

Assessment of Nutritional Status and Physical Fitness of Female Swimmers

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Abstract

The aim of the research study was to assess the nutritional status & physical fitness of 37 young female swimmers, aged 10-14 yrs. Only competitive swimmers engaged in regular practice were chosen. Three day's dietary recall method was used to calculate nutrient intake. Body Fat % (BF %) & Lean Body Mass (LBM) were estimated based on total of skinfold measurements at biceps, triceps, subscapular & suprailiac. Majority of the swimmers met standards of body weight for age & height. BF % of swimmers ranged from 10.72 – 35.53 % (3.71 – 20.03 kg). LBM increased with age (24.52 ± 3.96 , 28.20 ± 3.52 , 28.74 ± 3.54 , 30.99 ± 5.38 & 36.64 ± 7.65 kg for age groups 10+, 11+, 12+, 13+ & 14+ respectively). The results revealed higher mean intake of fat & protein but lower intake of energy as compared to recommended dietary allowances (RDAs). Intake of energy & three major nutrients showed positive correlation with weight indicating positive effect of food consumption on weight gain. Irrespective of age groups, mean intakes of thiamine, riboflavin, niacin, folic acid, vitamin C, calcium, phosphorus & iron of swimmers were found to be more than RDAs. Cardio respiratory fitness showed negative correlation with energy intake ($r = -0.12$ to -0.38), strongly suggesting need for sufficient energy to carry out sports activities. Majority of swimmers rated above minimum standard of endurance for arm and shoulder & successfully passed flexibility test but showed poor abdominal strength.

KEY WORDS: Nutritional Status, Physical Fitness, Recommended Dietary Allowances (RDAs), Endurance, Cardio Respiratory Fitness, Flexibility

Introduction

Sports are important part of every society, every country, and every part of our planet. In one way or the other, everyone is involved in sport or some sports, whether they are playing or watching or just knows someone who does either. "Sport" activity is integral to all round development of the personality. Achievement in sports has a considerable bearing on the national prestige and morale. India has a rich tradition of sports and physical fitness (Nath, 1993).

Unlike in the past, modern sports are highly competitive, the use of modern equipment, nurturing of talent from a very tender age, stress on hard and physical training along scientific lines and introduction of modern infrastructure and highly sophisticated equipment have changed the very complexion of modern sports. International sports events have become a showcase of nation pride and power (Debath, 1994).

Swimming is a lifetime sports that benefits the body and the whole person. Swimming is said to be a good