

## Comparison of Blood Glucose Responses by Cane Sugar (*Saccharum Officinarum*) Versus Coconut Jaggery in Type 2 Diabetes Patients

Hewa Iiyana\*

Coconut Processing Research Division, Coconut Research Institute, Lunuwila, Sri Lanka

### Abstract

Type 2 diabetes mellitus could be a predominant upset that contains a direct impact on human health. Though scientific information area unit deficit, coconut carbohydrate has been instructed as a higher various for cane sugar by some people. This study was conducted to assess the credibleness of this claim. Coconut carbohydrate was ready at Coconut analysis Institute, Sri Lanka and biological process composition of coconut carbohydrate was compared with cane sugar exploitation normal ways protein and fibre contents were determined in coconut carbohydrate compared to cane sugar. The whole starch and total sugar content of the coconut carbohydrate was considerably below that of the cane sugar. Cardinal patients (Male: sixteen, Female: a pair of 7) with kind polygenic disease from the medicine unit, National Hospital capital of Sri Lanka, Sri Lanka were voluntarily engaged within the study, subjected to associate degree initial health screening.

Then, determination of postprandial blood sugar responses once intake of the quality (glucose), cane sugar and coconut carbohydrate. Average age of the chosen cluster was years and that they were all overweight. The mean abstinence blood sugar level and HbA1c of the themes were severally. There was no important distinction in peak blood sugar concentrations or progressive space below the curve in blood sugar response of 2 take a look at food. Therefore, coconut carbohydrate cannot be thought of as a healthy substitute for cane sugar in kind a pair of diabetic patients.

**Keywords:** Coconut sugar; Coconut jiggery; Glycemic responses and cane sugar

### Introduction

Consumption pattern of sugar wealthy food, beverages and confectionery directly effects on the glucose level, increasing threat of sort two polygenic disease, obesity, high blood pressure and heart diseases. The Yankee polygenic disease Association has unconcealed that million characterised by symptom thanks to the deficiency of endocrine secretion or seriously reduced action of endocrine. Sort one DM is caused thanks to destruction of  $\beta$  cells within the duct gland whereas sort two DM is caused by the endocrine deficiency and resistance, whereas physiological condition DM is recognized throughout the gestation. Daily food intake of diabetic patients has to be adjusted and it's terribly troublesome to spot what style of food is often given to diabetic patients. The failure of diet management by combining with good condition ends up in harm of various body organs like eyes, kidney, nerves, and vascular system.

Therefore, it's terribly essential to produce low glycemic healthy food and food choices that have slow aldohexose emotional talents for diabetic patients moreover as for healthy people to take care of correct endocrine regulation. Frequent consumption of high glycemic foods will increase the chance of chronic diseases like vas diseases and sort two polygenic diseases [1-5].

The glycemic index (GI) is measured by scrutiny hyperglycaemic behaviour of a selected food with a reference food; ideally aldohexose or staff of life. It's outlined because the progressive space beneath the  $\beta$ -glucose response curves of a tested meal containing fifty g of digested carbohydrates and also the progressive space beneath the  $\beta$ -glucose response curve of the quality food of fifty g of pure aldohexose.

Short-chain soluble carbohydrates like refined sugar area unit oftentimes used sweeteners. These sugars area unit hydrolysed into ketohexose and aldohexose to boost the glucose level straight off and results high GI values. Coconut sugar may be an ancient sweetener made

of unsecured coconut sap and is believed to be a healthy substitute for cane sugar. It's been used as a medicative sweetener in ancient drugs to purify blood, aids digestion and improves lungs health. GI of coconut sap primarily based sugar has been reported as which of plant product. In line with them coconut sugar and sweetener made of coconut sap belongs to the low GI food class. Sagum and Arcot have reported that process condition and physiochemical properties of food have direct impacts on GI of the food. Therefore, the worth reported for GI will amendment thanks to varied technologies applied for producing. There's an idea that ingestion sugar is healthier than ingestion table sugar (cane sugar) for diabetic patient. However, it's not established scientifically. Therefore, this study was designed to research aldohexose responses by coconut sugar and cane sugar in poorly controlled diabetic patients, compared to the sugar normal, glucose [6-7].

### Discussion

Shows the biological process composition of cane sugar and coconut jaggery. The wetness, ash and macromolecule contents of jaggery were considerably over those of cane sugar. Wetness content is a vital parameter to judge the standard and stability of the jaggery. Wetness share of freshly ready sugarcane jaggery is reportable as twelve. That is over the wetness content of coconut jaggery. The low wetness content of

\*Corresponding author: Hewa Iiyana, Coconut Processing Research Division, Coconut Research Institute, Lunuwila, Sri Lanka, E-mail: Hewa.Iiyana22@gmail.com

Received: 29-Jun-2022, Manuscript No. Jcids-22-70862; Editor assigned: 01-Jul-2022, PreQC No. Jcids-22-70862 (PQ); Reviewed: 15-Jul-2022, QC No. Jcids-22-70862; Revised: 22-Jul-2022, Manuscript No. Jcids-22-70862 (R); Published: 29-Jul-2022, DOI: 10.4172/jcids.1000144

Citation: Iiyana H (2022) Comparison of Blood Glucose Responses by Cane Sugar (*Saccharum Officinarum*) Versus Coconut Jaggery in Type 2 Diabetes Patients. J Clin Diabetes 6: 144.

Copyright: © 2022 Iiyana H. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

cane sugar is that the reason for higher period of that whereas coconut jaggery incorporates a lesser period. Ash share indicates that coconut jaggery contain a better share of minerals than the cane sugar. Fat and fiber weren't determined in table sugar, whereas they were determined in minor quantities in coconut jaggery, respectively. Therefore, the coconut jaggery has extra amounts of nutrients than cane sugar that would be helpful for human health.

Presence of resistant starch and dietary fiber has a sway to scale back glycaemic responses. Variation of glycaemic indices among rice varieties was determined primarily thanks to the various percentages of starch as enzyme. Starch has the flexibility to decrease GI and hypoglycemic agent response. Coconut jaggery incorporates a considerably higher concentration of resistant starch of compared to cane sugar. In vitro accelerator digestion clearly disclosed that the edible starch content of coconut jaggery was considerably lower [8-10].

Therefore, it will be assumed that disaccharide in cane sugar would possibly get hydrolysed into aldohexose and laevulose apace than the coconut jaggery. Considerably higher concentration of total sugar in cane sugar incorporates a direct impact on blood sugar response compare to coconut jaggery. Therefore, disaccharide or cane sugar ought to eventually raise the blood sugar response apace than the coconut jaggery will.

The FBS level of forty three volunteers was considerably higher compared to the utmost healthy margin of FBGC. The fast blood sugar values between measure thought of because the level of risk for kind a pair of polygenic disease or in different words, the pre-diabetes vary. HbA1c of blood samples indicates average plasma aldohexose concentration over eight to twelve weeks and better than six of HbA1c unconcealed the standing of diabetic of average concentration of HbA1c may be ascertained in hand-picked subjects that declare that poorly controlled diabetic standing of them. The extent of HbA1c should be maintained but six.5% to control the standing of diabetic through the drugs and diet management. Most of the topics were Olympian the high density compound protein and total cholesterol/high density compound protein [11].

Glucose responses of subjects over the two h amount square measure shown within the. The fast blood sugar was considerably higher in diabetic patents than the suggested most healthy level of a hundred. Low internal secretion sensitivity makes polygenic disease patients incapable in correct blood sugar regulation. Cane sugar and coconut carbohydrate evoked similar patterns, while not important variations at every measurement purpose, although coconut carbohydrate has significantly higher share of resistant starch. Differing kinds of resistant starch behave otherwise to lower the blood sugar levels that considerably completely different glycaemic behavior of a pair of styles of resistant starch having beverages. Matrix embedded starch (RS1), untreated resistant starch granules (RS2), de-branched and recrystallized resistant starch by cookery and cooling method (RS3) and structurally (chemically) changed resistant starch (RS4) have completely different aldohexose lowering potentials whereas RS4 has larger aldohexose lowering ability [12].

The results of peak reduction clearly unconcealed that the cane sugar has fourteen.37% of peak reduction whereas coconut sugar has ten.69% peak reduction compared to the quality. However, the two take a look at foods evoked no vital distinction in peak reduction. After intake of reference food (glucose), aldohexose concentration of blood was hyperbolic to the height level of reduced to among the two h amount that showed a slow rate of peak ingrating. The height

finished rate of aldohexose whereas it for cane sugar and coconut saccharide were severally. Evidently, peak flattening rates for each coconut, saccharide and cane sugar were quite three times higher compared to aldohexose. However, no vital distinction within the peak flattening rate between the two take a look at foods was discovered. The higher normal division of FBS worth of polygenic disease patients and FTO of various take a look at food and aldohexose are often created some limitations of this study. The common concentration of HbA1c in chosen subjects declares that poorly controlled diabetic standing of them and it are often affected negatively for the blood sugar response of polygenic disease patients. Moreover, the impact of saccharide and table sugar in polygenic disease patients ought to be studied as a lot of days experiment to spot the long run impact of coconut jaggery for the polygenic disease patients as a future direction of this study [13-15].

## Conclusion

There were no important variations in glucose responses with regard to AUC of glucose response curves, peak delaying rates and proportion peak reductions once table sugar and coconut sugar were consumed by diabetic patients. Therefore, choice of coconut sugar to exchange table sugar cannot be suggested as an improved different for diabetic patients.

## Acknowledgement

I would like to thank my professor for his support and encouragement.

## Conflict of interest

The authors declare that there is no conflict of interest. Findings to the temporal development and site of the first tumor mass.

## References

1. Evert AB, JL, Boucher JL, Cypress M (2014) Nutrition therapy recommendations for the management of adults with diabetes. *Diabetes Care* 37: 120-143.
2. Alberti KG, Zimmet PZ (1998) Definition, diagnosis and classification of diabetes mellitus and its complications. part 1: diagnosis and classification of diabetes mellitus provisional report of a WHO consultation. *Diabet Med* 15: 39-553.
3. Hsueh PR, Ko WC, Wu JJ (2010) Consensus statement on the adherence to Clinical and Laboratory Standards Institute (CLSI) antimicrobial susceptibility testing guidelines (CLSI-2010 and CLSI-2010-update) for Enterobacteriaceae in clinical microbiology laboratories in Taiwan. *J Microbiol Immunol Infect* 43: 452-455.
4. Borch-Johnsen K, Colagiuri S, Balkau B (2004) Creating a pandemic of prediabetes: the proposed new diagnostic criteria for impaired fasting glycaemia. *Diabetologia* 47: 1396-1402.
5. Nathan DM, Davidson MB, DeFronzo RA (2007) American diabetes association. impaired fasting glucose and impaired glucose tolerance: implications for care. *Diabetes Care* 30: 753-759.
6. Johannes R, Sommerfeld O, Birkenfeld AL, Christoph S, Ulrich AM (2021) Blood Sugar Targets in Surgical Intensive Care—Management and Special Considerations in Patients With Diabetes. *Dtsch Arztebl Int* 118: 629-636.
7. Peter EHS, Patrick T, Lorenz H, Colin JG, Mohammed KA, et al. (2018) Blood Sugar Regulation for Cardiovascular Health Promotion and Disease Prevention: JACC Health Promotion Series. *J Am Coll Cardiol* 72: 1829-1844.
8. Grace EG, Benjamin FA, Belén M, Nicole AJ, Robin B (2018) Sugar intake and expectation effects on cognition and mood. *Exp Clin Psychopharmacol* 26: 302-309.
9. Michael NH, Heather O, Patrick LA (2017) Blood pressure and blood sugar assessment by recent dental school graduates. *Oral Surg Oral Med Oral Pathol Oral Radiol* 124: 37-44.
10. Chia-LL, Chun-P Lin, Shin-Yu A L (2013) [The effect of tai chi for blood

- 
- pressure, blood sugar, blood lipid control for patients with chronic diseases: a systematic review]. *Hu Li Za Zhi* 60: 69-77.
11. Mehdi T, Fereshteh Mazidi SA, Mohammad RB (2018) Blood sugar changes and hospital mortality in multiple trauma. *Am J Emerg Med* 36: 816-819.
  12. Brandon JR, Jonathan HC (2020) The effects of soda taxes on adolescent sugar intake and blood sugar. *Health Econ* 29: 1422-1434.
  13. M Yanina P (2018) The not-so-sweet effects of sucralose on blood sugar control. *Am J Clin Nutr* 108: 431-432.
  14. Mike G, Hilary C, Laurence BK (2021) Patients With Diabetes Using a New Glucose Meter With Blood Sugar Mentor and Dynamic Color Range Indicator Features Show Improved Interpretation and Willingness to Act on Blood Glucose Results (ASCEND Study). *J Diabetes Sci Technol* 15: 1168-1176.
  15. Khaled FM, Amal ZH, Hatem SA, Azza AA (2021) Efficiency of Red Onion Peel Extract Capsules on Obesity and Blood Sugar. *Pak J Biol Sci* 24: 99-111.