PEFI

National Conference

On

'Role of Physical Education and Other Disciplines in Enhancing the Performance of Players and Fitness for Young and New India'

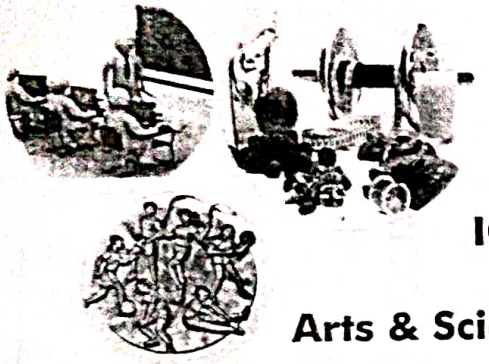
24th December 2018

Organized by

IQAC, Bar. R. D. I. K. & K. D. College Badnera- Amravati.

In Collaboration with

Arts & Science College, Kurha and Physical Education Foundation of India



Certificate

This is to certify that Dr./ Mr./ Mrs. Nilima Mahore

of Yuvashakti Arts & Science College, Amravati has actively Participated in National Conference.

He / She has submitted paper for publication / poster, entitled The role of Nutrition and Dietetics.

He / She was the Resource Person/ Chair-Person/CO-Chair-Person for the Technical Session.

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National Conference

on

Interdisciplinary National Conference on Role Of Physical Education and Other Disciplines in Enhancing the Performance of a Player & Fitness for Young and New India

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IQAC

Bar. R. D. I. K. & N. K. D. College,

Badnera – Amravati

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The role of Nutrition and Dieteties

Prof. Dr. Nilima Mahore
Yuvashakti Arts & Science College, Amravati.

Introduction:

Sports nutrition plays a huge role in sports performance! Carbohydrates fuel high and limiting carbohydrates can negatively impact performance. Choosing high quality carbohydrates like whole grains, starchy vegetables and fruit is important because they will also provide the body with fiber, vitamins and minerals which promote overall health. Protein helps to build and maintain muscle mass although most athletes that I have worked with always get plenty (or too much) protein and neglect carbohydrates.

Personally, I feel that proper nutrition forms the foundation upon which sports performance is built. Without a good nutrition program, every aspect of your physical and mental abilities will decline. Everything from your level of hydration to the timing of your carbohydrate intake will drastically affect performance. The body simply cannot perform or function optimally without the building blocks of proper nutrition. Muscles cannot build, repair and become stronger without enough complete protein. The body`s ability to endure a grueling pace for hours on end is highly dependent on its glycogen stores.

The field of dietetics has a strong emphasis on public health and a commitment to educating all about the importance of making proper dietary choices. Dietitian nutritionists use nutrition and food science to help people improve their health. When it comes to the world of nutrition professionals, the titles "Nutritionist" and "Dietitian" are often mistakenly interchanged. Many people think they mean the same thing. The level of training between both, though, makes them two distinctly different credentials. Nutritionist is not a legally protected title.

Nutrition is the study of nutrients in food, how the body uses nutrients, and the relationship between diet, health, and disease. Major food manufacturers employ nutritionists and food scientists. Nutritionists may also work in journalism, education, and research.

A registered dietitian nutritionist studies food, nutrition, and dietetics through an accredited university and approved curriculum, then completes a rigorous internship and passes a licensure exam to become a registered dietitian. A dietitian studies nutrition via self-study or through formal education but does not meet the requirements. The two terms are often interchangeable, but they are not identical.

Dietetics

Dietetics is the interpretation and communication of the science of nutrition; it helps people make informed and practical choices about food and lifestyle in both health and disease. Part of a dietician's course includes both hospital and community settings. Dietitians work in a variety of areas, from private practice to healthcare; education, corporate wellness, and research, while a much smaller proportion work in the food industry. A dietitian must have a recognized degree or postgraduate degree in nutrition and dietetics and meet continuing education requirements to work as a dietitian.

Nutrition

Nutrition is the study of nutrients in food, how the body uses nutrients, and the relationship between diet, health, and disease. Major food manufacturers employ nutritionists and food scientists. Nutritionists may also work in journalism, education, and research. Many nutritionists work in the field of food science and technology. There is a lot of overlap between what nutritionists and dietitians do and study. Some nutritionists work in a healthcare setting, some dietitians work in the food industry, but a higher percentage of nutritionists work in the food industry and in food science and technology, and a higher percentage of dietitians work in healthcare, corporate wellness, research, and education.

Nutrient	Food sources
Calcium	Nonfat and low-fat dairy, dairy substitutes, broccoli, dark, leafy greens, and sardines
Potassium	Bananas, cantaloupe, raisins, nuts, fish, and spinach and other dark greens
Fiber	Legumes (dried beans and peas), whole-grain foods and beans, seeds, apples, strawberries, carrots, raspberries, and colorful fruit and vegetables

Magnesium	Spinach, black beans, peas, and almonds
Vitamin A	Eggs, milk, carrots, sweet potatoes, and cantaloupe
Vitamin C	Oranges, strawberries, tomatoes, kiwi, broccoli, and red and green bell peppers
Vitamin E	Avocados, nuts, seeds, whole-grain foods, and spinach and other dark leafy greens

Types

A nutrient is a source of nourishment, a component of food, for instance, protein, carbohydrate, fat, vitamin, mineral, fiber, and water.

- Macronutrients are nutrients we need in relatively large quantities.
- Micronutrients are nutrients we need in relatively small quantities.
- Macronutrients can be further split into energy macronutrients (that provide energy), and macronutrients that do not provide energy.

Nutrition plays a very important role in sports performance.

Without adequate carbohydrate and fluid, an athlete will get tired very easily and quickly. Protein is needed to rebuild muscles. Without all three of these plus adequate vitamins and minerals, an athlete will never be able to perform to their maximum potential. An athlete needs to pay close attention to when and what he is eating prior to a game or match as well as how much he is drinking. If unsure of how to use nutrition to reach his or her maximum potential, an athlete should contact a Registered Dietitian. Proper nutrition must be available pre, during and post competition. You may have a great game or great workout, but if the proper nutrients are not consumed, your development will suffer. Think of your body as a high performance machine and that you must feed it right performance fuel.

Sports nutrition plays a huge role in sports performance!

Carbohydrates fuel high intensity and limiting carbohydrates can negatively impact performance. Choosing high quality carbohydrates like whole grains, starchy vegetables and fruit is important because they will also provide the body with fiber, vitamins and minerals which promote overall health. Protein helps to build and maintain muscle mass although most athletes that I have worked with always get plenty protein and neglect carbohydrates.

Nutrition is a major contributor to an athlete's overall sports performance.

The main role of sports nutrition is to "support" the training program. So, eating for performance will change as the training regimen changes. Poor nutrition can lead to injury, fatigue and poor recovery, all three of which can hinder how well an athlete performs. A healthy diet and a performance diet are not that different from one another. Sports nutrition is more than carbohydrates to fuel activity and protein for mending muscles. All of the vitamins and minerals play a role in helping our bodies be the best they can be. Calcium and vitamin D for bone health, adequate iron to prevent fatigue and antioxidants to support the immune system are only a few roles nutrition plays. A board certified specialist in sports dietetics can help athletes build a performance diet tailored to their specific training regimen, age and gender requirements.

Additionally, your ability to train and practice for a sport is dependent on your nutrition.

If your nutrition program is filled with holes, you aren't going to be able to practice and train at the intensity and duration that is needed in order to become the best. Too many people neglect the importance of nutrition. Don't make this mistake because, to a certain extent, the outcome of your training and performance is hinged upon it. Nutrition is a variable of performance that you are in complete control of, so take advantage of it!

World Health Organization classification

Dietitians supervise the preparation and service of food, develop modified diets, participate in research, and educate individuals and groups on good nutritional habits. The goals of dietitians are to provide medical nutritional intervention, and to obtain, safely prepare, serve and advise on flavorsome, attractive, and nutritious food for patients, groups and communities. Dietary modification to address medical issues involving dietary intake is a major part of dietetics. For example, working in consultation with physicians and other health care providers, a dietitian may provide specific artificial nutritional needs to patients unable to consume food normally. Professional dietitians may also provide specialist services such as in diabetes, obesity, oncology, osteoporosis, pediatrics, renal disease, and micronutrient research In many countries, the majority of dietitians are clinical or therapeutic dietitians, In other countries they are mostly foodservice dietitians.

India, the global capital for diabetes and other diseases (cardiovascular disorders, hypertension, heart disease, cancers) needs both curative and preventive nutrition," says Kumud Khanna, Director, and Institute of Home Economics (IHE). As a part of Home Science, nutritional studies kicked off in the 1930s in India. "Earlier, the attention was towards finishing and grooming courses such as cooking and textile management. But nutrition education started gaining visibility in the early 1960s. At present, with new areas of practice, the nutrition domain has taken tremendous strides,"

The Dietician's job

- Research the nutritive value of food
- Advise people on eating habits
- Understand all food components
- Plan diets that will improve health

Dietician:

They work in the areas of food science, community development, research projects and Fast Moving Consumer Goods Companies. Their work relates to research aspect. It could be in the field, desk or laboratory. Public health nutritionists work in the developmental sector. "They go beyond diets move into the science of biochemistry, food science. They do not do so much of clinical nutrition as a dietician does

Nutrition allows you to specialize in one of these areas:

- Therapeutic Nutrition
- Public Health Nutrition
- Food Science

Registered Dieticians

This credential is offered to professionals authorized by Indian Dietetics Association. It can be used by dietitians working at hospitals, day-care clinics and consultancy clinics. Those who possess these credentials would have specific academic and practice requirements.

Skills and aptitude

- Interest in food/ food preparation
- Writing skills to produce reports, documentation, leaflets
- Figure out new ways to solve a problem.
- Planning, administrative skills and organizational ability
- Good communication skills to interact with people, individually and in groups
- Good research skills
- Patience and a genuine concern for fellow beings

The real challenge

For those working in the field, hospitals and consultancy clinics inspiring clients to eat healthy, is a challenge. 'It is tough to convince patients, clients and illiterate masses to eat selectively' this sentiment resonates with every dietician you speak with. "It is because everyone has different tastes for food and it is not easy to break their eating habit,"

A growing demand

Today demand is emerging, especially in these areas, slowly but steadily:

Government bodies:

Many are hiring dietician for social welfare and developmental work. They also work in public health departments. "Depending on the number of vacancies available, If recruited you jump on to become a class-I gazette officer," There are a sizeable number of dietician working as Advisor, Technical Advisor or Deputy Advisor. "There are 43 food and nutrition extension/field units across the country where dietician support is needed,"

Salary talk

The pay scale varies depending on the area of location, education and experience. For instance, a dietician in a small town would be paid less as compared to one working in a metro, while a dietician in a hospital may earn less than a dietician with his or her own practice. A fresher can earn between Rs. 15,000 to 20,000 per month. After gaining a good experience, you may touch Rs 30,000 plus. "In government hospitals, with the Sixth Pay Commission, the salaries have risen to Rs. 25,000," Nutritionists working in the private sector will have differing pay amounts.

Keeping India healthy

Balanced representation of different types of work has brought legitimacy to the profession. Even though it is a female-dominated field, there are options for men, too. Last but not the least, it's a profession that gives you an opportunity to make a difference to your nation's health and well-being.

Sports Nutrition:

The field of nutrition is a dynamic one. Athletes often ask their trainers, physiologists, coaches, doctors, and dietitians for guidance related to what to eat and which supplements to use. Registered Dietitians have choices to work within clinical dietetics, nutrition support, research, outpatient or private counseling, consulting to the food industry, consulting to the supplement industry, direct food or supplement industry employment, in product development and many other economical beneficial areas. Often the weekend athlete and the professional athlete will seek nutrition advice from both the dietitian and exercise physiologist.

Sports nutrition is often considered the protein needs of athletes as compared to sedentary folk as well as anaerobic versus aerobic athletes. Sports nutrition guidelines over the past fifty years, it becomes apparent the biggest breakthrough was the discovery of how to glycogen load, refinement of the means of glycogen loading (from the days of depletion followed by super-compensation to tapering exercise duration while concomitantly increasing the diet to almost exclusively carbohydrate), followed by nitrogen balance studies demonstrating a slight increase in needs for athletes as compared to the sedentary and the evolution of creatine monohydrate as an ergogenic aid.

The following areas of nutrition are where the most growth is occurring: evaluating the effects of exercise on protein utilization, thus the overall protein needs, meal timing to maximize the anabolic response, the true "essentiality" of essential amino acids, the potential for ribose to benefit those engaged in high-energy repetitive sports, and creatine and its uses within athletics and medicine. It is up to us and other academic thought leaders to help grow the biological and metabolic understanding of the interaction of foods, nutrients, nutrient supplementation, exercise and the recovery from said exercise as well as the actual performance to the next level.

Develop the Future of Sports Nutrition

The future of sports nutrition will dictate that we collectively will have to have a higher standard of care and education for counseling athletes, whether individually or in groups. The integration of many different disciplines will become a minimum mandatory set of disciplines for any aspiring sports dietician. A standardized certification is also expected to be available to Registered Dietitians and Ph.D.'s (in related areas) within the next two-years, this certification will help the public to decipher the true sports dietician.

Conclusion:

Nutrition is the science that interprets the interaction of nutrients and other substances in food in relation to maintenance, growth, reproduction, health and disease of an organism. It includes food intake, absorption, assimilation, biosynthesis, catabolism, and excretion. Nutrition is the intake of food, considered in relation to the body's dietary needs. Good nutrition an adequate, well balanced diet combined with regular physical activity – is a cornerstone of good health. Poor nutrition can lead to reduced immunity, increased susceptibility to disease, impaired physical and mental development, and reduced productivity. Nutrition have an effect on muscle protein synthesis. Affecting may allow the downstream creation of new muscle mass. Strength exercise bouts can alter significantly net protein balance, resulting in greater gains in both muscle mass and strength than observed with training alone. With aerobic exercise, some evidence suggests immediate post-exercise (but perhaps not pre-exercise) supplementation is also beneficial. Second, protein type may also be important owing to variable speeds of absorption and availability, differences in amino acid and peptide profiles, unique hormonal response, or positive effects on antioxidant defense. In addition to athletes, many others who desire to regain, maintain, or enhance muscle mass or function, including those with muscle-wasting diseases, astronauts, and all of us as we age, need to ensure that nutrient availability is sufficient during the apparently critical anabolic window of time associated with exercise training sessions.

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