



Linking Nutrition Research to Practice

MESSAGE FROM EDITORS

Dear Members,

It is less than four years since the first issue of SLMNA newsletter was published. Within this short period of time, our newsletter had undergone an evolutionary change to become a seriously competitive publication in the field of clinical nutrition in Sri Lanka.

None of our successes would have been possible without the efforts of the authors, the guidance by our supervisors and the encouragement of SLMNA members. We would like to thank everyone who provided us with articles to make the newsletter a great publication. We express our sincere gratitude to the president of SLMNA, Dr. Renuka Jayatissa, who constantly supervised the process of reviewing articles and on occasions, provided us with great suggestions and advice through her unique vision. We would also acknowledge the SLMNA council and all the members of SLMNA for the continuous support and encouragement.

Being blessed with such a supportive atmosphere, today we are in a position to look forward to further improve the quality of this publication, by providing you more opportunities to submit clinically oriented, skillfully written articles.

On behalf of the 2018 council, and as the co-editors, we humbly thank everyone for the wonderful support given to us over the past year. We wish the new council all the very best for SLMNA's future endeavors.

Together, let's make SLMNA a better place to share the wisdom in nutrition...

Piyumanga and Malika
Co Editors 2018

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PAST EVENTS

01. SLMNA Annual Academic Sessions

We are pleased to inform that our annual academic session held successfully on 1st of December 2018 at the Galle Face Hotel. The theme of the year was healthy ageing.



02. ESPEN LLL program at Colombo – Sri Lanka



03. Nutrition and sports workshop for school children at Teaching Hospital, Karapitiya



04. “Reaching the unreached nutrition” workshop in Matale, Nuwaraeliya and Monaragala districts



Thank you dear members for the great contribution.....

*“ Unity
is
Strength.... ”*

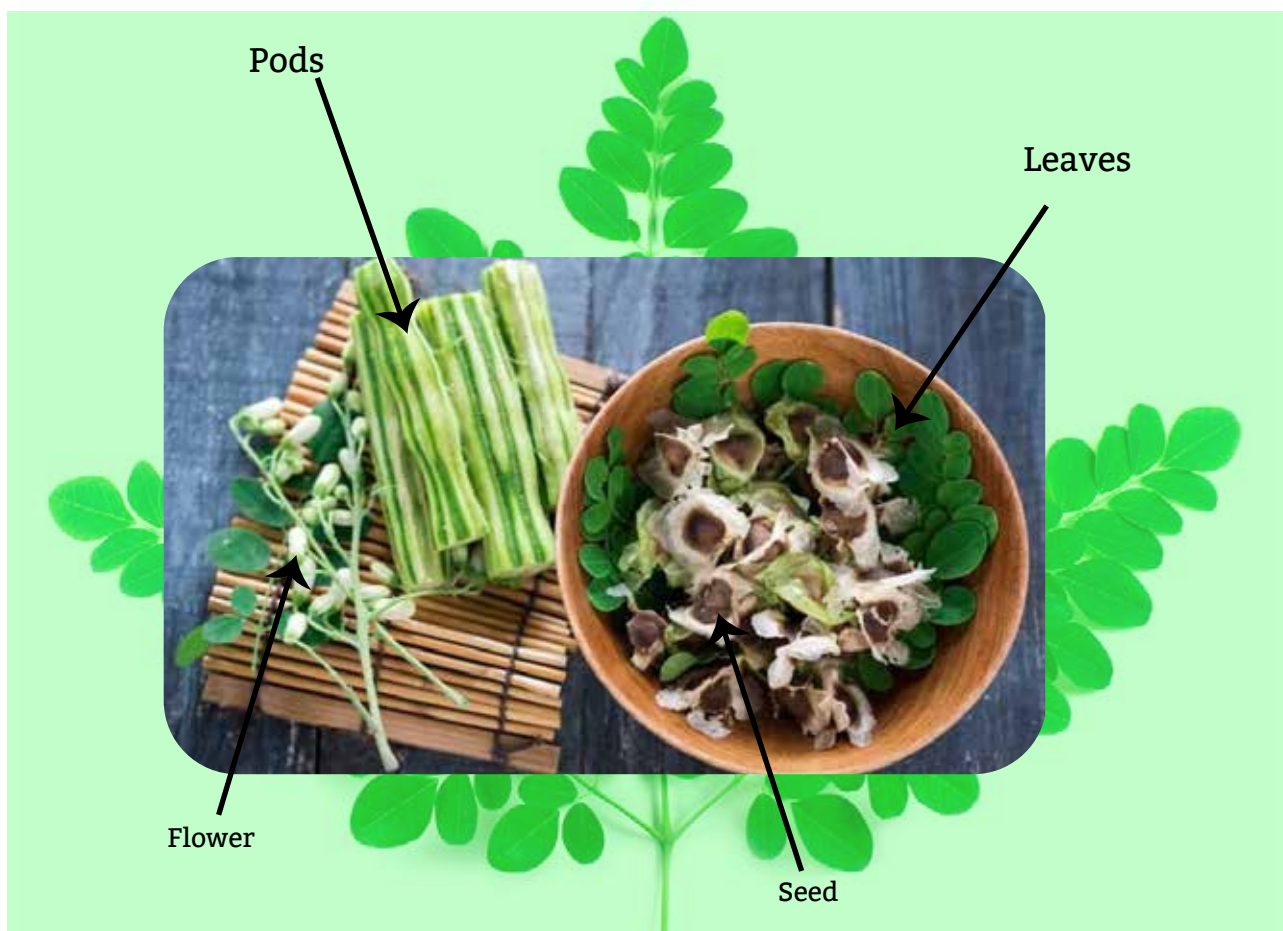


Moringa oleifera Drumstick Tree



Exceptionally nutritious vegetable with a variety of potential uses.....

One of the most nutrient, sustainable super food. Every part of moringa tree is a store house of important nutrients.



Amazing, But true.....

Moringa contains
 All Nine Essential Amino Acids
 Nine Additional Amino Acids
 Vitamin A (alpha and beta catotene), B1,B 2,B3,B5,B6,B12 and Folate
 Vitamin C,D,E,K, Biotin and more

Calcium, chloride, chromium, copper, fluorine, iron, manganese, magnesium,
 molybdenum, phosphorus, potassium, sodium, selenium, sulphur

Other beneficial ingredients
 Carotenoids, flavonoids, omega (3,6,9)
 plant sterols, polyphenols, lutein



Vitamin and Mineral Content of Moringa Leaves

All values are per 100 grams of edible portion.

	Fresh Leaves	Dried Leaves
Carotene (Vit. A)*	6.78 mg	18.9 mg
Thiamin (B1)	0.06 mg	2.64 mg
Riboflavin (B2)	0.05 mg	20.5 mg
Niacin (B3)	0.8 mg	8.2 mg
Vitamin C	220 mg	17.3 mg
Calcium	440 mg	2,003 mg
Calories	92 cal	205 cal
Carbohydrates	12.5 g	38.2 g
Copper	0.07 mg	0.57 mg
Fat	1.70 g	2.3 g
Fiber	0.90 g	19.2 g
Iron	0.85 mg	28.2 mg
Magnesium	42 mg	368 mg
Phosphorus	70 mg	204 mg
Potassium	259 mg	1,324 mg
Protein	6.70 g	27.1 g
Zinc	0.16 mg	3.29 mg

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Add to your daily diet
 Add moringa leaves to salad
 Blend moringa leaves in your smoothie
 Blend moringa leaves in to your raw soups

”



Grow this amazing plant at your doorstep





Moringa and dhal



Add moringa to your sandwich paste



Sprinkle moringa powder over the food just before serving



Cook moringa leaves in a pan separately and then add to the eggs. Enjoy a nutritious omlet.

Reference

01. http://www.moringanews.org/biblio_en.html



Carbohydrate Counting

Dr. Sajitha Mallawaarachchi

(MBBS, MSc Human Nutrition, MD trainee)

Carbohydrate counting is a method of meal planning used in patients with diabetes mellitus. This method is used to control (increase or decrease) carbohydrate amount which is responsible in post prandial glycemic variations. Concept of carbohydrate counting start nearly hundred years back with the invention of insulin. It's applications with nutritional education is an effective way of managing any kind of diabetes. Changes of the dietary behavior by education of the patients is essential and integral part of proper glycemic control, especially in poorly controlled diabetic cohort.

There are 3 levels of carbohydrate counting.

1. Basic carbohydrate counting/ level 1
2. Intermediate carbohydrate counting/ level 2
3. Advance carbohydrate counting /level 3

Basic carbohydrate counting / Level 1

Staple food and most of the snacks contain lots of carbohydrate. Gross Calculation of total grams of carbohydrate in the food items from food package detail, reputed food composition data or other standard methods are the first step in basic carbohydrate counting or level one.

As an Example, 32g of carbohydrate in 1 cooked rice cup (200ml) or 15 g of carbohydrate in medium size 1 apple is the beginning of the level 1 carbohydrate counting process. Next step of this process is calculation of the amount of total carbohydrate units in the food serving. It is done by dividing total grams of carbohydrate in the food serving by 15. The answer would be the units of carbohydrate in that particular food. This basic carbohydrate count can be used in diabetes education when need to introduce food exchange concept. Distribution of carbohydrate units among the meals and snacks also included in basic carbohydrate counting. Breakfast with lower amount of carbohydrate units due to highest insulin resistance of the day and lunch with highest carbohydrate units due to lowest insulin resistance is beneficial. Basic carbohydrate counting is useful in treating type 1, type 2, gestational diabetes and who's meal plan not in consistent.

Intermediate carbohydrate counting/ level 2

Here main emphasis is on the pattern of blood sugar variations of the patient with his/her current diabetes medication, physical activity, growth and type of the food which consumed by patients. This is called pattern management which can also be used for type 1, 2 and gestational diabetes. In pattern management, patient can decide the level of physical activity, dose of diabetes medication, type and amount of food, time of the meal according to his/her blood sugar pattern during last few days.

Finally they can minimize their blood sugar variation within the day.

For an example, if the patient is having high blood sugar levels during the last few days and history revealed the cause is reduced physical activity during that period, we can increase his /her dose of diabetes medication or reduce amount of carbohydrate.

Advance carbohydrate counting /level 3

This is designed for patients on intensive insulin therapy for type 1 diabetes. Insulin therapy may be multiple daily injections (Basal bolus) or continuous insulin pump. Main concept of advance carbohydrate counting is calculation of insulin to carbohydrate ratio (I: C). There are two method to calculate insulin carbohydrate ratio.

First method is calculation of insulin carbohydrate ratio for each meal. Here number of carbohydrate grams per each meal should be calculated separately. Then each values should be divided relevant insulin dose. As an example if patient ate 75 g of carbohydrate in the breakfast and took 3 units of rapid acting insulin to achieve the normoglycaemia, his/her insulin carbohydrate ratio for the breakfast is 1:25.

Second method is calculation of total amount of the insulin for whole day (soluble insulin and long acting insulin) to achieve the normoglycaemia in type 1 diabetes patient. Following the calculation of total insulin, calculation of insulin carbohydrate ratio should be done. In adults, 500 (constant factor) divided by total amount of insulin. As an example, patient has been on soluble insulin 10 units before meal 3 times a day and long acting 20 units morning, total amount of the insulin will be 50 units. 500 (constant factor for adults) divided by total units of insulin (50) to find insulin carbohydrate ratio and it will be 1:10. Insulin carbohydrate ratio (ICR) will depend on physical activity, physical illness, and age of the patient and glycaemic index of the food item.

Main assumption for calculation of constant factor is total carbohydrate consumption of adult per day around 250g and total indogenous production of the glucose (gluconeogenesis and glycogenolysis) in the body per day around 250g, total carbohydrate amount metabolized in the body around 500 g per day. In adults, constant factor will be 500 and it will be reduced (200) in pediatric populations..

Following calculation of insulin to carbohydrate ratio, if the patient needs to take additional 20 g of carbohydrate for the snack, he/she should take another 2 units of soluble insulin 30 min before the snack.

These methods should be introduced to patients for proper self-control of blood glucose value and to empower the patients.

Advantages of the carbohydrate counting

1. Improvement in long term glycemic control (HbA1C).
2. Reduction of total daily insulin requirement.
3. Improvement in fat free mass
4. Allow more freedom to select meals and adjust the mealtime insulin dose.
5. Empowerment of the patient and higher patient satisfaction

References

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