THE INFLUENCE OF SOMATHOTYPE ON THE CHANGES OF AEROBIC ENDURANCE FIELD TEST OF SOCCER PLAYERS AGED 15-17 YEARS

Handziska E.,Handziski Z.,Gjorgoski I.

PZU Kineticus –sports medicine and exercise science,Republic of Macedonia; Faculty of Medical Sciences, Un.GoceDelcev-Stip, Republic of Macedonia; Institute of biology, Faculty of natural sciences and mathematics, Un. St.Kiril and Metodij, Republic of Macedonia

AIMS

Determination of:

1. Somathotype
2. Speed of running and total distance covered with Yo-Yo IE2
3. The influence of somathotype on the changes of Yo-Yo IE2

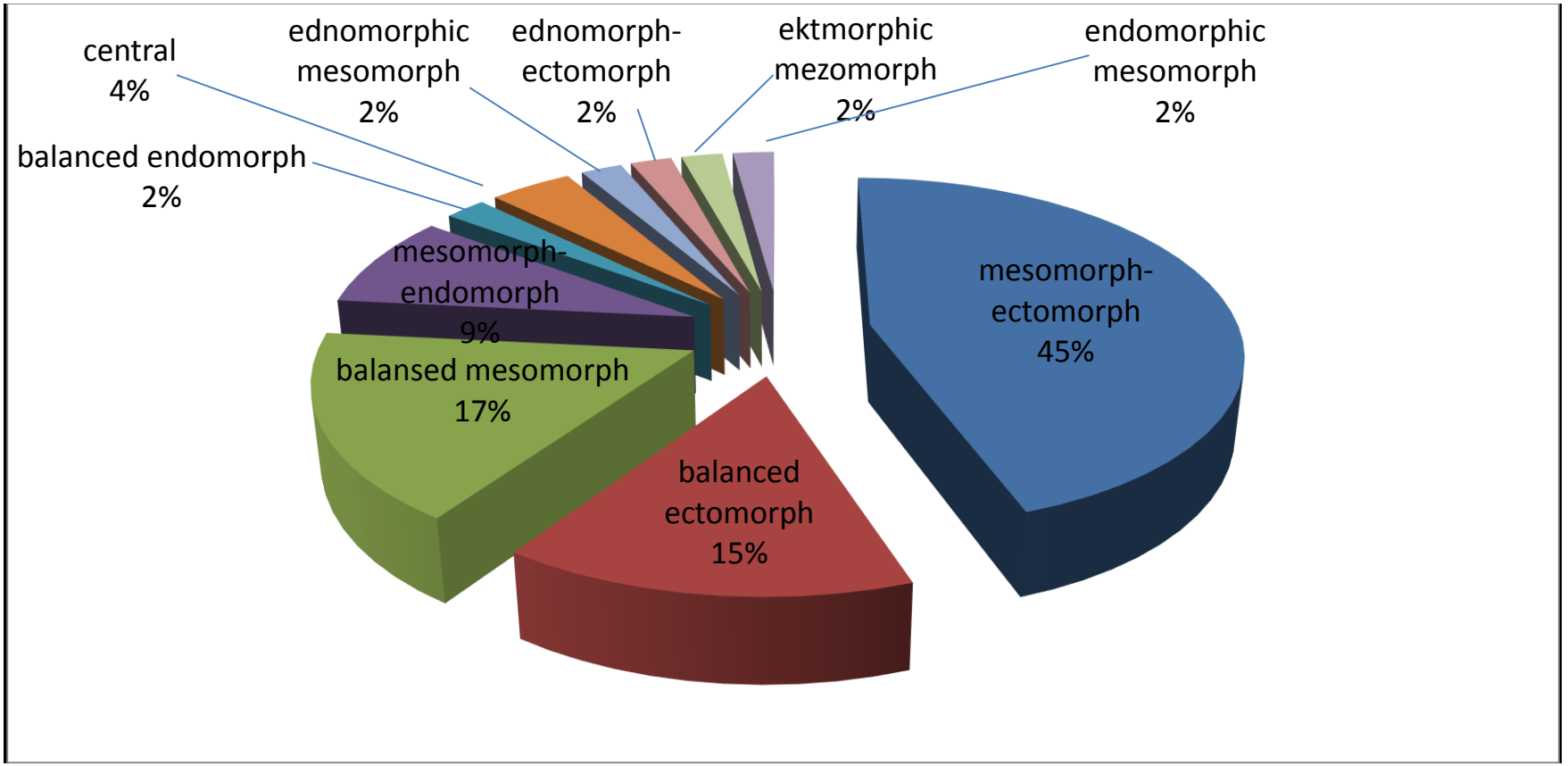
of soccer players aged 15-17 years.

MATERIAL AND METHODS

46 soccer players, aged 15-17 years, were included is this study. During a training and competition process of 4 months, three times (at the beginning – P_1, in the middle - $P_2$and after the finishing of this process – P_3), we measured speed of running (km/h) and total distance covered (m) with Yo-Yo intermittent endurance test level 2 on field (Yo-Yo IE2). With Heath-Carter anthropometric somathotype model, we determined 13 categories of somathotype. We used descriptive statistics, ANOVA and multiple regression analysis.

RESULTS

Figure 1. The somathotype of 46 soccer players, aged 15-17 years.



Tabel 1. The changes of speed of running (km/h) and total distance covered (m) with Yo-Yo intermittent endurance test level 2 on field (Yo-Yo IE2) of soccer players, aged 15-17 years, during a training and competition process.

	Speed of running (km/h)	**Total distance (m)**
P_1	14.86	1454.73
P_2	15.22	1606.31
P_3	15.36	1675.78
$p<0.05$	**n.s.**	**n.s.**

Table 2. The influence of somathotype on the changes of speed of running (km/h) and total distance covered (m) with Yo-Yo IE2 of soccer players, aged 15-17 years, during a training and competition process ***(only significant influences are presented- p<0.05).***

	Somathotype		**Category of somathotype**		
Speed of running/P_1	R	p	beta	B	p
			Balanced	ectomorph	
	0.76	0.009	0.46	1.0	0.03
			Mesomorph	endomorph	
			-0.44	-0.8	0.04
Total distance/P_1			Balanced	ectomorph	
	0.73	0.04	0.19	480	0.01

Speed of running/P_1 – speed of running (km/h) at the beginning of training process

Total distance/P_1 – total distance covered (m) at the beginning of training process

CONCLUSIONS AND DISCUSION

- Although there was an increase of speed of running and total distance covered with Yo-Yo EI2 during the training and competition process, the insignificancy of this increase suggests that there was no serious progress in aerobic capacities of players, aged 15-17 years. The most date from the literature show that increasing of soccer performance is connected with significant increasing of speed of running and total distance covered with Yo-Yo EI2 – ***There is a need of a new strategy of increasing the aerobic endurance in training process of these players.***
- From 13 categories of somathotypeby Heath-Carter, 10 are presented in young soccer players, with predomination of mesomorh-ectomorph (45%), together with balanced mesomorph (17%), balanced ectomorph (15%) and mesomorph-endomorph (9%).

- Balanced ectomorph young soccer players, presented with 15% in this study, seem to have higher positive influence on of running and total distance covered with Yo-Yo EI2 than other somathotypes at the beginning of training process. In other periods of training process this influence is insignificant. Accordinglly, ***young soccer players with this somathotype could develop better specific aerobic endurance capacities with properly designed training process, but more studies are necessary to support these findings.***
- Mesomorph endomorph young soccer players, presented with 9% in this study, seem to have had higher negative influence on of running and total distance covered with Yo-Yo EI2 than other somathotypes at the beginning of training process, although in other periods of training process this influence was insignificant. ***On one side, it seems that young soccer players with this somathotype could not response adequately to***

aerobic endurance training process, but on the other side, much more studies are necessary to support these findings.

- Although the need for more studies is obvious, ***the findings of this study suggest that the determination of somathotype should be a part of selection model in young soccer players.***