EDITORIAL

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Recommendations on nutrition to improve cardiovascular health of population of Kyrgyzstan in light of AHA dietary guidance 2021

Recently new AHA dietary guidance to improve cardiovascular (CV) health 2021 was released (1). The document is a very comprehensive guide on healthy nutrition to attain CV health and recommends:

- to adjust the energy intake according to expenditure;

- to eat plenty of fruits and vegetables;

-to choose food made of whole grains instead of refined grains;

-sources of protein are plant proteins; fish and seafood; low-fat or fat free dairy products; if meat, poultry – then non-processed and of lean cuts;

-to use plant oil instead of subtropical oils and animal fat;

-to minimize beverages and drinks with sugar and cook meal without or little salt (1).

Some recommendations need to be adjusted to different populations with diverse nutrition and eating culture. The tables are on energy expenditure are good but complex for population so they might be used by healthcare professionals instead. In Kyrgyzstan, high altitude country, it might be challenging to control salt consumption in rural areas as national dishes are usually salty, so we should promote reduction of its use while cooking and removing from table in households. In addition, the potential challenge is the scarcity of vegetables and fruits in remote high-altitude areas especially during winter season.

We present here recommendations to our population for healthy nutrition in light of this guidance paper.

Energy intake and expenditure should be regulated to maintain a healthy body weight. Maintaining a healthy body weight throughout life is an important component in reducing the risk of CV diseases. In the last 10 years, sedentary lifestyle and increased energy intake have been noted, leading to a positive energy balance and accumulation of excess body weight (2). However, energy requirements are affected by age, gender, and level of physical activity (3, 4). Large portion size, even for healthy meals, can promote positive energy balance and weight gain (5). Therefore, there is a need to introduce rapid dietary assessment tools to reduce CV diseases throughout the lifespan and track diet in electronic medical records (6).

We recommend to use smaller portions for meals – f.e. 300 mg for the first serving, 200 mg for the second serving, 150 mg for salad and 150 ml for juice or water or tea. The old recommended large portions sizes were mostly driven by the fact of hard manual labor required large energy expenditure; however, in modern era of technical advancements, there is no need for large portions as they just enlarge stomach and reflectory increase appetite (7).

We recommend consuming whole fruits and vegetables, which are rich in dietary fiber that provides satiety, as opposed to consuming juices (8). All kinds of fruits and vegetables (fresh, frozen, canned and dried) can be included in the diet and are good for the heart. However, canned fruits and vegetables with added sugar and salt should be limited.

We recommend consuming whole grains, as well as those that contain intact starch, germ, endosperm and bran, they are rich in fiber. Whole grains reduce the risk of developing coronary artery disease (9) and reduce CV risk factors (10).

Eating plant-based proteins (legumes and nuts) that are a source of fiber may help reduce the risk of heart disease (11). Higher nut intake has been shown to be associated with a lower risk of death from CV diseases, coronary artery disease, and stroke (10-12). Consumption of plant-based meat substitutes requires some caution as they contain sugar, saturated fat, salt, stabilizers and additives (13, 14).

Regular consumption of fish and seafood is recommended, which is associated with a lower development of CV diseases. Eating 2–3 servings of fish per week has been reported in the literature to reduce mortality from CV disease, coronary artery disease, myocardial infarction, stroke, and heart failure, which is associated with omega-3 fatty acid content (15-17).

If you choose poultry or meat, they should be lean without fat.

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Horse meat is in ration of people of Kyrgyzstan, it is lean and composed of unsaturated fat. However the smoked and salty horse meat products should not be used in large proportions, instead the fresh-cooked horse meat once a week may be advised (expert opinion). There are studies that horse meat consumption reduces total and low-density lipoprotein (LDL) cholesterol, and thus the risk of CV diseases (18, 19). Del Bo et al. demonstrated in their randomized controlled study that consumption of horse meat during 90 days in healthy males was associated with significant reduction of total and LDL cholesterol (by 6.2 and 9.1%) and increase in polyunsaturated fatty acids by 8% (19).

Thus, including in the diet an increased amount of fruits, vegetables and fish, as well reduction in sugar and salt, the transition from fatty to lean meat, helps to reduce the development of coronary artery disease and mortality from CV diseases.

The main sources of polyunsaturated fatty acids - vegetable oils: soybean, corn, safflower, sunflower, walnuts and flax seeds, reduce the concentration of cholesterol, LDL, and reduce the progression of atherosclerosis (20). Of note, chronic consumption of trans fatty acids adversely affects cardiometabolic risk factors for CV diseases (21).

A positive relationship has been noted in the literature between dietary cholesterol and LDL-cholesterol concentrations; however, the current cholesterol intake in the US is 300 mg/day (22). Eat more unrefined foods (13, 23, 24). Consumption of ultra-processed (refined) foods can lead to overweight, obesity, cardiometabolic disorders (type 2 diabetes, CV disease) (25-27).

In the prevention of cardiovascular diseases, it is recommended to consume Kyrgyz national drinks: airan, saamal, kymys, zharma, maksym, chalap.

We recommend products, and dishes with a small amount of salt and sugar. Literature evidence suggests a direct relationship between salt intake and high blood pressure (28).

Research in healthy eating should focus on accurate, actual nutrition to determine the impact on health, not just what is eaten, but why, when, and how one eats throughout life (29). Dietary studies should take into account individual differences in diet, eating behavior, microbiome, genetic background, and socioeconomic and physical environments that influence the incidence of CV disease (29-31). In the future, these factors will help to reduce socioeconomic, racial, and ethical disparities in diet and cardiovascular disease outcomes (31, 32), which should be taken into account when designing diets and preventing CV disease.

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