

BUILDING DIET FOR WEIGHTLIFTING HIGH-CLASS ATHLETES

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Abstract:

In modern sports, along with the specialized elements, nutrition also plays a decisive role in the athlete's performance. In the context of this article, we have presented the results of study on the development of suitable diet for Weightlifting high-class athletes.

Key words: Diet, Weightlifting high-class athlete.

INTRODUCTION

Weightlifting is a strength sports, athletes often have to perform exercises with maximum weight, so the calorie n consumption is very large. Therefore, athletes need not only special diet, but also nutritional supplements from functional foods. Currently in our country, the researches on weight lifting are not much and have not mentioned nutritional problems for Weightlifting athletes. Therefore, the building of rational diet for athletes is extremely urgent.

RESEARCH METHODS

In the research, we have used methods of analysis and synthesis of documents, practical survey, interview, medical test and mathematical statistics.

RESULTS AND DISCUSSION

1. Determine average daily calorie, nutrient composition of menu - new diet for Weightlifting high-class athletes

The results of determining the average daily nutrient composition of the menu - new diet and the percentage of nutrients are in Table 1 to Table 3.

Table 1. Average daily nutrient composition for Weightlifting high-class athletes

Meal	Main nutrient composition				Mineral		Vitamin			
	Calories (kcal)	Protein (g)	Lipid (g)	Carbohydrate (g)	Ca (mg)	Fe (mg)	B1 (mg)	B2 (mg)	PP (mg)	C (mg)
Breakfast	1080.2	51.62	51.4	623.36	388.8	6.81	0.62	1.04	8.72	4.22
Two main meals	4045.8	277.34	140.12	419.3	1763.72	37.2	4	3.14	50.2	433.36
Two midday meals	271.6	4.2	0.56	62.16	22.4	1.68	0	0.28	1.96	16.8
Total	5397.6	333.16	192.08	1104.82	2174.92	45.69	4.62	4.46	60.88	454.38

Table 1 shows that comparing to the actual daily calorie requirements of high-level athletes, the diet are just meeting principally the calorie requirements for medium-intensity training periods. Therefore,

to ensure the calorie for the athletes required at different training phases, the study has provided nutritional supplements, vitamins and minerals through the supplemental food.

Table 2. Percentage of energy delivered by daily meal for Weightlifting high-class athletes

No.	Calories by meal	Actual percentage by new diet	Recommendation
1	Breakfast	20.01	20 – 25%
2	Lunch	37.48	25 – 30%
3	Dinner	37.48	25 – 30%
4	Two midday meals	5.03	5 – 10%
Total		100	

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The table 2 shows that the calorie supply of breakfast and 2 midday meals are appropriate with the recommendation, 2 meals of lunch and dinner exceed the recommendation but not

much. However, the 2 meals are appropriate with the stages of professional preparation and preparation for competition of the year training program.

Table 3. Percentage of nutrient composition of daily meal for Weightlifting high-class athletes

Types of nutrients	Actual percentage by new diet	Recommendation
Protein	20.44	20 – 25%
Lipid	11.78	15 – 20%
Carbohydrate	67.78	60 – 65%

Table 3 shows that the nutritional composition of the newly developed diet is relatively consistent with the recommendation and the ability to meet nutritional needs for Weightlifting high-level athletes when supplemented with vitamins and minerals and supplementary food.

2. Build diet (menu) for Weightlifting high-class athletes

Based on the calorie and nutritional standards of the training cycle, the basis of the diet development as well as the actual calorie requirements of Weightlifting, the study has built the menu – new diet by using of Vietnam Eiyokun software to ensure nutrient composition and calorie close to the actual requirements. The study has built a diet with 5 meals per day, including 3 main meals and 2 midday meals (1 afternoon one before workout and 1 evening one at 21:00).

- The calorie of the meals is calculated on

average of Carbohydrate (60-65%), Protein (20-25%), Lipid (15-20%).

- Percentage of calorie of diet with 5 meals: Main breakfast (20 - 25%), Midday breakfast (5 - 10%); Lunch (25 - 30%), Midday Afternoon (5 - 10%), Dinner (25 - 30%).

- 2 midday meals: Educate athletes to use energy-rich foods to ensure the training and recovery.

- Main meals: Educate athletes about the nutrition cycle to adjust themselves.

- Volume, digestibility, calorie value of each meal are calculated.

- Ensure the diversity of nutritional value of each meal.

- The food is plentiful in color, taste, delicious and proper in temperature.

The results of determining the nutrient composition of sample daily meal on new diet are in Tables 4 to 6.

Table 4. Results of nutrient composition calculation of 1 breakfast for 1 athlete (calculated according to live food)

Dishes	Food	Main nutrient composition					Mineral		Vitamin			
		Volume (g)	Calorie (kcal)	Protein (g)	Lipid (g)	Carbohydrate (g)	Ca (mg)	Fe (mg)	B1 (mg)	B2 (mg)	PP (mg)	C (mg)
Sliced-chicken noodle soup	Rice noodles	180	253	5.76	0	577.8	28.8	0.54	0	0	0	0
	Pork bone marrow	10	74.9	0.23	8.22	0	0	0	0	0	0	0
	Chicken	100	199	20.3	13.1	0	12	1.5	0.2	0.2	8.1	4
	Egg	100	166	14.8	11.6	0.5	55	2.7	0.2	0.3	0.2	0
Fresh cow's milk		220	162.8	8.58	9.68	10.56	264	0.22	0.22	0.44	0.22	0.22
Chocolate cake		50	224.5	1.95	8.8	34.5	29	1.85	0	0.1	0.2	0
Total		660	1080.2	51.62	51.4	623.36	388.8	6.81	0.62	1.04	8.72	4.22

Table 5. Results of nutrient composition calculation of 1 main meal (lunch or dinner) for 1 athlete (calculated according to live food)

Dishes	Food	Main nutrient composition					Mineral		Vitamin			
		Volume (g)	Calorie (kcal)	Protein (g)	Lipid (g)	Carbohydrate (g)	Ca (mg)	Fe (mg)	B1 (mg)	B2 (mg)	PP (mg)	C (mg)
Rice	Rice	200g	688	15.8	2	152.4	60	2.6	0.2	0	3.2	0
Steamed Chicken with Lemon Leaves	Chicken	150	298.5	30.45	19.65	0	18	2.25	0.3	0.3	12.15	6
Bacon	Bacon	100	260	16.5	21.5	0	9	1.5	0.5	0.2	2.7	2
cooked with quail eggs	Quail eggs	40	66.4	5.92	4.64	0.2	22	1.08	0.08	0.12	0.08	0
Tilapia steamed with soy sauce	Tilapia	150	150	29.55	3.45	0	47.55	0.75	0	0	0	0
Tofu stuffed with pork (lean meat)	Lean meat	20	27.8	3.8	1.4	0	1.34	0.2	0.18	0.04	0.88	0
	Tofu	150	142.5	16.35	8.1	1.05	36	3.3	0	0	0.6	0
Potatoes stir-fried with pork (lean meat)	Lean meat	10	13.9	1.9	0.7	0	0.67	0.1	0.09	0.02	0.44	0
	Potatoes	130	119.6	2.6	0	27.3	13	1.56	0.13	0.13	1.17	13
Malabar spinach stir-fried with garlic	Malabar spinach	150	21	3	0	2.1	264	2.4	0.15	0.3	0.9	108
Mussel soup	Mussel	100	45	4.5	0.7	5.1	144	1.6	0	0.1	2.3	0
	Tomatoes	40	7.6	0.24	0	1.68	4.8	0.56	0.04	0	0.2	16
Tangerine	Tangerine	130	49.4	1.04	0	11.18	45.5	0.52	0.15	0	0.3	71.5
Fresh cow's milk	Fresh cow's milk	180	133.2	7.02	7.92	8.64	216	0.18	0.18	0.36	0.18	0.18
Total		1550	2022.9	138.67	70.06	209.65	881.86	18.6	2	1.57	25.1	216.68

Table 6. Results of nutrient composition calculation of 1 midday meal for 1 athlete

Dishes	Main nutrient composition					Mineral		Vitamin			
	Volume (g)	Calorie (kcal)	Protein (g)	Volume (g)	Calorie (kcal)	Protein (g)	Volume (g)	Calorie (kcal)	Protein (g)	Volume (g)	Calorie (kcal)
Banana	120	116.4	1.8	0.24	26.64	9.6	0.72	0	0.12	0.84	7.2

CONCLUSION

The scientific, adequate and balanced menu includes 5 meals a day (3 main meals, 2 midday meals) meeting the daily nutrient needs for Weightlifting high-class athletes under current condition.

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(Received 19/10/2017, Reviewed 2/11/2017, Accepted 28/11/2017
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