

## NUTRITION, LABORATORY AND NON-LABORATORY INDICATORS AND ITS VARIOUS VALUES (ATTRIBUTES)

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### ABSTRACT

Nutrition as a material and spiritual component has at least the affective and / or determinant attributes of living, longevity, therapy, protective factors, physical beauty and dynamic lifestyle. Frequently question in our mind is.: Where are we going? What should we have to do making nutrition more and more useful individually and globally? Nutrition and bio-foods are important elements of lifestyle in the modern world. Nutrition as a choice must be oriented towards diverse and healthy diet. Furthermore, nutrition as impossibility imposes the fight against poverty as a sustainable development objective using the means argued by the Nobel Prize winners 2019, Esther Duflo, Abhijit Banerjee and Michael Kremer and Global Nutrition target 2025.

**Keywords:** Nutrition, material, spiritual component, laboratory and non-laboratory indicators

### INTRODUCTION

#### *Nutrition as a vital aspect of human beings involved in the food chains.*

Biochemical reactions have developed at a very high speed as a result of enzymatic presence and controlled by feedback mechanisms which enabled our being by contributing to the structure, energy and continuity of life, are part of homeostasis, according to Claude Bernard, the condition of free life (26,34). In today's conditions, there are varieties of human nutrition panorama, from newborn to third or fourth age, and from one corner of the globe to another (27). (See: map of countries with overlapping forms of childhood stunting, anemia and overweight in adult women, 2017 and 2018). Eight key nutrition indicators are reported at global level, adult obesity, adult high blood pressure, adult overweight, anemia, childhood stunting, childhood wasting, childhood overweight and salt intake (27). Over-nutrition or overweight with terminal events, of obesity, diabetes and its complications, or toxicity under-nutrition with general malnutrition, with terminal events of cachexia and death due to decreased immunity, on the other hand, unilateral, specific malnutrition, or lack of vitamins or microelements due to their lack of nutrition or increased consumption ranked nutrition as a condition of longevity or as therapy (2,3,4,41).

#### *Aspects of affecting healthy eating and medical attitudes*

The cause of malnutrition may be poverty (4,27,41), but also Benelux (top models, addicted people) (4,41), may be in physiological circumstances such as growth process or puberty or pregnancy, but may also be in pathological circumstances, from the classic event that is protein-malnutrition.

Caloric, sepsis, catalytic processes in the body resulting in negative nitrogen balance, suffering from cancer or chronic gastrointestinal tract disease, where the classic outcome is nutritional anemia (most commonly, iron deficiency and B12 deficiency). We use cell counter or Giemsa-Romanovski stain of blood film and Drabkin method for diagnosis of anemia. Further investigation sometimes is needed. Hemoglobin electrophoresis, sideremia, ferritinemia, sTfr/log ferritin index are necessary to specify diagnosis (28,31). Joining one or more risk factors can install malnutrition, e.g.: poverty along with age 0-5 that are independent of risk prognostic factors for mortality (3,4,41,42). Various parasitosis, especially duodenal ancylostoma, can induce iron deficiency anemia, which can be prevented by physiological anemia observed in children aged 0-3 years. Nutrition assessment is carried out with laboratory and non-laboratory indicators. Growth curves are an important element of assessing nutrition and malnutrition in the pediatric age (see online: CDC children growth chart calculator). Body mass index is prevalent and has age characteristics (11,41). BMI has different formulas for adults and children (see BMI calculator child and teen). But it should be noted that this index is more useful for overweight (obesity), the fight against obesity and type II diabetes than for underweight and malnutrition (42). Assessment of sarcopenia is important for rheumatoid arthritis, autoimmune diseases, third age, through specific calculation formulas of muscle mass and definition criteria (42,43). Meanwhile, laboratory evaluation refers to early and later evaluation to estimate acute or chronic malnutrition (Retinol binding-protein involves early evaluation (plasma half-life about 10 hours), plasma albumin evaluates chronic malnutrition. (plasma half-life about 22 days) (Evaluation of the album assumes, for example: the need for replacement therapy in cirrhotic patients) (22, 4, 41). Retinol binding-protein (can compare with night blindness (3,4)), prealbumin, lipid profile, transferrin, albumin are laboratory evaluation criteria of malnutrition according to their plasma half-life (22,4, 41). Albumin and lymphocyte nutritional index are an element of nutritional and prognostic assessment (e.g.: a cirrhotic patient has a high risk for secondary infections) (22, 24). Spina bifida is a spectacular example of folate deficiencies. It's necessary genetic consulting and using of supplements, recommended by specialists, during pregnancy (1,4). Transketolase test and vitamin B1 deficiencies, Wernicke Korsakov syndrome is another example of malnutrition and correlate better with clinical conditions of alcoholic patients being repleted with thiamine (3,4). Mostly, disfagia, feeding difficulties, ketosis, muscular atrophy, weight loss or vomiting of infants, and further more delayed development or mental retardation, impose paying attention to the inborn error of metabolism, especially fenilketonuria, metilbutiril glicinuria, short chain acyl-CoA dehydrogenase deficiency, propionic academia, malonic aciduria, methylmalonic acidemia, hydroxi-metil-glutaric aciduria etc.( 1,25).

## RESULTS

### *Nutrition as a risk factor*

#### *Some of the most significant examples would be:*

a. Dyslipidemia is known as a precipitating factor (e.g. nephrotic syndrome), so feeding that increases lipids in the blood or deposits them into the body is a risk factor for cardiovascular events (cholesterolemia  $>300\text{mg/dl}$ , Pearson correlation  $r=0,8$ ) (4) or infiltration of organs, for example. Alcohol use and carbohydrate overused can be causes of fat infiltration or dyslipidemia (4, 41); b. Obesity along with tobacco are listed as indicators of health, besides poverty, level of pesticides in food or water contamination (34); c. The use of red meat (risk for colon cancer) (17), aflatoxins (risk for hepatic cell cancer) (14), nitrites and low and helicobacter pylori (risk for gastric cancer) (30), are some compelling arguments of nutrition as a risk factor; d. High BMI increases resistance to antiretroviral therapies in HIV-AIDS patients (29); e. Healthy eating affects the rapid recovery of postoperative patients (24);

#### *Nutrition as a longevity factor*

Nutrition according to the food tree, reports the quality of nutrition (11). Mediterranean nutrition, vegetable fruits, high-content foods with antioxidants and no fast-foods, have been proven today to affect increased longevity and immunity (5,11). The discovery of Elisabeth Blackburn suggests four key variables that are diet, social support, sport activity, and stress management, as a condition of lowering telomere shortening speeds and thus longevity (5, 11).

#### *Nutrition as a therapeutic and protective factor*

The anti-inflammatory action of various herbal teas or balms, anti COX<sub>1</sub>( cyclo-oxygenase) or anti COX<sub>2</sub> effect), the antioxidant action of various nutrients (see ORAC value super-food), contributes to the glutathione cycle, enhancing the antioxidant potential of the body, optimum action on the YASKO pathways (e.g. BH<sub>4</sub> cycle, active methyl cycle) and improves medical stability in patients with cancer, chronic illness or immune impairment.( 6,36,38). Many studies linking the role of the proper functioning of the active methyl cycle to diseases of the nature of stress-anxiety-depression, chronic fatigue and autism (38). The attributes given to vitamin D today are impressive and it is given the tag for its immune boosting role, along with its role in calcium metabolism, ranking it alongside the protective role of vitamin C and vitamin E (1,2,3,4).

### **Diets**

DiETING under the care of professionals prevents the yo-yo phenomenon (11), fat hepatic septal infiltration (11), delays or fights type II diabetes, and as stated above are longevity-affected conditions. In contrast, aggressive diets with negative nitrogen balance contribute to the deterioration of the patient's nutritional status, increase oxidative and nitrosative stress, and stress in general (4,11, 42).

### **Spiritual Nutrition**

Spiritual nutrition is an important element and starts with a healthy family as a fundamental factor in a child's self-esteem.(45) Proper relationship between materials (greedy for money, workaholic, malign narcissism) (18) and spirituality (First don't harm yourself!), "Gestalt"(18) and "Maslow" attitude, fight against "stigma"( 12), "mobbing", work-rest balance (15), condition the success of a healthy diet (18). Fighting and winning over what are called "mood disorders" conditions the longevity and being a healthy individual (46).

## **CONCLUSION**

The aforementioned nutrition determinants are some of the useful paths to improve nutrition situation individually and globally. Nutrition and bio-foods are important elements of lifestyle in the modern world. Nutrition as a choice must be oriented towards perfection. Furthermore, nutrition as impossibility imposes the fight against poverty as a sustainable development objective using the means argued by the Nobel Prize winners 2019, Esther Duflo, Abhijit Banerjee and Michael Kremer and Global Nutrition target 2025.

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