

Impact of supplementation of functional beverage on the physical performance of sportswomen

■ ANUPRIYA SINGH AND ANITA KOCHHAR

Received: 20.04.2012; Revised: 14.07.2012; Accepted: 15.09.2012

■ **ABSTRACT** : Thirty sportswomen in the age group of 16 to 18 years from Punjab Agricultural University, Ludhiana were selected to determine the impact of supplementation of functional beverage on the physical performance of sportswomen. Functional beverage was prepared by using whey water, pearl millet [*Pennisetum typhoideum*], cauliflower [*Brassica oleracea* var. *botrytis*] leaf powder, banana and jaggery at three different levels *i.e.* S₁, S₂ and S₃. The developed functional beverage was organoleptically evaluated by a panel of judges and students by using nine-point hedonic scale. Both the panels gave the highest overall acceptability scores to the S₁ level which was prepared by using 2.5 g cauliflower leaf powder, 5 g pearl millet, 10 g jaggery, 20 g banana and 63 ml whey water per 100 ml. The most acceptable level was chemically analyzed. The study was divided into two periods *i.e.* control and experimental. During control period, the subjects were observed without supplementation for a month while during experimental period the subjects were supplemented with 200 ml developed functional beverage for 3 months. The run time, heart rate and blood pressure of the subjects were measured. It was observed that run time for 'Cooper's 1.5 mile run test' and rise in heart rate after the test reduced significantly ($p \leq 0.01$) *i.e.* 15.95 per cent improvement in their average run time and 7.67 per cent decrease in heart rate after the experimental period. Hence, it can be inferred from the results that supplementation of functional beverage before the sports training improved physical performance of the sportswomen. Therefore, the consumption of the underutilized foods like pearl millet, whey water and cauliflower leaf powder should be encouraged.

■ **KEY WORDS** : Functional beverage, Pearl millet, Cauliflower, Leaf powder, Whey water, Physical performance

■ **HOW TO CITE THIS PAPER** : Singh, Anupriya and Kochhar, Anita (2012). Impact of supplementation of functional beverage on the physical performance of sportswomen. *Asian J. Home Sci.*, 7 (2): 260-263.

See end of the paper for authors' affiliations

Correspondence to :

ANUPRIYA SINGH
Department of Food and
Nutrition, College of Home
Science, Punjab Agricultural
University, LUDHIANA
(PUNJAB) INDIA
Email: jasrotia.anu5@gmail.
com

Sports drinks are much relevant to Indian sports scenario because of the fact that many of the Indian sportswomen are generally undernourished and anemic. Being a tropical country, athletes tend to get exhausted quickly particularly during summer and this affects their performance. Consuming adequate fluid and carbohydrates before, during and after exercise can help in maintaining blood glucose levels during exercise, maximize exercise performance, decrease the risk of dehydration and improves recovery time (Kanabur and Devi, 2005).

Maintenance of water balance is of primary concern when profuse sweating accompanies prolonged strenuous exercise.

Some athletes lose as much as 2-4 litres of sweat per hour, in addition, with heavy exercise, respiratory loss of water may exceed 130 ml/hour compared to the normal 15 ml/hour. Athletes, therefore, need to be encouraged to drink fluids prior to or during an event since vigorous exercise may blunt thirst mechanism.

Keeping in view, the importance of supplementation of carbohydrate-protein in combination and fluid intake in sports nutrition, the present study was planned to access the impact of supplementation of functional beverage developed by using underutilized foods on the physical performance of sportswomen.