

Table 2

Scope of different training loads in micro-cycles of competition meso-cycles of highly qualified indoor soccer players' training

Micro-cycles	Q-ty of days	Scope of loads, min., (%)				Total
		aerobic	mixed	Anaerobic alactate	Anaerobic glycolytic	
First competition meso-cycle						
4- days, competition	1	16.2 (53.6)	140 (46.4)	–	–	302
5- days, competition	2	448 (47.4)	456 (48.4)	20 (2.1)	20 (2.1)	944
6- days, competition	1	296 (43.7)	351 (50.5)	20 (2.9)	10 (1.4)	677
7- days, competition	1	316 (41.8)	399 (53.0)	20 (2.6)	20 (2.6)	755
7- days, inter-match	2	870 (48.4)	806 (45.0)	60 (3.3)	60 (3.3)	1796
3- days, recreational	2	290 (100)	–	–	–	290
Total	9	2382 (50.4)	2138 (44.8)	120 (2.5)	110 (2.5)	4764
Second competition meso-cycle						
4- days, competition	1	162 (53.6)	140 (46.4)	–	–	302
5- days, competition	1	224 (47.4)	228 (48.4)	10 (2.1)	10 (2.1)	472
6- days, competition	1	296 (43.7)	351 (50.5)	20 (2.9)	10 (1.4)	677
7- days, competition	1	316 (41.8)	399 (53.0)	20 (2.6)	20 (2.6)	755
7- days, inter-match	1	182 (40.3)	239 (53.1)	15 (3.3)	15 (3.3)	451
7- days, inter-match	2	870 (48.4)	806 (45.0)	60 (3.3)	60 (3.3)	1796
3- days, recreational	3	435 (100)	–	–	–	435
Total	10	2485 (50.7)	2163 (44.3)	125 (2.6)	115 (2.4)	4888
Third competition meso-cycle						
4- days, competition	1	162 (53.6)	140 (46.4)	–	–	302
7- days, competition	4	1264	1596 (53.0)	80 (2.6)	80 (2.6)	3020
4- days, inter-match	1	(41.8)	239 (53,1)	15 (3.3)	15 (3.3)	451
6- days, inter-match	1	182 (40.3)	337 (46.7)	30 (4.2)	30 (4.2)	721
3- days, recreational	2	324 (44.9)	–	–	–	290
7- days, recreational	1	290 (100)	145 (33.8)	–	–	430
Total	10	285 (66.2) 2407 (46.2)	2557 (49.0)	125 (2.4)	125 (2.4)	5214
Forth competition meso-cycle						

5- days, competition	2	448 (47.4)	456 (48.4)	20 (2.1)	20 (2.1)	944
7- days, competition	2	632 (41.8)	798 (53.0)	40 (2.6)	40 (2.6)	1510
3- days, recreational	2	290 (100)	–	–	–	290
Total	6	1370 (49.9)	1254 (45.7)	60 (2.2)	60 (2.2)	2744
Total for competition period	35	8644 (49.2)	8126 (46.1)	4300 (2.4)	4100 (2.3)	17610

In micro-cycles of competition period anaerobic loads were used within the limits 4-5 %, including anaerobic-alactate from 2,1 (5- days, competition micro-cycle) to 4,2 % (4- days, inter-match micro-cycle).

In general, during competition period of training of highly qualified indoor soccer players 49,2 % of loads were aerobic, 46,1 % – mixed, 2,4 % – anaerobic-alactate, 2,3 % – anaerobic glycolytic (see fig.6).

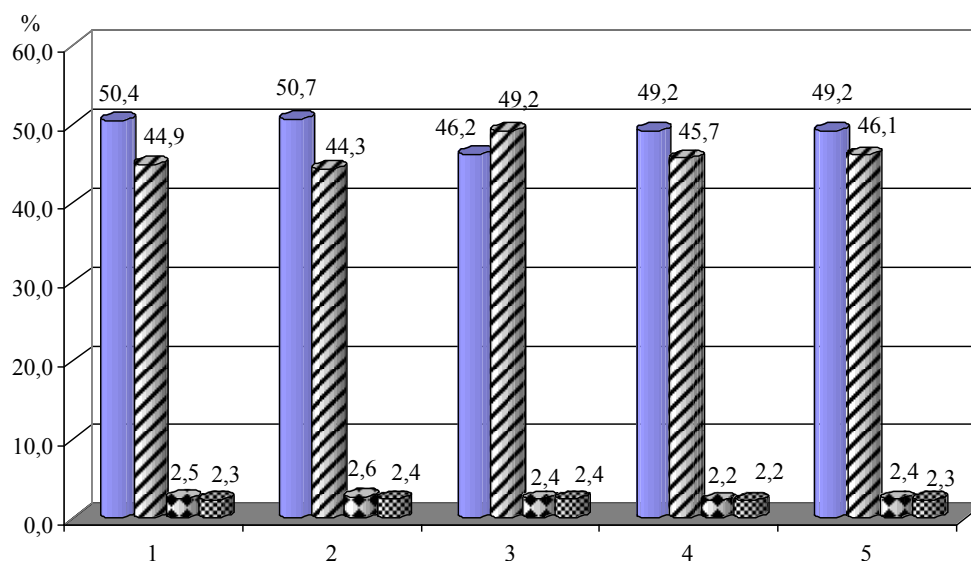


Fig.6. Correlation of different training loads in competition period of highly qualified indoor soccer players' preparation:

1 – 1-st competition, 2 – 2-nd competition, 3 – 3-rd competition, 4 – 4-th competition micro-cycles; 5 – total for competition period;

■ – aerobic loads; ▨ – mixed loads; ▩ – anaerobic – alactate loads; ▤ – anaerobic glycolytic loads

Summary:

1. The structure of competition period consists of four competition meso-cycles, every of which includes different types of micro-cycles – competition, inter-match, and recreational.

2. In competition period, in the course of competition meso-cycles general training exercises were from 38,3 to 42,4 %, special preparatory exercises – from 29,9 to 32,6 %, competition exercise – from 20,9 to 23,3 %.

3. Intensity of training loads in inter-match micro-cycles was less than in competition ones that corresponds to strategy of building of training process in competition period.

4. During all competition period correlation of training loads was: aerobic - 49,2 %, mixed - 46,1 %, anaerobic alactate– 2,4 %, anaerobic glycolytic– 2,3 %.

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