

Comparative Study of Energy Intake and Expenditure of Female Players of Kabaddi and Judo

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Abstract

The purpose of the study was to know the comparison of energy intake and energy expenditure of female players of Kabaddi and Judo. The subjects were from the different affiliated colleges of Punjabi University, Patiala who participated at least inter-university level competitions in kabaddi and judo. To collect the data from the subject's dietary questionnaire were used. In order to analyze the scores of energy intake and expenditure of female players of Kabaddi and Judo, the disrupted technique was used. Furthermore to find out significant comparison between the scores of subjects on energy intake and expenditure of female players of Kabaddi and Judo the 't' value was employed for testing of the hypothesis whose level of significance was set at 0.01 level. The results showed that the energy intake was more in female players of Judo as compared to female players of Kabaddi. When 't' value was calculated ($t = 19.27$, significant at 0.01 level), it gives significant difference in the caloric intake between female players of Kabaddi and Judo.

Introduction: Man needs adequate food and a wide range of nutrients for growth, development, to perform various functions in the body and to lead an active and healthy life. Nutrition is the science that deals with food and its uses by the body. The science of nutrition has a great value for its ultimate goal, the development and maintenance of strong, study bodies. It is the science of foods and their relation to health. The main raw fuel for biological work takes in the form of carbohydrates, proteins and fats. Vitamins and minerals plays important and highly specific role in activities and facilitating energy transfer throughout the body and regulate the metabolism is one in which the supply of required nutrients and adequate for tissue maintenance, repair and growth. Energy has the greatest demand during physical activities. The energy trapped within physical bonds of carbohydrates, fats and proteins is extracted during a series of complex chemical reactions and made available to the cells in the form of energy currency ATP. All bodily functions both at rest and during exercise require energy. It is possible to classify both food and physical activity in terms of common denominator energy. Athletic performance improves with wise nutrition and crumbles with nutritive deficiency. Knowledge of food and nutrition has a direct bearing on the maintenance of sound health of an individual. The energy balance requires the understanding of facets of energy expenditure and energy intake. The knowledge of caloric intake just like caloric expenditure is very important. An athlete or coach must be familiar with the planning of diet from the view point of nutrient requirement of his body. Individual nutritional needs vary, depending on the particular sport or activity and the level at which a person competes. However, for all those involved in sport, an adequate fluid and carbohydrate intake is particularly important. Nutritional status plays an important role in the sports performance. Man needs all the nutrients i.e. energy, proteins, vitamins, minerals in different amounts to grow lives and thrive. An adequate supply of these nutrients in the diet is necessary for good health. Nutrition significantly influences athletic performance, therefore athletes and their support teams need to understand how to tailor food and fluid intakes to

individual requirements, and how to fit refueling into busy lifestyles. Key challenges of sports nutrition include maximizing glycogen stores ensure adequate protein intake for recovery and repair, preventing dehydration, and optimizing daily nutrient and fluid intake to maximize performance during training and competition. Sports nutrition should be based on a healthy well balanced, high carbohydrate, low fat diet and as such may be very different from typical western diets. Just like physical conditioning, nutritional conditioning should also be considered as an important of training of athletes. An appraisal of the athletes from the nutritional point of view is likely to inculcate in them good and healthier eating habits which will let them lead a happier, healthier and longer life. As the physical active individuals or active athletes burn more calories in comparison to the inactive individuals, and put more stress on the metabolic processes of the body, therefore dietary requirements of athletes need a special consideration. Investigator conducted this study to know the differences of energy intake and energy expenditure of female players of Kabaddi and Judo who participated atleast inter university competitions of Kabaddi and Judo.

Methodology: The investigator collected the data from female players of Kabaddi and Judo those who have participated at least inter-university level competitions. The researcher collected the data of 21 players from the different affiliated colleges of Punjabi University Patiala. Eleven players of Kabaddi and 10 players of Judo were taken for the study. The data was collected from the subjects during their inter university camps of these games in Punjabi University Patiala. Purposive sampling technique was used to collect the data. To collect the data from the subject's dietary questionnaire was used. For determining the caloric intake, a record of everything eaten and drink along with the specific amount has recorded. A food database had been prepared of different Indian foods about 50 commonly used recipes and for determining the caloric expenditure every activity done by the player in the whole day e.g. walking, running, exercising etc. has recorded. For determining the total daily caloric/energy intake and expenditure for 7 days was recorded and thus total caloric intake and expenditure in Kcal/day had been found. t-test was used to find out the nutritional status of female players of Kabaddi and Judo.

Result:

The results of energy intake and expenditure of female players of Kabaddi and Judo have been depicted in table 1 and table 2.

Table 1

Mean, S.D. and 't' ratio for Calories Intake

Group	No. of observations	Mean	S.D.	t-ratio
Kabaddi Players	77	2088.28	443.45	19.27**
Judo Players	70	3239.10	241.24	

** Significant at 0.01 level

No of observations = No. of days x No. of subjects

Tabulated 't' value (df = 19) = 2.53

In Table 1, the mean scores showed that the energy intake of female players of Kabaddi and Judo were 2088.28 and 3239.10 respectively. Thus the result indicates that the energy intake was more in female players of Judo as compared to female players of Kabaddi. When 't' value was calculated ($t = 19.27$, significant at 0.01 level), it gives significant differences in caloric intake between female players of Kabaddi and Judo.

Table 2
Mean, S.D. and 't' ratio for Calories Expenditure

Group	No. of observations	Mean	S.D.	t-ratio
Kabaddi Players	77	2170.88	1050.32	3.28**
Judo Players	70	2725.90	999.7	

** Significant at 0.01 level

No of observations = No. of days x No. of subjects

Tabulated 't' value ($df = 19$) = 2.53

In Table 2, the mean scores showed that the energy intake of female players of Kabaddi and Judo were 2170.88 and 2725.90 respectively. Thus the result indicates that the energy expenditure was more in female players of Judo as compared to female players of Kabaddi. When 't' value was calculated ($t = 3.28$, significant at 0.01 level), it gives significant difference in the caloric expenditure between female players of Kabaddi and Judo.

Conclusion: Energy intake of female players of judo is greater than female players of Kabaddi because judo players were taking better quality of food which was more enriched with fat and carbohydrates. The diet of Judo players has been recommended by their coach and Kabaddi players were taking their personal diet.

Energy expenditure of female players of Judo is greater than female players of Kabaddi because Judo players were doing more physical work as compared to other group.

Energy intake of female players of Kabaddi is less than energy expenditure.

Energy intake of female players of Judo is more than energy expenditure.

Significant differences has been found in energy intake and energy expenditure between female players of Kabaddi and Judo.

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