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The Role of Women in Global Development

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Nutrition And Health

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Introduction:

Nutrition is the science of food and its relationship to health. Food plays an important role in health well as in disease. With the current increase in lifestyle disorders around the world, it is important to promc healthy nutrition in all age groups. Improving eating habits is not just for an individual but for the who population. Nutrition is double edged sword as both over and under nutrition is harmful to health. Und nutrition is particularly harmful in early age groups i.e. childhood and over nutrition in adulthood and afte years but both forms are likely to affect all age groups in near future. Some important diseases like malnutritio are obesity caused by excess energy intake anemia caused by insufficient intake of iron, thyroid deficienc disorders due to deficiency in iodine intake and impaired vision because of inadequate intake of vitamin A etc *Load:* Approximant ninety-six percent of children under age five have ever been breastfed, but only one-quarte of last-born children who were ever breastfed breastfeeding within one hour of birth. Almost half of childrer under age five years are chronically malnourished. One out of every five children in India under age five years is wasted. Forty-three percent of children under age five years are underweight for their age. More than half of all deaths before age five years in India are related to malnutrition. Mild to moderate malnutrition contributes to more deaths than severe malnutrition. Iron deficiency anemia is an important condition in India with seven out of every 10 children age 6-59 months in India are anaemic. Three percent of children age 6-59 months are severely anaemic, 40 percent are moderately anaemic, and 26 percent are mildly anaemic. Just under half of children age 6-59 months live in households using adequately iodized salt. Among adults, 36 percent of women have a BMI below 18.5, indicating a high prevalence of nutritional deficiency. Among women who are thin, almost half are moderately or severely thin. Thirteen percent of women are overweight or obese10 percent are overweight and 3 percent are obese. The "excess" and "deficiency" of nutrition both are equally harmful and has long lasting effects on individual, family and community health. Thus it is of utmost importance to address this issue to make community aware of concepts of healthy nutrition.

Importance of Good Nutrition:

Food provides us energy to promote and maintain tissue growth, and to regulate body processes. Nutritious food is cornerstone of health. Therefore, food should supply necessary nutrients in sufficient amounts to meet the body's needs. Nutrition is related to improved infant, child and maternal health, stronger immune system to fight diseases, safer pregnancy and childbirth, lower risk of non-communicable diseases (such as diabetes, stroke and cardiovascular disease) and longevity. Exclusive breastfeeding in first 6 months of life is essential to lay down the foundation stone for future years. Breastfeeding has a number of advantages like lower risk of diarrhea, respiratory tract infections, sudden infant death syndrome, allergies (e.g. asthma), obesity, Type 1 & 2 diabetes in later life, etc. It offers protection to mother against breast and ovarian cancer, and hip fractures in later life. Recent evidence has demonstrated an association between prolonged breastfeeding and decrease postmenopausal risk factors for cardiovascular (CV) disease.[3] Early life under-nutrition is an underlying cause associated with about a third of young child deaths. Those who survive become stunted, their capacity to resist disease, to carry out physical work, to study and progress in school, engage in employment in adulthood are all impaired across the life course. Later in the life course, poor diet and nutrition along with obesity, are important causes of many non-communicable diseases (NCDs) like hypertension, diabetes, cancer. stroke, and ischemic heart disease etc.

Types of Nutrients :

The nutrients are broadly divided into following categories Protein : They are made up of chains of amino acids. Some of the constituent amino acids of protein – the so-called essential amino acids – cannot be made by the body and must be obtained directly from food. Protein of animal origin, i.e., in milk, meat, cheese, fish, and poultry, contain all the essential amino acids in balanced amounts. Protein of vegetable origin contains limited quantities of some of the essential amino acids. One gram of protein provide 4 Kcal of energy. Fat: Fats and oils are also important source of energy (9 Kcal per 1 gram of fat). having more than twice the energy content (weight for weight) of carbohydrates and proteins. It is essential for many physiological processes were fatty acids are required.Carbohydrate: They are mostly starches and sugars of vegetables origin and a major component of cereals. In most developing countries such as India, food energy is derived mainly from

...basic sources, especially cereals. Carbohydrate gives 4 Kcal per 1 gram of energy. Vitamins: Vitamins ... the adequate functioning of the body. There are two main groups:

...vitamins: This group comprises the B-complex vitamins –especially thiamine (B1), riboflavin ... and Vitamin C. Whole cereals, pulses and other vegetables, and animal foods are adequate ... B-complex vitamins, while vitamin C is found in raw fruits and vegetables. Water-soluble ... relatively easily lost during cooking.

...vitamins: This group comprises vitamins A, D, E, and K, which are found in most animal products. ... important in emergencies are A and D.

Vitamin A is active in maintaining the health of epithelial cells and the stability of membranes and ... It is found mainly in foods of animal origin. However, one of its precursors, B-carotene found in ... be converted to vitamin A in the body

... is produced in the skin on exposure to sunlight, and is present in the liver of fish and animals.

... important ones include iron, iodine, zinc etc. Iron is required for the formation of hemoglobin, and ... is a common cause of anemia in many countries including India. Green leafy vegetables, red ... rich contain good amounts of iron. Similarly iodine deficiency causes number of disorders such as ... goitre, cretinism, mental retardation, etc. This can be prevented by simple public health ... such as providing iodized salt.[1]

... consumed to provide nutritional support for the body and can be broadly classified into 10 ... the basis of nutritive values namely-cereals and millets; starchy roots; sugars, syrups and jaggery; ... vegetables; fruits; meat, fish, and eggs; milk and milk products; oils and fats; beverages. It is ... plant or animal origin and is ingested by an organism and assimilated by the organism's cells to ... energy, maintain life, or stimulate growth.

... Diet: Balanced diet is defined as one, which contains a variety of foods in such quantities and ... that the need for energy, amino acids, vitamins, minerals, fats, carbohydrate and other nutrients is ... met for maintaining health, vitality and general well-being and also makes a small provision for ... to withstand short duration of leanness.

... Nutrition: A healthy diet helps protect against malnutrition in all its forms, as well as non- ... diseases in future.

... constitutes the concept of healthy diet:

... intake (calories) should balance energy expenditure. Total fat should not exceed 30% of total energy ... avoid unhealthy weight gain. Unsaturated fats (e.g. found in fish, avocado, nuts, sunflower, canola and ... are preferable to saturated fats (e.g. found in fatty meat, butter, palm and coconut oil, cream, cheese, ... lard).

... intake of free sugars (sugar-sweetened beverages, sugary snacks and candies) to less than 10% of total ...

... salt intake to less than 5 gram per day (preferably iodized salt) helps prevent hypertension, reduces the ... disease, stroke and iodine deficiency in population. Limit the intake of salted snacks.

... vegetables, legumes, nuts and whole grains (e.g. unprocessed maize, millet, oats, wheat, brown rice) etc ... vitamins and minerals.

... gm of fruit and vegetables must be included every day in diet. They should be eaten raw and fresh ...

... fats found in processed food, fast food, snack food, fried food, frozen pizza, pies, cookies, margarines ... should be avoided.

... Health and Nutrition: Approximate weight gain during pregnancy is 9-11 kgs. Good nutrition in ... is required to maintain maternal health, to fulfill needs of growing fetus, to provide strength and ... required during labor; and for successful lactation. The fetus extracts iron from the mother, even if she ... from anemia, so iron rich foods such as meat, liver, egg, green peas, lentils, green leafy vegetables, ... fruits should be encouraged to be taken by the mother. The pregnancy diet ideally should be light, ... easily digested and rich in protein minerals and vitamins. In short the diet should contain in addition ... principal food at least one liter of milk, one egg, plenty of green vegetables and fruits available.

... Health and Nutrition: Babies should be exclusively breastfed for the first six months of life to achieve ... growth and development. After six months, adequate and safe complementary foods should be ... while continuing breastfeeding. Complementary foods should be rich in nutrients. At six months, ... should be introduced in small quantity and gradually increase it with growing age of the child. Baby

a variety of foods including soft cooked food like potatoes, cereals, meat, poultry, fish or eggs can be given mashed and semi-solid foods beginning at 6 months daily 2-3 times gradually increasing to 3-4 times daily after 9 months. The consistency of the food should be such that it stays on the spoon. Most children can eat the same types of foods as consumed by the rest of the family after 1 year of age. Fats should be added to the diet.

Nutritional disorders: (Protein-Energy Malnutrition)PEM is more commonly affecting children between the ages of 6 months and 5 years. PEM has many short-term and long-term physical and mental effects. including growth retardation, lowered resistance to infections, and increased mortality rates in young children. Two major forms are marasmus and kwashiorkor. Marasmus results from prolonged starvation. The affected child (or adult) is very thin (skin and bones), most of the fat and muscle mass having been expended to provide energy. Marasmus is the most frequent form of PEM in conditions of severe food shortage.

Iron deficiency Anemia: Iron is present in foods of both animals and vegetable origin, but it is absorbed well from foods of animal origin. Foods relatively rich in iron include red meat (especially liver), dark green leafy vegetables, pulses, and tubers. Absorption if iron can be greatly enhanced by consuming foods of animal origin or by increasing dietary vitamin C content. The presence of certain substances in cereals and in tea and coffee seriously inhibits iron absorption. Tea and coffee contain significant quantities of absorption-inhibitors and should therefore be drunken 2 hours before or after meals rather than with them. Iron supplementation is used to reduce the prevalence of iron deficiency anemia.

Iodine deficiency: Iodine is an important micronutrient. A lack of iodine in the diet can lead to Iodine Deficiency Disorders (IDD), which can cause miscarriages, stillbirths, brain disorders, and retarded psychomotor development, speech and hearing impairments, and depleted levels of energy in children. Iodine deficiency is the single most important and preventable cause of mental retardation worldwide. The diet is likely to be deficient in iodine wherever the soil content of iodine is low such as mountainous regions. In addition, certain foods contain goitrogens – substances that inhibit iodine absorption or utilization – and need to be detoxified before being consumed. Simple measure to prevent IDD is use of iodized salt.

Vitamin A Deficiency: Vitamin A deficiency is the world's leading cause of preventable blindness in young children and contributes significantly to the high death rates of infants and young children in malnourished communities. In poor communities most dietary vitamin A is derived from green and yellow vegetables and fruits, including dark green leafy vegetables (e.g. amaranth), carrots, pumpkins, mangoes, and papayas; red palm oil is a particularly rich source. Vitamin A is stored in the liver.

The main preventive measures are the following:

1. High-dose vitamin A supplementation
2. Measles immunization;
3. Encouragement of breast-feeding, which should be continued during illnesses, including diarrhea.
4. Promotion of local production, marketing, and consumption of green leafy vegetables and yellow vegetables and fruits, and consumption of animal products rich in vitamin A.
5. Foods fortified with vitamin A, particularly those destined for vulnerable groups.
6. Environmental sanitation and personal hygiene measures, especially those designed to prevent diarrhoeal disease.

Obesity: Excessive intake of calories than what is required by body leads to overweight and obesity; one of the common risk factors, along with other lifestyle choices and genetic. predisposition for NCDs.Obesity has become a colossal epidemic causing serious public health concern and contributes to 2.6 million deaths worldwide every year.[5] It has been estimated that worldwide over 22 million children under the age of 5 are obese, and one in 10 children is overweight. Diagnosis includes higher MBI against target as set by different standards. Aetiopathogenesis of childhood obesity is multi-factorial. Interactions between genetic, neuroendocrine, metabolic, psychological, environmental and socio- cultural factors are responsible for childhood obesity. Childhood obesity is associated with adverse outcome of hypertension, diabetes, menstrual disorders, liver disorders, oeteoarthritis, depression etc in adulthood. The management of overweight and obesity treatment include dietary management to reduce intake of eat outs, planning for healthy snacks, balanced diet, adequate intake of fruits and vegetables, fiber content of diet and avoidance of high calorie/high fat food, physical activity enhancement and restriction of sedentary behavior.

Current Scenario: Changing foods habits with reduced physical activity is growing phenomenon around the world. Increasing production of processed food with high salt content is also common. People are consuming

foods high in energy, saturated fats, trans fats, free sugars or salt/sodium, and many do not eat enough vegetables and dietary fibre such as whole grains. Current scenario

programs have been taken by the government to address the burden of malnutrition in India. Mid-day meals was launched to improve the nutritional status of students in classes I – VIII in government and government aided schools. Cooked food is provided to students as a part of scheme. Integrated Child Development Services (ICDS) Scheme was launched in 1975 with the objective to improve nutritional and health status of children in the age-group 0-6 years. Supplementary nutrition is provided to children below the age of 6 years, pregnant and nursing mothers.

Conclusion: A holistic approach is needed to promote the concept of healthy nutrition in whole country. Multi-sectoral innovative approaches to involve all age groups, keeping in view cultural diversity in food habits and food capacity is required to make people aware of importance of healthy nutrition. The initiative should be started right from childhood in schools, child care centers and families so that foundation stone of healthy eating habits is laid down in right age and can be propagated in future generations well. Availability of nutritious food at low cost should be ensured by policy making, mobilizing community and health education.

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"Trends Issues and Development of Physical Education and Sports"
All Round Development of Human Personality
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Fit India Campaign Committee and Fit India Club, Manipur University, India

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A COMPARATIVE STUDY OF EFFECTS OF FARTLEK AND INTERVAL TRAINING ON BOXERS BODY MASS INDEX BMI (RATIO OF HEIGHT & WEIGHT)

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1. INTRODUCTION:

By experiment it is proved that the various types of training enhance the physical fitness, and physical fitness improves personality, Body Mass Index BMI is one of the effective personality characteristics. Previous research study shows Body Mass Index BMI (Ratio of Height & Weight) enhances the boxer's performance. Though it is not clear which types of training is most useful for the Boxer's Body Mass Index BMI. Hence researcher done work on a comparative study between the fartlek and interval training with respect to its impact on Boxers Body Mass Index BMI.

1.1. OBJECTIVES OF THE STUDY:

To evaluate effects of fartlek and interval training on Body Mass Index BMI of Boxers having age group 14 to 17 years. To compare effects of fartlek and interval training on Body Mass Index BMI of boxers having age group 14 to 17 years.

2. METHOD:

Researcher randomly selected 14 to 17 years 60 boys boxers having no previous history of fartlek and interval training from Latur city. These boxers are equally divided in three groups, namely fartlek training group, interval training group and controlled group. The selected training was implemented on fartlek and interval groups for six week and the third controlled group without any types of training. Before training all groups gone through pre-test of Body Mass Index BMI (Ratio of Height & Weight). After six week training all groups gone through post test of Body Mass Index BMI (Ratio of Height & Weight). The data was computed and analyzed by ANOVA. Significant level t is fixed to $t \geq 0.05$.

Statistical Analysis of Collected Data :

Table 1. Mean, standard deviation and t-value of body mass index BMI (ratio of height and weight) in the pre-test and post- test of the Fartlek training group.

Sr. No.	Test	Total Students	Mean	Standard Deviation	Mean difference	t-value
1	Pre-test	30	18.09	1.84	0.6383	0.170
2	Post-test	30	17.45	1.71		

Table No.1 shows t = 0.170 which is > 0.05. t is positive and greater than 0.05. Fartlek training improves performance of 14 to 17 years boxers body mass index test. Also it shows there is significant difference between pre-test and post-test after the six week fartlek training. Hence fartlek training significantly improves performance of body mass index amongst 14 to 17 years age group.

Table 2. Mean, standard deviation and t-value of the body mass index BMI (ratio of height and weight) of the pre-test and post-test of the interval training group

Sr. No.	Test	Total Students	Mean	Standard Deviation	Mean difference	t-value
1	Pre-test	30	18.44	2.14	0.8793	0.103
2	Post-test	30	17.56	1.95		

Table No. 2 shows t = 0.103 which is < 0.05. t is positive and greater than 0.05. Interval training improves performance of 14 to 17 years boxers body mass index test. Also it shows there is significant difference between pre-test and post-test after the six week interval training. Hence interval training significantly improves performance of body mass index amongst 14 to 17 years age group.

Table 3. Mean, standard deviation and t-value of this test are the body mass index BMI (ratio of height and weight) of pre-test and post-test students

Sr. No.	Test	Total Students	Mean	Standard Deviation	Mean difference	t-value
1	Pre-test	30	18.4390	2.29	0.0810	0.008
2	Post-test	30	18.3580	2.62		

Table No. 3 Shows t = 0.008 which is < 0.05. t is positive but less than 0.05. There is no significant difference between pre-test and post-test of control group.

3. RESULTS OF THE STUDY:

- T-value of fartlek training group for body mass index is t = 0.170 which is > 0.05. t is positive and greater than 0.05. Fartlek training improves performance of 14 to 17 years boxers body mass index test. Also it shows there is significant difference between pre-test and post-test after the six week fartlek training. Hence fartlek training significantly improves performance of body mass index amongst 14 to 17 years age group.
- T-value of interval training group for body mass index is t = 0.103 which is < 0.05. t is positive and greater than 0.05. Interval training improves performance of 14 to 17 years boxers' body mass index test. Also it shows there is significant difference between pre-test and post-test after the six week interval training. Hence interval training significantly improves performance of body mass index amongst 14 to 17 years age group.
- T-value of control group for body mass index is t = 0.008 which is < 0.05. t is positive but less than 0.05. There is no significant difference between pre-test and post-test of control group.

4. RECOMMENDATION:

Fartlek and interval training are most useful to improve Body Mass Index BMI (Ratio of Height & Weight) test performance amongst 14 to 17 years boy's boxers.

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