

SPECIMEN FORMAT FOR THESIS OF MONTH

Faculty : Home Science

Department : Food Science and Nutrition

Branch/ Area: : Sports Nutrition

Sub Subject Heading: : Sports Nutrition

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Title of the thesis : Effect of Interventions on Nutritional Status and Work
Performance of Thang – Ta Athletes in Manipur

(i) In Roman Script -

(ii) In roman Script -

Nomenclature of Degree: :

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Name of Supervisor : Dr. M. Sylvia Subapriya

Designation of Supervisor : Professor

Centre/department/school in which research was conducted : Food Science and Nutrition

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Abstract:

To study the Effect of Interventions on Nutritional Status and Work Performance of Thang - Ta Athletes in Manipur. Before conducting the study, approval was obtained from the Institutional Human Ethics Committee, Avinashilingam Institute of Home Science and Higher Education for Women (AUW/IHEC-13-14/FSN-41) Coimbatore and Local Human Ethics committee from Manipur University (Ref.no.Ac./IHEF/MU/201 (2014)). A total of 364 athletes in the age group of 15-25 years of both the genders were selected for the study from each training center from four district of Manipur by convenient sampling techniques. The investigator divided the athletes in different age group i.e 15-19 and 20-25 years. Anthropometry, dietary and physical performance test were conducted to all the athletes. From the study both male and female athletes were significantly shorter ($p < 0.05$) than their respective ICMR standard counterparts. But no significant differences were observed in the body weight of both the genders when compared to ICMR (2010). Majority of the athletes were having normal BMI. Blood haemoglobin was normal. Nutrient intake was disproportionate Nutrition education in terms of knowledge, attitude and practice were given to all the athletes and positive result was observed. Supplementation was provided to willing athletes .Totally 30 athletes in the age group of 15-19 yrs doing regular practices were selected. They were divided into two groups i.e experimental (E) and placebo group (P) (of 10 male and 5 female each). *Hibiscus sabdariffa* Linn Juice (salted and sweetened with MTC) was supplemented at (240 ml) before and during practices for group E. Placebo group was provided 240 ml (of salted and sweetened with MTC) water. Physical fitness parameters i.e 30 meter flying start test, standing broad jump, vertical jump, push- ups, sits ups, 6X 10 meter shuttle run and VO_2 max were assessed through different intervals i.e 0 days, 30th days, 60th days and 90th days. Biochemical parameters i.e blood hemoglobin, blood glucose, serum ferritin and lactate dehydrogenase levels were analyzed. It was observed that no effect was found on vertical jump on both male and female athletes, during the entire periods. But, statistically significant improvement ($p < 0.05$) was found on 30 meter flying start test, VO_2 max ($P < 0.05$) in both the genders in group E. In group (P) there was beneficial to male athlete (sits up, push- ups, 30 meter fly and 6X10 meter shuttle run than female athletes. On biochemical parameters, blood haemoglobin, was significantly improved ($p < 0.05$), serum ferritin levels at ($p < 0.05$) but serum lactate dehydrogenase decreased at ($p < 0.05$) among group (E) male athletes. Among female (group E), Serum ferritin level alone improve at 5% level on 60th and 90th days of supplementation. From the results, it can be concluded that *Hibiscus Sabdarifa* Linn juice improve

performance as well as blood / serum parameters. Hence it can be used as/incorporated into many sports drinks to benefit the athletes.

Findings:

The findings of the study reveal the low socioeconomic and nutritional status, among Thang Ta athletes of Manipur. Energy deficiency, disproportionate intake of macronutrients, inadequate intake of micro nutrients and prevalence of mild anaemia among female athletes were observed. However, majority of the athletes had normal haemoglobin level; this could probably be due the high intake of locally available green leafy vegetables of different varieties including herbs, aquatic vegetables, edible flowers and edible fungi. It also brings out the beneficial effects of utilizing low cost (Rs.23.80 per day/athlete) fluid replacement drink prepared from locally available low cost shrubs like *Hibiscus sabdariffa Linn* alleviating malnutrition and improving performance among athletes.

Examiners

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