



# Indulge Your **Sweet Tooth** with **Diabetic Sugar**

A Siddha or Tamil life sciences breakthrough, DiaBliss is a herbal technology that makes cane sugar diabetic friendly.

**BY SANGITA THAKUR VARMA**

**T**he world is grappling with a largely lifestyle disease that has taken an epidemic form. According to the International Diabetes Federation's *IDF Diabetes Atlas Sixth Edition, International Diabetes Federation 2013*, there were 382 million people living with diabetes in the world in 2013. The number of people affected by diabetes is projected to increase by 55 per cent to reach 592 million worldwide by 2035. In such a scenario, when, C K Nandagopalan, Founder, Revolution, a research foundation dedicated to Tamil sciences, and Chief

Technology Officer, DiaBliss, says, “It is a very simple herbal technology and no skilled person is required for handling it,” you look at him in disbelief. For, he is talking of his breakthrough innovation, which in simple words is the world’s only diabetic friendly herbal sugar. He claims this sugar suits all age groups and all types of diabetics and that too without quantity restrictions. Additionally, its efficacy is proven through scientific data backup, he says.

The herbal sugar called DiaBliss is essentially 99 per cent cane sugar and 1 per cent herbal extract. The formulation is totally safe and 100 per cent natural as it uses 15 ingredients that are extracted from plants. It is a tasteless, colourless and odourless aqueous herbal extract made from fenugreek, pomegranate, cinnamon, gooseberry, turmeric, black pepper and ginger.

Calcium, sodium, potassium and other high value antioxidants are extracted from these components. The extracted formulation is then amalgamated together to produce the herbal additive. A measure of 40 ml of this liquid herbal additive is used to wet the sugar, which is then kept for drying for 12 hours. The end product is heritably enriched natural sugar, which a diabetic can consume without fear.

Several clinical trials of the herbal sugar have given positive results. DiaBliss sugar has been tested on people for periods ranging from three months to 36 months and data to date indicates that the product is safe. The product has been tested on subjects ranging in the age group of 7 to 82 and has been found to be effective in Type 1 and Type 2 diabetics. A 60 day product trial conducted at Sugan Life Sciences, Tirupati, Andhra Pradesh, on Type II diabetics using a sample consumption of 22.5g of DiaBliss sugar per day showed excellent blood sugar absorption and fasting and post prandial performance in diabetics (see table and graph on right).

Nandagopalan cites a Harvard School of Public Health finding where it has been indicated that the risks of diseases such as diabetes type II and coronary heart dis-

## Total Cholesterol, VLDL Triglycerides and Total Cholesterol to HDL Ratios Show Reductions

Effect of DiaBliss Sugar Supplementation on Blood Glucose Levels in Patients with Type II Diabetes Mellitus; Results of Clinical Trials Conducted at Sugan Life Sciences, AP

VARIABLE	BASELINE	60 DAYS	TRIGLYCERIDES VALUE	POSTPRANDIAL VALUE	CHANGE
Total Cholesterol mg%	117.8 334.68	163.21 345.83	1.12	0.27	-8.2%
HDL Cholesterol mg%	42.15 33.66	43.16 33.66	-0.86	0.39	2.4%
LDL Cholesterol mg%	95.44 328.57	93.64 342.76	0.15	0.88	-1.9%
VLDL mg/dl	31.17 314.73	26.16 310.58	1.17	0.25	-16.1%
Triglycerides (mg/dl)	172.55 385.53	159.0 3127.85	0.391	0.69	-7.9%
Cholesterol/HDL Cholesterol ratio	4.14 31.19	3.66 31.20	1.23	0.26	-11.6%

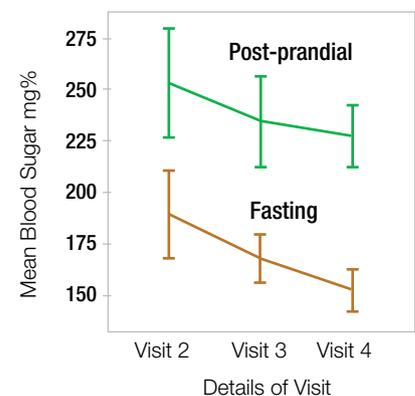
eases are strongly related to the glycemic index (GI) of the overall diet. Diabetics are recommended foods with low GI and glycemic load (GL). The glycemic action of DiaBliss occurs from polyphenols, antioxidants and soluble fibres. When blended with the herbal extract solution, there is 30 per cent reduction of GI in sugar. By lowering the GI, DiaBliss makes rice and fruit based products diabetic friendly. The simple structure of the extract ensures multiple applications.

Right since his youth, Nandagopalan, a post-graduate in psychology from Madras University, had a keen interest in Tamil sciences, the branch that is known as *siddha*. For those uninitiated in the vast treasure trove of India’s ancient remedies, he explains, “We are not involved in the *ayurvedic* field of medicinal research.” Both are separate branches of natural science.

The innovator has his roots in the business community and as a young entrepreneur, he “wanted to come out with

## Data & Key Findings

20% reduction in fasting and 10% reduction in post prandial blood glucose levels on consumption of DiaBliss



revolutionary monopoly products, which, at the same time, would help him serve humanity”. With this mission in sight, the innovator along with his brother C K Premkumar, established their research foundation Revolution in 1987 investing

their personal funds. It had an exclusive aim—research into chronic diseases, where cures remained elusive, and other unsolved problems faced by humans through the application of ancient Tamil heritage. “We have learned many things on our own and have trained under many erudite people over a span of 16 long years,” says Nandagopalan reminiscing, and adds, “the main aim of the foundation is to serve humans in the area of pathology.”

It took close to 18 months for the fundamental technological breakthrough to shape up successfully, says Nandagopalan. He is now, however, establishing an industrial model to make cane sugar universal. The researcher had studied Diabetes Mellitus for over six years before arriving at his innovative product. During the course of this study, Revolution also discovered ways of making natural salt cardiovascular friendly by neutralising the toxicity and making rice and wheat diabetic friendly. All these innovations are now being marketed by DiaBliss Consumer Products.

DiaBliss, the eponymous commercial venture and the brand, was established in Chennai by Nandagopalan and some of his associates to market the herbal sugar and its byproducts. “We wanted to take this concept to diabetic people all over the world,” he says explaining his association with the company.

The history behind the innovation of diabetic sugar is inspiring. “Since 1997, Revolution was actively involved in providing Heritage Sanjeevi, the wound care drug for incurable diabetic foot, incurable diabetic wounds and also a cure for diabetic gangrene. It was the heart rending call from the diabetic world for sweet treats that led the research foundation to get seriously involved in finding a lasting solution,” reveals the serial innovator, adding, “developing a sugar that allows diabetics to indulge their sweet tooth, was the biggest challenge the globe faced.” Nandagopalan was specially motivated by the plight of the “the juvenile diabetic world”—children denied small sweet indulgences they craved.



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—C K Nandagopalan, CTO, DiaBliss

The herbal extract is derived from several herbs and spices using water and no other chemicals or solvents. The solution when blended with sugar as well as carbohydrates and fruit pulp provides a complete and integrated system for carbohydrate and fructose management. The extract is colourless, odourless and tasteless and helps retain the original taste of cane sugar and its derivative products. Since DiaBliss can render sugars, carbohydrates and fructose content in foods diabetic consumption friendly, it enables them to consume an unlimited choice of foods, claims Nandagopalan.

Explaining the mechanism, Nandagopalan says, “In the preparation of the herbal solution, potassium, calcium and antioxidants are extracted without altering the potency. When DiaBliss sugar is prepared with herbal extracts, these ingredients allow glucose present in the blood stream to be effectively absorbed by the body at a cellular level. DiaBliss Sugar addresses typical symptoms of diabetics including low energy levels, lethargy, itchiness, craving for food and

sweets by allowing enhanced absorption and better body metabolism.” Revolution has also developed and tested a range of products including salt, rice, jams, ketchup, multigrain porridge, chocolates, *semiya payasam (kheer)*, beverages (lemon tea mix, lemon juice mix), etc, which will soon be launched.

The cost of the research was close to ₹18 lakh (US\$ 29,469.55), but the results far outweigh these considerations for the founder who faced many challenges. The primary ones were that the sugar must suit all age groups including children; suit all types of diabetics; there should be no quantity restriction and it should be ensured that no ratified chemicals or solvents are involved in the technology. But the biggest challenge for Nandagopalan was, as he explains through a diabetic’s eyes, making an important point, “The psychological appetite for sugar and sugar related products in a diabetic person is very high. When this appetite is answered, he considers himself a normal person and his mental health improves in a big way.”

The product that was commercialised in April 2013 received a huge welcome from the world. “The sky is the limit for the product as far as its market is concerned,” observes Nandagopalan, and adds, “We have started exporting and enquiries are coming in from all parts of the world.” The innovator is not interested in patenting DiaBliss as it is a pure proprietary formulation.

While the diabetics can now indulge their sweet tooth, Revolution is also working hard to commercialise the first ever herbal technology in the area of water management called Nanneer. “We are also working on several other concepts relating to the field of life sciences,” informs Nandagopalan. One can certainly expect more revolutionary panaceas from his research lab given the success of his earlier innovations—products for incurable wounds; for skin care; for burn care, which revives pigmentation and a product for treating seeds in the field of agriculture. ■