Indian Diet and Associated Metabolic Risk Factors

Rapid dietary transitions in India have been associated with an alarming rise in the incidence of diabetes, pre-diabetes, obesity and cardiovascular disease.

There was a recent large scale nationwide study by the INDIAN COUNCIL OF MEDICAL RESEARCH(ICMR) AND MADRAS DISBETES RESEARCH FOUNDATION (MDRF)has directly link the high carbohydrate content of the average Indian diet to an increase risk of new on diabetes and pre-diabetes.

I thought of reviewing the result of the study, which may help some of you here who consume a lot of carbohydrate and also to your relatives back home. Study analyzed the diets of over 18,000 adults across all regions of India, found that more than 62% of daily calories in the average Indian diet come from low quality carbohydrates such as white rice, milk, wheat, and added sugars.

Combine with high saturated, fat intake and low protein consumption, this dietary imbalance has become Important recipe for diseases.

LOW QUALITY CARB SOURCES: A significant portion of these carbohydrates comes from refined sources, such as white rice, refined, white flour (Atta or Maida), and added sugars INCREASED RISK : Individuals with the highest carbohydrate consumption were found to have up to 30% higher risk of developing newly diagnosed type two diabetes compared to those consuming the list INSUFFICIENT PROTEIN INTAKE: Protein intake in the Indian diet was notably low, averaging only 12% of the daily calories, and that too predominantly from plant sources like cereals and pulses and very little from dairy, eggs and fish.

This protein intake is well below the global recommendation of 15 to 20% of the calories. REPLACEMENT STRATEGY: The study demonstrated that replacing just 5% of the dietary calories from carbohydrates with plant protein or dairy protein, significantly lower the risk of diabetes and pre-diabetes. Replacing carbs with red meat, did not show the same protective benefits.

GRAIN SWITCHING IS INSUFFICIENT: An important finding was that simply switching from white rice to other milled whole grains, like wheat or millet did not significantly reduce the risk. The key is to reduce the total quantity of carbohydrates and improve overall dietary composition.

The studies suggested that higher intake of milled whole grains, like wheat and millet, were still associated with adverse metabolic profiles, showing no benefit for milled whole grains. In India, most whole grains are consumed as milled flour for chapati and roti.

Milling lowers the particle size of whole wheat and increases its glycemic index to the extent that blood sugar response becomes similar to that of refined wheat products and white rice. Studies have shown that milled whole wheat flour increased blood sugar response after eating and increased body weight.

Replacing carbohydrates with protein from plant sources, dairy, eggs, or fish was associated with lower risk of diabetes. The quality of plant protein was thought to be equally important because in the present study, protein from pulses and legumes, but not cereals was associated with a lower risk.

Replacing rapidly digestible carbohydrates like refined grains, with the protein may improve blood sugar control, and lower the overall glycemic index of the diet while also addressing protein deficiencies Saturated fat intake was also high in Indian foods.

This is likely due to the high intake of ghee (clarified butter) in the North and the use of subsidized palm oil and coconut oil in the South. In addition, palmolein oil, due to its lower cost compared to other vegetable oils, is widely used in the food industry and in processed foods.

The definition of added sugars in this survey included only sugar added at the table, during cooking and from products with added sugars on the product label. It does not include sugar in the prepared food, especially Indian sweets. WHICH YOU ALL HAD LAST NIGHT ((HA HA HA) . Therefore, actual sugar intake, maybe even much higher.

KEY HIGHLIGHTS.

FROM THE ICMR DIETART STUDY -60% of the total energy in Indian diets come from low quality carbohydrate (refined sugars and cereals) -High carb diet increases the risk of type 2 diabetes by about 30%, pre-diabetes by 20% and obesity by 22% -Replacing refined carb with milled grains, such as wheat or millet flour, offered no benefit -Substituting 5% of the carbohydrate calories with protein from dairy, pulses, eggs, or fish, significantly reduced diabetes, and pre-diabetes risk. -Protein intake in India is low-only 12% of total calories-with most coming from plant sources, and very little from dairy or animal protein.

Global recommendation is 15-20%.

Bottom line is to reduce total carbs, not just change the grain. Dr. Sudha Vasudevan ,Senior Scientist and Head of the Department of Foods, Nutrition and Dietics Reaearch at the Madras diabetes Research Foundation stated that irrespective of the grain type, total carbohydrate need to be reduced and replacing white rice with milled whole grain, like wheat or millet flour offers no benefit.

The reason she gave is this.-Whole grains must be consumed intact. Once they are mlled into fine flours, their glycemic index increases, making the body's response, similar to that of refined white rice. Milling breaks down the grain structure, causing blood sugar to spike faster.

All of this information is obtained from recent ICMR study done in India

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