

The structure and content of the preparatory period in futsal in the annual training cycle of skilled players

Struktura i treść okresu przygotowawczego w futsalu w rocznym cyklu treningowym zaawansowanych zawodników

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Summary

Study aim: To define the structure and content of the training process of futsal team in the preparatory period.
Material and Methods: The team "Sportleader +" (Khmelnitsky), a member of Extra League of Ukraine, were studied in preparation for the competition season. A survey was made to determine the structure and content of the preparatory training period in futsal.

Results: During the preparatory period of the training process of skilled players in futsal aerobic loads accounted for 54.9%, mixed – 36.9%, anaerobic alactic – 5.2% and anaerobic glycolytic – 3.0%. The use of training means was in the following ratio: 69.2% – non-specific exercises; 3.2% – specific preparatory; 14.7% – subsidiary; 12.9% – competitive exercises.

Conclusions: The presented training structure may serve as a guide in distributing training loads and means of different orientation for teams of masters in the preparatory period in futsal.

Key words: Futsal; Preparatory period; Training structure

Streszczenie

Cel pracy: Określenie struktury i treści procesu szkoleniowego zespołu piłki halowej (futsal) w okresie przygotowawczym.

Materiał i metody: Badania przeprowadzono w zespole "Sportleader +" (Khmelnitsky) z ukraińskiej ekstraklasy w okresie przygotowawczym do rozgrywek. Strukturę i treść treningu określono przez wywiad trenerski.

Wyniki: W badanym okresie przygotowawczym wysiłki tlenowe stanowiły 54.9%, mieszane – 36.9%, beztlenowe bezmleczanowe – 5.2% i beztlenowe glikolityczne – 3.0% całkowitego obciążenia treningowego. Zastosowane środki treningowe: ćwiczenia ogólne – 69.2%, specjalne – 3.2%, uzupełniające – 14.7%, startowe – 12.9%.

Wnioski: Przedstawiona struktura treningu może służyć jako wskazówka w ustalaniu wielkości obciążeń treningowych i stosowania rozmaitych środków treningowych w okresie przygotowawczym zawodników ligi futsalu.

Słowa kluczowe: Futsal, okres przygotowawczy, struktura treningu

Introduction

Analysis of the structure of the training process in team sports during the annual macrocycle shows that the theory of periodisation of athletic training has received the most practical justification [5,8,9,14,16]. It was established that the planning of the training process in futsal is based on the one-cycle system consisting of three periods: preparatory, competitive and transition [6,13,15,18,19], the preparatory period in futsal playing one of the key roles as it shapes performance stability.

However, despite the specific features of the preparatory period in futsal, most coaches continue to use the training system existing in football [8,17], although the features of competitive activity require corrections as to the content and orientation of the training process [12]. Contemporary futsal experts [4,6,7,10,13,19] are aware of those problems. Considering the above remarks, the preparatory period should be given special attention while planning the educational and training process of futsal team.

Material and Methods

While working on the research topic, specialised literature was analysed and summarised. It was revealed the theory of periodisation of sports training received the most practical substantiation [8,14]. The preparatory training period in futsal, namely its structure and content, were surveyed on an example team – the "Sportleader +" (Khmelnysky), a member of Extra League of Ukraine, in the course of preparations for the competitive season. The characteristics of the team are summarised in Table 1.

Table 1. Basic characteristics of futsal players (n = 15)

Variable	Means ± SD (ranges)
Age (years)	24.7 ± 3.26 (20 – 29)
Body height (cm)	176.1 ± 5.3 (167 – 182)
Body mass (kg)	70.8 ± 5.9 (56 – 77)
BMI	23.1 ± 1.8 (18.8 – 25.6)
Training experience (years)	7.3 ± 1.6 (5 – 10)

Results and Discussion

The construction of the training process in the preparatory period depends on calendar events, as well as on the main tasks to be solved in the preparatory period according to the conceptual foundations of the theory of periodisation of sport training [1,2,3,11]. Based on the objectives of the preparatory period – namely, facilitating fitness shaping, creating a basic foundation of preparedness of the players, a gradual adaptation to competitive activities, the preparatory period lasted from July to September and consisted of two phases: general preparation and specific preparation.

Components of the general preparation phase were introductory and basic developmental mesocycles, and of the specific preparation phase – control-preparatory and pre-competitive. Accordingly, each mesocycle consisted of a number of microcycles; introductory, hitting, subsidiary and restorative microcycles were included into the preparatory period.

In order to improve the training impact on players, the microcycles aimed at controlling the volume, orientation and intensity of training loads according to Kostyukevich [8]. In this study, training focused on its types and components, volume and orientation of loads, duration of training and on the intensity of training loads. The general preparation phase of the preparatory period consisted of 7 microcycles. It started with introductory mesocycle, which included two 7-day introductory and one restorative microcycles. During that mesocycle, after the initial state of players was assessed, their physical fitness and gradual adaptation to training loads were shaped. The main training means in that mesocycle were general developmental exercises, cross-training, aerobics, swimming and power exercises.

The basic developmental mesocycle consisted of two seven-day hitting and two 3-day restorative microcycles. That mesocycle included general and specific training, development of alactic and glycolytic capacity of players, improvement of maximal oxygen consumption and technical and tactical skills. Athletic, cross, fartlek workouts, anaerobic alactic and anaerobic glycolytic exercises were applied, as well as competitive training. The amount of technical and tactical drills and games activities increased as compared with the previous mesocycle.

The specific preparation phase of the preparatory period consisted of two mesocycles – control-preparatory and pre-competitive, including 10 microcycles – 3 hitting, 3 subsidiary and 4 restorative ones. The main tasks in that phase included adaptation of players to competitive pressures, improving playing techniques under conditions close to competitive, perfecting technical and tactical interactions of players in phases of the possession of the ball or taking possession of it, increasing physical fitness and functional preparedness of futsal players that would make them effectively participating in competitive activities, formation of psychological stability of players to hard training and competitive activity, and forming the main and starting staff of the team. In planning two training sessions in a day, the main session was devoted to the tasks of special physical, technical and tactical, gaming and competitive training – unlike the general preparation phase, where especially during the introductory mesocycle, the most important thing was general fitness training.

Table 2. The amount of training loads of different orientations in the preparatory period of training skilled futsal players

Meso-cycles	Microcycles	Days	Training loads, minutes (%)				Total
			Aerobic	Mixed	Anaerobic alactic	Anaerobic glycolytic	
Introductory	1 st Introductory	7	486 (62,6)	290 (37,4)	–	–	776
	2 nd Introductory	7	550 (64,3)	290 (33,9)	10 (1,2)	5 (0,6)	855
	1 st Restorative	3	145 (100)	–	–	–	145
	Totals	17	1181 (66,5)	580 (32,6)	10 (0,6)	5 (0,3)	1776
Basic developmental	1 st Hitting	7	522 (51,8)	404 (40,2)	80 (8,0)	–	1006
	1 st Restorative	3	145 (100)	–	–	–	145
	2 nd Hitting	7	372 (41,3)	375 (41,5)	96 (10,6)	60 (6,6)	903
	2 nd Restorative	3	145 (100)	–	–	–	145
	Totals	20	1184 (53,9)	779 (35,4)	176 (8,0)	60 (2,7)	2199
Control-preparatory	1 st Hitting	7	356 (38,6)	437 (47,3)	80 (8,7)	50 (5,4)	923
	1 st Restorative	3	145 (100)	–	–	–	145
	2 nd Hitting	7	412 (46,5)	340 (38,3)	90 (10,1)	45 (5,1)	887
	2 nd Restorative	3	145 (100)	–	–	–	145
	3 rd Hitting	5	366 (45,7)	350 (43,7)	60 (7,5)	25 (3,1)	801
	3 rd Restorative	3	145 (100)	–	–	–	145
	Totals	28	1569 (51,6)	1127(36,9)	230 (7,6)	120 (3,9)	3046
Pre-competitive	1 st Subsidiary	5	366 (40,7)	447 (49,8)	45 (5,0)	40 (4,5)	898
	2 nd Subsidiary	5	380 (56,3)	240 (35,6)	15 (2,2)	40 (5,9)	675
	Restorative	3	145 (100)	–	–	–	145
	3 rd Subsidiary	5	288 (51,4)	258 (45,9)	10 (1,8)	5 (0,9)	561
	Totals	18	1179 (51,2)	945 (41,5)	70 (30,1)	85 (4,2)	2279
Totals		83	5113 (54,9)	3431 (36,9)	486 (5,2)	270 (3,0)	9300

The two principal objectives were to maintain a sufficiently large volume and high intensity of loads, and to reflect the characteristics of competitive activity in the process of control-preparatory meso-cycle. In other words, the name of this mesocycle describes the content of training of players at that stage of the preparatory period of the annual macrocycle.

The pre-competitive mesocycle completed the program of training in the preparatory period, the strategy of which included fitness acquisition, whose level played an important role in the competitive performance of the team. That mesocycle consisted of three subsidiary and one restorative microcycles. The tasks of improving specific abilities of players, developing special knowledge and skills of tactics of the game, improving mental stability to conditions of the competitive activity, were attained in each of the subsidiary microcycles. The main and starting staffs of the team were formed during that mesocycle. Specific preparatory, subsidiary and competitive exercises were mainly used in the training sessions of pre-competitive mesocycle.

In general, when planning the training throughout the preparatory period, the tendency of redistributing training loads of different orientations was observed, as well as reducing general training exercises and increasing the special preparatory, subsidiary and competitive ones (Table. 2). As may be seen, largest amounts of anaerobic loads were applied in basic mesocycles: 10.7% – in basic developmental mesocycle and 11.5% – in the control-preparatory one.

Table 3. The amount of means of training of different orientations in the preparatory period of training skilled futsal players

Meso-cycles	Microcycles	Training loads, minutes (%)					Total
		General non-specific	Specific preparatory	Specific subsidiary	Specific competitive		
Introductory	1 st Introductory	7	776 (100)	–	–	–	776
	2 nd Introductory	7	767 (89,8)	–	48 (5,6)	40 (4,6)	855
	Restorative	3	145 (100)	–	–	–	145
	Totals	17	1688 (95,0)	–	48 (2,7)	40 (2,3)	1776
Basic developmental	1 st Hitting	7	688 (68,4)	–	178 (17,7)	140 (13,9)	1006
	1 st Restorative	3	145 (100)	–	–	–	145
	2 nd Hitting	7	653 (72,3)	–	120 (13,3)	130 (14,4)	903
	2 nd Restorative	3	145 (100)	–	–	–	145
	Totals	20	1631(74,1)	–	298 (13,6)	270 (12,3)	2199
Control-preparatory	1 st Hitting	7	623 (67,5)	–	140 (15,2)	160 (17,3)	923
	1 st Restorative	3	145 (100)	–	–	–	145
	2 nd Hitting	7	555 (62,7)	120 (13,5)	112 (12,6)	100 (11,2)	887
	2 nd Restorative	3	145 (100)	–	–	–	145
	3 rd Hitting	5	478 (59,8)	65 (8,1)	138 (17,2)	120 (14,9)	801
	3 rd Restorative	3	145 (100)	–	–	–	145
	Totals	28	2091 (68,6)	185 (6,1)	390 (12,8)	380 (12,5)	3046
Pre-competitive	1 st Subsidiary	5	378 (44,3)	70 (7,7)	240 (26,7)	210 (23,3)	898
	2 nd Subsidiary	5	265 (39,3)	40 (5,9)	220 (32,6)	150 (22,2)	675
	Restorative	3	145 (100)	–	–	–	145
	3 rd Subsidiary	5	241 (43,0)	–	170 (30,3)	150 (26,7)	561
	Totals	18	1029 (45,2)	110 (4,8)	630 (27,6)	510 (22,4)	2279
Totals		83	6439 (69,2)	295 (3,2)	1366 (14,7)	1200 (12,9)	9300

Regarding aerobic loads, they were gradually reduced from 66.5% in introductory mesocycle to 51.2% in the control-preparatory one. The reversed tendency is observed when using mixed (aerobic-anaerobic) loads which increased during the preparatory period from 32.6% (introductory mesocycle) to 41.5% in pre-competitive one.

Similar redistribution of loads of different orientations depends on training tools that were used during the preparatory period (Table 3). Analysis of the table suggests a tendency to reduce non-specific (general training) exercises – 95% in introductory, 74.1% in basic developmental, 68.6% in control-preparatory and only 45.2% in the pre-competitive mesocycles during the preparatory period. At the same time, specific (specific preparatory, subsidiary, competitive) exercises increased and amounted to 5.0% in introductory mesocycle, 25.9% in basic developmental, 31.4% in the control-preparatory and 54.8% in pre-competitive mesocycles. Thus, during the preparatory period of the training process of highly skilled players in mini-football aerobic loads accounted for 54.9%, mixed – 36.9%, anaerobic alactic – 5.2% and anaerobic glycolytic – 3.0%.

The training program of the general preparation phase of the preparatory period of the annual training cycle of skilled futsal players included a gradual increase of the volume and intensity of training loads and their redistribution from the predominant aerobic to aerobic-anaerobic and anaerobic. Redistribution of means of training was effected, provided that the use of the general preparatory training consecutively decreased and subsidiary and competitive exercises increased.

Planning of training of skilled futsal players on the specific preparatory stage of the preparatory period involved: 1 – a gradual adaptation to the specific loads; 2 – an improvement of technical and tactical skill of players to meet necessary requirements of the competitive activity; 3 – fitness acquisition, characterised by integrated (complex) preparedness to activities in the competitive period. The presented training program of skilled futsal players in the preparatory period appears capable to prepare them for more intensive and specific pressures of the competitive period and may serve as a guide in the training the teams of masters.

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