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Food Itself a Medicine: Just A Matter of Intake Type, Time And Quantity

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Review Article

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ABSTRACT

In modern world with advancement in technology, science and other aids which facilitated our lives with comfort security and well-being there are a number of side effects fluttering around the tree of advancement. In this review discussion is about different types of food, processed food and genetically modified food and its effect on human health as it matters what type of food we are having, at what time we are having and how much we are having. Different type of food related disorders will also be discussed.

SHORT COMMUNICATION

In most of developed countries fast busy life style of people and demand of food as per the current population results into a food which is loaded with calories and less in nutrients. This type of food solved the problem of hunger but resulted into certain type of food related disorders and diseases. If we talk about American diet, nutrition in the regular food of an average American is very poor but calorie content is more which led to the half of the Americans obese by the end of 2015 [1].

Weight loss is a major concern these days as excessive weight is way to new disorders in human body, like Hypertension, diabetes, cardiovascular disease and many more. There are so many studies published which explains certain ways of eating, how to maintain diet quality and to control diet in terms of quantity to reduce weigh. But most of people take advice from personal trainers, dieting books, TV Doctors and other self-claimed experts in the concerned field [1].

Poor nutrition and lack of physical activity are the key factors of obesity and weight gain. It works like a chain reaction, In addition, addictive behaviors like overeating and food craving may be a reason of poor food choices and obesity. Food addiction related to obesity has different behavioral and neurological factors per individual. Also, obese individuals behave differently from normal individuals [2]. Obesity can also increase the risk of development of cancer cells [3] in body. 25% of over body weight can increase the risk of cancer by 33% compared to normal weight in a human body. Many studies suggested that by increasing body activity and lowing calorie intake followed by good nutrition intake can reduce risk of cancer [4]. Fruit and vegetable intake can also decrease the risk of colon and rectum i.e. gastrointestinal cancer [5]. Fruits and Vegetables provide fibers and other cleaning agents which flush out the harmful toxic residues. Also, buffer therapy via food also stimulatesanti-cancer agents in body as a study illustrated Silva AS et al. [6].Polyphenols from black Spanish wine inhibits cancer cell proliferation by decreasing the expansion of mRNA [7].

However, some studies suggested that regular cereal consumption [8] and improved nutrition intake considerably lower the Body mass index in obese patients [9]. Also, consumption of this diet in

breakfast showed amazing results in weight reduction. Micronutrients also have a weightage in controlling various physiological processes related to fat metabolism [10].

Vitamin A plays a significant role in metabolism of fatty acids and some glucose which is under research and topic of debate. This could be a benchmark in the research field of obesity and weigh loss as research is still going on at full swing. Some patients of Obstructive sleep apnea with obesity were subjected to Mediterranean diet [11], who were also treated with CPAP along with physical exercise. As per the results patients expressed a reduced number of disturbances, known as apneas, during the rapid eye movement stage of sleep [12].Thus food may have a considerable effect on metabolism and function of body activities if they are taken in a required amount and at required time in conjugation with other external factors in consideration. Fine results from a study by Tokudome et al. [13] concluded that oral administration of Soybean peptide [14] can lower and even fully repair the skin damage caused due to UVA-radiation.

Nutrient intake of body also depend upon the source of nutrient as from some sources body cannot extract certain type of nutrients even if they are present in high concentration e.g. A research conducted by Framroze et al. [15] represents the results when a rat model was subjected to calcium intake by direct calcium carbonate feeding and indirect feeding by salmon bone calcium, salmon bone calcium [16] showed significant results in increasing femur bone dimensions and density which means body resisted direct intake of nutrient but accepted when subjected to an alternate host. Absorption of nutrients may also be altered by obesity [17]. Certain studies shows that obesity can have an impact on gastrointestinal tract and can alter the absorption of bioactive nutrients or food compounds and their bioavailability [18].

If we talk about obesity as well as cardiovascular risk, a new type of functional food is attracting researchers. Flax seeds contain some rare compounds like alpha-lenoleic acid, lignins, phytoestrogen and also a good source of fiber. Regular consumption of flax seeds can affect the lipoprotein cholesterol [19] concentration, glucose absorption and can increase omega-3 fatty acids. These seeds also have anti-inflammatory and antioxidant effects in body [20]. Producing antioxidants they prevent the production of free radicals which are responsible for cancer and other type of damage to cells. In fruits Blackcurrant and wine grapes also have a significant antioxidant effect [21].

Date syrup which is being used in various sweet edibles is also beneficial in obesity control as it contain more protein and fiber but less calories [22].Also wheat bran has been proven to prevent colon cancer [23]. All these factors work only if body needs extra energy and nutrition which will be demanded by body after a constant and regular workout. From a study it was found that along with an iso-electric diet plan and exercise reduced weight and carcinogenesis in skin which is due to lower plasma IGF-1 level and IGF-1 dependent signaling of phospholipids [24].

Milk is an essential part of breakfast nowadays. Milk quality also varies according to the host from which it is being retrieved. Camel, equidae and yak milks are more nutritious than cow and buffalo milk. Camel milk has greater content of sodium, potassium, zinc, iron, manganese and copper. Camel milk is also a good source of Vitamin C though contain less thiamine, riboflavin, Vitamin B-12 and vitamin A than cow milk.Equidae milk can be beneficial to infants and elderly with allergies. Yak cheese and other dairy products have nutraceutical functions [25]. Cooking methods also determines the quality of food nutrition. From a study by Zaidi R on Indian home cooked non-vegetarian food it was found that the content of heterocyclic amines were so high in fried fish as compare to the chicken nuggets. THE whole process of identification and characterization of carcinogenic mutagen amines was done with Gas Chromatography and Mass spectrometry [26].

If we talk about grains again then rice bran is a part of rice crop that we do not use usually. But if we see it from other perspective it contains phytonutrients like tocopherols, oryzanol and also some dietary fibers [27]. Rice bran oil has some exceptional properties and it has an upper hand when compared to other vegetable oils [28]. Cowpeas are also been studied for its variation in microstructure and physiochemical functional properties which can be sued for further food processing application [29]. Food processing can significantly alter the nutrient content of the same product or different. From a research on local wines in India's small region of Bastar it was found that the Sulphi wine [30] has more protein than the other wine which is called Cheend. Vice versa Cheend has more sugar content than Sulphi. This difference was just because of the processing time and type of brewing bacteria [31].

Olive oils has been found with most volatile compounds and related to rancid acids [32]. Food could work as a medicine or it could work as an outbreak for several diseases also. In Ethiopia, people living in

rural areas, have low income, under nutrition and with inadequate house hold dietary have a certain type of insecurity [33]. Cooking and sun drying is a method which is adaptable to decrease some plant toxins [34] and to increase the nutritive value of plant food [35], However in some cases drying can decrease minerals e.g. from a research study of tomatoes and its different drying methods it was found that with oven drying mineral content desreased and yeast and mold were removed totally. Vitamin A which is an essential vitamin and can be taken through meat or dairy products or as provitamin [36] ,i.e., carotenoids from vegetables and fruits.

This is very essential in performing certain biological functions, reproduction and embryo development [37].Working conditions also affect the day to day nutrition and health of an individual. In a case study of Brazilian metallurgical workers [38] it was found that due to their hard and fast working hours and hectic lifestyle they are keener to acquire unhealthy habits of smoking, excessive alcohol drinking [39] and hyperalimentaion. This lifestyle is making their bodies overweight along with hypertension [40]. As a new approach water fortified with minerals came into play for the treatment of obesity. Experts says that consuming more water along with proper workout doubles the weight loss and also increase antioxidant production while decreasing free radicals [41]. Minerals in water have a considerable effect on maintaining a good metabolism [42]. Also, water is the cheapest to fortified nutrients and minerals while having less or zero calories. A large number of flora and fauna provide us food and certain type of medicines [43]. Grains are the part of staple nutrition in many countries. Oats, wheat, chenopods, buckwheat are some of the grains [44] which can adapt to marginal and degraded landmarks and even then they can provide good nutrients and energy [45].

Conclusion

Following all, the main idea of the review is that dietary intervention strategies should be followed for restoring fitness [46] health and to resist diseases. New approaches should be followed like nutrigenomics and genes and protein analysis using experimental and theoretical techniques [47-48] to study and understand the whole concept of nutrition [49] and to improve health which includes study of genetics, bioinformatics, pathology, human physiology, nutrition and biochemistry [50]. Everybody cannot eat anything means each person's body take up nutrition from same food differently and at different extent [51].Genomic data availability made us able to make up the diet and medicine according to one person's genetic makeup [52]. Genetic approach to medicine and diet will be a milestone in the success, research and development of new foods, medicines and diet plans specific to a person.

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