An International Multidisciplinary e-Magazine
www.sabujeema.com
Volume 2 | Issue 4 | APRIL, 2022

SABUJEEMA

"Read More, Grow More"

HIGH ALTITUDE DIET

- Ms. Chinmayee Pattnayak

Sabujeema Sabujeema
editorsabujeema@gmail.com
sabujeema-international multidisciplinary-e-magazine

HIGH ALTITUDE DIET

[Article ID: SIMM0158]

Ms. Chinmayee Pattnayak
Assistant professor, Sri Sri University, Cuttack, Odisha

ABSTRACT

It's summer time. Definitely many people and adventure lovers have plan for trekking, mountain climbing etc. But for some days acclimatization in such areas is not a big problem, but for long days or weeks plan, training, sports or being on high altitude job could be a matter of concern of adoptability. Land which is 3000-5000 mt above sea level is called High altitude. Going higher results oxygen molecules are spread farther apart than at sea level by making the air thinner and supplying less oxygen to the tissues of the body. Less oxygen can result in decreased performance. For stay of long days or weeks your body will begin to adapt. so, it's important to eat and hydrate properly because less oxygen leads to hypoxia.

Keywords:

High altitude, Acclimatization, Adoption, Hypoxia

Planning for climbing and staying there is a systematic preplanned affair. Here nutrition plays an important role to maintain body metabolism. Some important health aspects of high altitude are1) hypoxia, changes of menus, comfort and habits affects decrease of food intake due to loss of appetite 2) an increased basal metabolic rate and/or high levels of activity leads to discrepancy between energy intake and energy expenditure 3) increased insensible loss through increased ventilation in the mountain environment, decreased liquid intake, and/or changes in water metabolism affects the loss of body water 4) an impaired absorption of nutrients from the gastrointestinal tract, and 5) lack of physical exercise , direct effects of hypoxia on protein synthesis results loss of muscle mass. So, some nutritional facts, tips should be kept in mind before climbing.

When altitude increases the use of quality carbohydrates for energy compared to at sea level is more required. Due to less physical efficiency body will therefore need more readily-available sources of energy. So in Nutritional aspects, Good quality carbohydrates, such as: Dates, Bananas, Sweet Potatoes, Oats rather than sugary foods and refined white grains in candy bars, gels and sports drinks should be considered as real food. For healthy carbohydrates root and tuber vegetables are also good option to get additional nutrients in as well.

At the same time exposing to high altitude increase the production of red blood cells to help carry oxygen around the body, which demands the need for iron. Heam iron present in animal foods contain biologically available iron that's well absorbed by the body. Animal foods such as: Chicken, Eggs, Tuna, Salmon etc. are better option.

Plant sources like leafy greens (spinach, chard, beet, collard, etc.), dried fruit, tofu, lentils, oatmeal, beans, and fortified grains also provide iron but for

better absorption it could be combined with a vitamin C source such as tomato sauce, peppers, oranges, strawberries, or pineapple. But combination of these foods with calcium-rich foods like milk, or tea, coffee, and cocoa should be avoided as they can inhibit absorption of the iron. At the safe side still iron supplement could be also another option.

Next important factor is immune system. Before ascending and at altitude, foods having characteristics like anti-inflammatory, antioxidant supporting immune system is important. Colored vegetables and fruits like Red Strawberries, Orange Carrots, Yellow Bell Peppers, Green Leafy Vegetables, Blueberries, Purple Eggplant, Brown Mushrooms, White Cauliflower. Dried fruit is also could be an excellent, portable way to get iron, anti-oxidants, vitamins, and minerals.

Vitamin D levels also should be checked and supplemented if needed to decrease the risk of upper respiratory infections. Alcohol also should be avoided due to interference with hemoglobin's ability to carry oxygen also could lead to dehydration. And, getting dehydrated will really sap your energy and contribute to headaches. At high elevations, dehydration also occurs due to respiratory and urinary water losses increase heart rate may as compare to cardiac output (the amount of blood pumped by the heart per minute).Fluid needs are around 3-5 liters per day based on Some studies have shown that drinking a beverage that has carbohydrate and electrolytes are better at hydrating than water alone at altitude.

Freeze-dried meals, Easy to prepared meals should be preferred as these are lighter with natural taste, consistency and to a large extent, for their nutritional value. Mentioned in packaging. Meals in the mountains are usually divided into three types: breakfast, snacks during climbing/trekking (the so called storm eating) and lunch and dinner in.

As a rule, the most rich and nutritious meal is a late dinner or lunch and dinner combined together. With abundant energy which is deficit during an intensive day by facilitating faster regeneration as well. The addition of a soup, regenerative cocktail or a meat or fruit snack is also could be included. Products going to be used should free from freezing (there are bars on the market that do not freeze at -40°C) opened easily with gloves on, consistency supports the chewing during the effort.

CONCLUSION

Staying at an altitude above 3000m above sea level increases our basic metabolism, increase of 25% more energy for basic processes occurs than at sea level. Especially in a case of physical effort, B vitamins, antioxidants, micronutrients such as magnesium, sodium, potassium and iron should be given priority. By doing basic blood tests before the expedition and then, after proper analysis selected supplements will be tailored focusing individual's physique and the nature of the trip. Of course, these are approximate values and depend on many factors such as: individual demand, intensity of sweating, intensity of effort, ambient temperature, etc. However, it is worth realizing that they are much larger than at sea level.

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https://nsnis.org/wp-content/uploads/2020/07/Nutrition-at-High-Altitude-Approach-That-Nutrients-Can-Help.pdf