Sugar Buster dietary supplement can endorse healthy lifestyle change.

1. SUMMARY

The lifestyle factors can help to decrease the risks of diseases related to high sugar and carbohydrates consumption, like diabetes, obesity, heart problems or correctly manage the diseases progression, but too many people are not able to conduct a healthy lifestyle for reason connected to the food availability, to the working times or can develop diseases related to hereditary factors and condition. Worldwide researches have shown a clear connection between a high intake of carbohydrates and the risk of developing obesity conditions, type 2 diabetes or Recurrent high blood glucose spikes, and cardio-vascular diseases.
This generates the need to follow new approaches making the changes easier for people in the risk zone and help them to reach a healthier lifestyle. So, scientists have shown that the intake of a mix of five specific amino acids and chromium before a meal rich in carbohydrates, can reduce the blood glucose spike by 25–35%, reduce the sugar adsorption and generate positive effects on obesity control, lifestyle and type 2 diabetes control, in healthy and overweight subjects. The findings have been further developed and included in a clinically tested dietary supplement.

2. CARBOHYDRATES – KNOWLEDGE AND CONSEQUENCES

Carbohydrates are formally defined as containing carbon, hydrogen, and oxygen in the ratio of 1:2:1. In practice, dietary carbohydrates comprise compounds that can be digested or metabolically transformed directly into glucose, or that undergo oxidation into pyruvate, including some sugar alcohols (ex. sorbitol). Several systems for classifying carbohydrates have been in use, with varying relevance to health outcomes. Carbohydrate is the only macronutrient with no established minimum requirement. Although many populations have thrived with carbohydrate as their main source of energy, others have done so with few if any carbohydrate containing foods throughout much of the year. If carbohydrate is not necessary for survival, it raises questions about the amount and type of this macronutrient needed for optimal health, longevity, and sustainability.

Carbohydrates are the main source of energy in the diet (55-75%) for most people. Grain products, tubers, roots and some fruits are rich in complex carbohydrates. Generally, they need to be cooked before they are fully digestible. Sugars usually increase the acceptability and energy density of the diet and total sugar intake is often inversely related to total fat intake. Moderate intakes of sugar are compatible with a varied and nutritious diet.

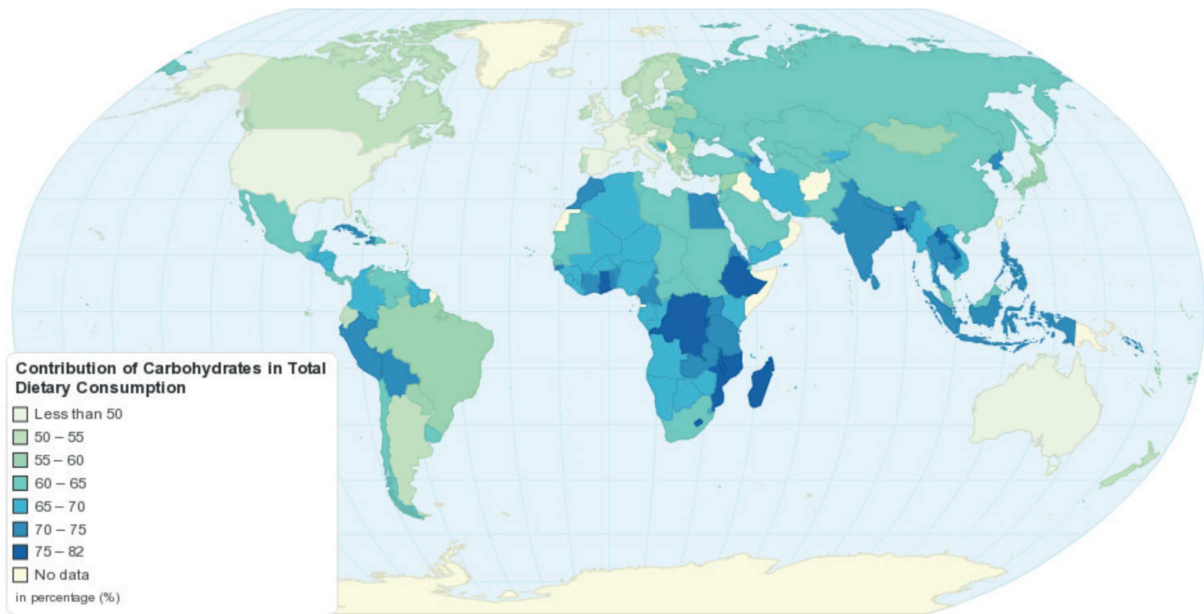

FIG 1. Contribution of carbohydrates in total dietary energy consumption. [1]

Consumption of carbohydrates and added sugars has been implicated in increased risk of a variety of chronic diseases including obesity, cardiovascular disease, diabetes and non-alcoholic fatty liver disease (NAFLD) as well as cognitive decline and even some cancers. Support for these putative associations has been challenged, however, on a variety of fronts. In the scientific researches is possible to identify high impact evidence including systematic reviews, meta-analyses, and randomized controlled trials, in an attempt to provide an overview of current evidence related to an carbs-rich or sugar-rich dietary consumption and health problem and disease [2].

Today, more than one in two adults and nearly one in six children are overweight or obese following the OECD analysis [3]. The obesity epidemic has spread further in the past years, although at a slower pace than before. Despite this, new projections show a continuing increase of obesity in all studied countries.
For these reasons, there is now a clear case for action to address obesity, and evidence of the gains to be made through different prevention strategies has built up over time.

WHO estimates that, globally, about 500 million adults aged over 18 years were living with diabetes and in the last years the number is increasing more. The largest numbers of people with diabetes were estimated for the South-East Asia and Western Pacific Regions, accounting for approximately half the diabetes cases in the world [4].

The number of people with diabetes has steadily risen over the past few decades, due to population growth, the increase in the average age of the population, and the rise in prevalence of diabetes at each age.

2.1. RISK FACTORS

Regular physical activity reduces the risk of these conditions, can control the developing of diabetes or raised blood glucose and the risk related to Cardiac disease, near this, the physical activity is an important contributor to overall energy balance, weight control and obesity prevention. The global target of a 10% relative reduction in physical inactivity is therefore strongly associated with the global target of halting the risk in disease conditions.
However, the prevalence of physical inactivity globally is of increasing concern. In the last statistics, just under a quarter of all adults aged over 18 years did not meet the minimum recommendation for physical activity per week and were classified as insufficiently physically active. Physical inactivity is alarmingly common among adolescents, with 84% of girls and 78% of boys not meeting minimum requirements for physical activity for this age. The prevalence of physical inactivity is highest in high-income countries where it is almost double that of low-income countries.

Despite the global voluntary target to halt the rise in obesity by 2025, being overweight or obese has increased in almost all countries. More than one in three adults aged over 18 years are overweight and more than one in 10 are obese. Women were more overweight or obese than men. The prevalence of obesity was highest in the Region of the Americas and lowest in the South-East Asian Region (see Figure).

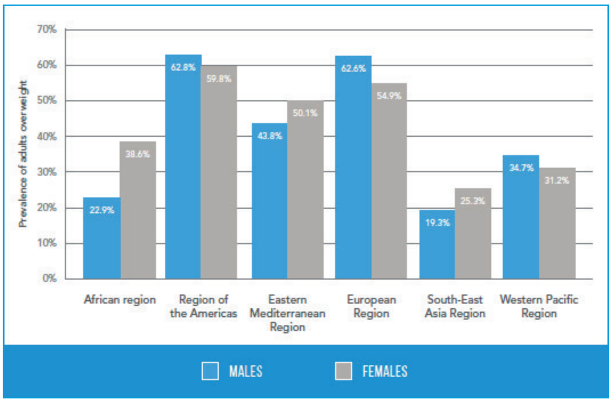

FIG 2. PREVALENCE OF BEING OVERWEIGHT (BMI 25+) IN ADULTS OVER 18 YEARS, 2014, BY SEX AND REGION [1]

2.2. FUTURE PROJECTION

Some studies presented estimates of adult obesity and severe obesity prevalence through 2030 based on nonlinear regression models. The forecasted results are then used to simulate the savings that could be achieved through modestly successful obesity prevention efforts. These studies estimated a 33% increase in obesity prevalence and a 130% increase in severe obesity prevalence over the next 2 decades. If these forecasts prove accurate, this will further hinder efforts for healthcare cost containment [5].

According to an International Diabetes Federation study, approximately 629 million adults (20-79 years) will live with diabetes by 2045 with an increase of type 2 diabetes in most countries [FIG.3].

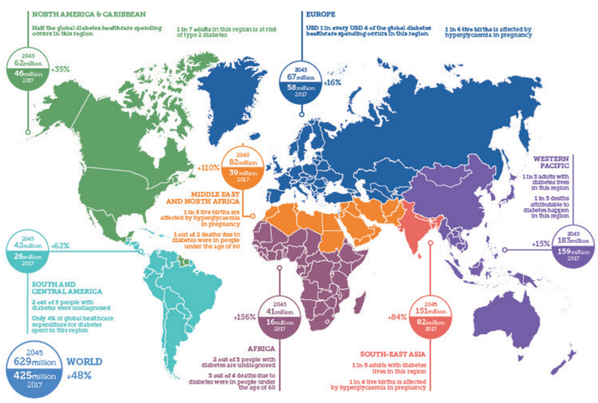

FIG 3. FUTURE PROJECTION OF NUMBER OF PEOPLE WITH DIABETE IN 2045 [2]

These numbers suggest to take strong actions to combat the expansion of the phenomenon and avoid dramatic social and economic consequences. [2]

These unhealthy conditions caused multi billion dollars in health expenditure in 2017, about 12% of total spending on adults and this represents an extremely high cost for the global economy as well as a deterioration in the overall health conditions of the global population.
Despite the alarming statistics, cost-effective solutions exist to reduce the global burden that these conditions currently poses. The wide range of options presented and their cost-saving implications give cause for optimism that the current situation can be reversed.

3. HOW TO PREVENT?

While there are a number of factors that influence the development of these disease, it is evident that the most influential are lifestyle behaviors commonly associated with urbanization, social progress. These include consumption of unhealthy foods and inactive lifestyles with sedentary behavior. Studies from different parts of the world have established that **lifestyle modification** with **physical activity** and/or **healthy diet** can delay or prevent this.

Modern lifestyles are characterized by physical inactivity and long sedentary periods. **Community-based interventions** can reach individuals and families through campaigns, education, social marketing and encourage **physical activity** both inside and outside school and the workplace. IDF recommends physical activity at least between **three to five days a week, for a minimum of 30-45 minutes**.

Taking a **life course perspective** is essential for preventing obesity, Type 2 diabetes and related cardio-vascular complications. Early in life, when eating and physical activity habits are established and when the long-term regulation of energy balance may be programmed, there is an especially critical window to prevent the development of overweight and reduce the risks. Healthy lifestyles can improve health outcomes at later stages of life as well.

The permanent breach of established patterns in such areas as eating habits are difficult for most people, this depends on many factors, from hereditary ones to those related to the availability of food.

Facts and trends are discouraging and call for effective initiatives to help people to move towards a healthier lifestyle. Perhaps, however, this requires a new approach. Surely there are no quick fixes but a way to help would be to support the preventive incentives and programs that currently exist with truly functional and scientifically proven foods and beverages that fit into established and attractive lifestyle patterns.

It is not sustainable to continue spending tremendous financial resources to cure and treat diseases that can be prevented.

4. A NEW APPROACH

In most carbohydrate-containing foods, the blood insulin response is predictable and is closely linked to the food's glycemic index (GI).

Based on university research and clinical studies the scientific community established the existing connection between the food assumption and the body response in terms of Glycemic Index. During these studies, the scientist observed that some compound can influence the GI and can modify the rate of use of some foods and the insulin generation. [6-51]

The scope of these studies was the deep understanding of the mechanisms involved in blood glucose regulation and to develop concepts that may help individuals keep blood glucose within a healthy range and reduce the body adsorption of these compounds related to the developing of obesity.

In some experience, L-amino acids, either as mixtures or individually, were administered intravenously to healthy subjects. The various mixtures, whether they contained leucine or not, and most, but not all, of the individual amino acids stimulated the release of insulin. The most effective stimulus for insulin release was either a mixture of some essential amino acids or arginine given alone; histidine was the least effective. Administration of the mixture of more amino acids on the one hand, and of arginine on the other, caused means of maximal increases in plasma insulin. [19-20-21-34].

Significant for the effect appears to be the presence of five essential amino acids in whey. Further clinical studies confirm that serving a drink containing a proportion of the five essential amino acids before, and with the meal could mimic the glucose regulating effect of whey.

As an additional development of the concept, a small proportion of chromium was added. Even though the mechanism is not fully understood, chromium is well known by science to have a role in blood glucose regulation, by improving insulin sensitivity. Taken together, it was hypothesized that a combination of amino acids and chromium would have a synergistic effect that would further improve the effect on blood sugar rise [49].

With an aim to apply the findings to benefit consumers, a “Sugar Buster” concept has been developed. The efficacy of the concept has been evaluated in a series of clinical studies. These consistently show a reduction of 25–35% in blood sugar rise following a meal rich in carbohydrates, compared to placebo, without increase in insulin levels [FIG.2].

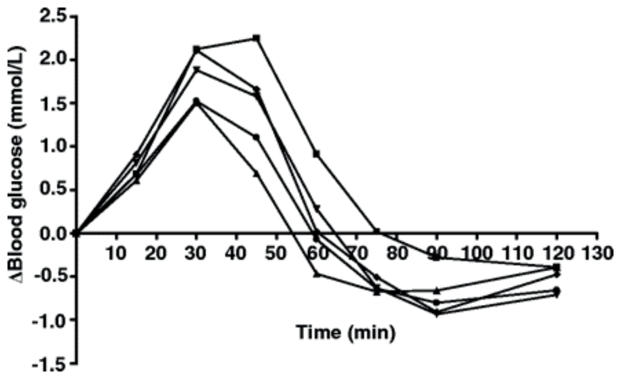

FIG.2 Mean (±SEM) incremental changes (Δ) in blood glucose in response to glucose ( ) and leucine, isoleucine, valine, lysine, and threonine (•). [47]

The best effect was obtained, when sugar buster is take few minutes before the carbohydrate rich meal.

Further clinical studies are underway, including a meal study in USA.

The Sugar Buster has been further developed into a dietary supplement with the function to help people with normal blood sugar level to manage the sugar spike after meal and support and facilitate people's efforts to live a healthier lifestyle.

"Sugar Buster supplement has been developed based on research showing that a mix of different amino acids can reduce the blood glucose spike following a carbohydrate-rich meal by 25–35%, reduce the sugar adsorption and generate positive effects on obesity control, lifestyle and type 2 diabetes control, in healthy and overweight subjects."

Sugar Buster is a sublingual supplement.

Studies have shown that supplements that are taken orally pass through your digestive system and are not absorbed. By using sublingual supplements, it boosts absorption into your system, and the nutrients are then absorbed via the salivary glands directly into your system, bypassing the need for your digestive system.

Your body will have absorbed up to 99% of the nutrients you have taken on, and there are NO adverse stomach reactions!

SUPPLEMENT FACTS

SmartLife Sugar Buster Dietary Supplement Product

Ingredients: 1 Sachet (4.5 g) contains

L- Leucine	150 mg.
L- Threonine	100 mg.
L- Lysine	100 mg.
L- Isoleucine	50 mg.
L- Valine	50 mg.
Biotin	2 mg.
Chromium Picolinate	0.035 mg.

Sweetener (INS : 953), Acidity Regulator (INS:300, INS:500ii), Lemon Flavor
Direction : At least 1 sachet few minutes before or during each meal.
People with underlying disease please consult with your doctor before taking this product.

Direction: At least 1 sachet few minutes before or during each meal

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