



Newtrition Trends

HALF YEARLY NEWS LETTER OF INDIAN DIETETIC ASSOCIATION, LUDHIANA CHAPTER

ISSUE- 3

FROM EDITOR'S DESK

Diabetes is one of the most talked about diseases across the world & especially in India. Ironically, awareness about the same can well be estimated by the fact that India today has more people with type-2 diabetes than any other country. The patient resistance and feeling of disbelief that 'I can have diabetes too', leads to delayed detection and increased risk of vascular complications. There is a general consensus among researchers that the Pre -Diabetes often referred to as the "grey area", is a window of opportunity for preventing diabetes among these people where proper and timely intervention can delay the onset of Diabetes and its complications. The disease calls for lifestyle modifications in addition to medication. We expect this issue will help the dietitians in knowing popular corrective strategies for its control

Dr. Jaspreet Kaur

(Asst. Professor, GCG, Ludhiana)

DIABETES SELF-MANAGEMENT EDUCATION AND SUPPORT

Lifestyle management is a fundamental aspect of diabetes care and includes diabetes self-management education (DSME), diabetes self-management support (DSMS), nutrition therapy, physical activity, smoking cessation counseling, and psychosocial care. Patients and care providers should focus together on how to optimize lifestyle from the time of the initial comprehensive medical evaluation, throughout all subsequent evaluations and follow-up, and during the assessment of complications and management of comorbid conditions in order to enhance diabetes care.

For many individuals with diabetes, the most challenging part of the treatment plan is determining what to eat and following a food plan. There is not a one-size-fits-all eating pattern for individuals with diabetes. All individuals with diabetes should receive individualized medical nutrition therapy (MNT), preferably provided by a registered dietitian who is knowledgeable and skilled in providing diabetes-specific MNT. The emphasis of this education is on healthful eating patterns containing nutrient-dense, high quality foods with less focus on specific nutrients. The Mediterranean, Dietary Approaches to Stop Hypertension (DASH), and plant-based diets are all examples of healthful eating patterns.

Nutritional Considerations: The diet recommended should be based on the patients' health status and preferences.

Carbohydrates: Individuals with diabetes should be encouraged to replace refined carbohydrates and added sugars with whole grains, legumes, vegetables, and fruits. Individuals with type 1 or type 2 diabetes taking insulin at mealtimes should be offered intensive education on the need to couple insulin administration with carbohydrate intake. For people whose meal schedules or carbohydrate consumption is variable, regular counseling to help them understand the complex relationship between carbohydrate intake and insulin needs is important. In addition, education regarding the carbohydrate-counting approach to meal planning can assist them with effectively modifying insulin dosing from meal to meal and improving glycemic control. Individuals who consume meals containing more protein and fat than usual may also need to make mealtime insulin dose adjustments to compensate for delayed postprandial glycemic excursions. For individuals on a fixed daily insulin schedule, meal planning should emphasize a relatively fixed carbohydrate consumption pattern with respect to both time and amount. The modified plate method (which uses measuring cups to assist with portion measurement) may be an effective alternative to carbohydrate counting for some patients in improving glycemia.

Protein: Protein intake goals should be individualized based on current eating patterns. Successful management of type 2 diabetes with meal plans including slightly higher levels of protein (20–30%), may contribute to increased satiety.

Fats: The ideal amount of dietary fat for individuals with diabetes is controversial. An acceptable macronutrient distribution for total fat for all adults is 20–35% of energy. The type of fats consumed is more important than total amount of fat when looking at metabolic goals and CVD risk. However, supplements like ω -3 fatty acids do not seem to have the same effects. People with diabetes should be advised to follow the guidelines for the general population for the recommended intakes of saturated fat, dietary cholesterol, and transfat.

Sodium: Sodium intake recommendations should take into account palatability, availability, affordability, and the difficulty of achieving low-sodium recommendations in a nutritionally adequate diet.

Micronutrients and Supplements: There continues to be no clear evidence of benefit from herbal or nonherbal supplementation for people with diabetes without underlying deficiencies. Metformin is associated with vitamin B12 deficiency, with a recent report from the Diabetes Prevention Program Outcomes Study (DPPOS) suggesting that periodic testing of vitamin B12 levels should be considered in metformin-treated patients, particularly in those with anemia or peripheral neuropathy. Routine supplementation with antioxidants is not advised because of lack of evidence of efficacy and concern related to long-term safety. Moderate alcohol consumption does not have major detrimental effects on long-term blood glucose control in people with diabetes. Nonnutritive Sweeteners for people who are accustomed to sugar sweetened products, non-nutritive sweeteners have the potential to reduce overall calorie and carbohydrate intake and may be preferred to sugar when consumed in moderation.

Diabetes care has shifted to an approach that is more patient centered and places the person with diabetes and his or her family at the center of the care model, working in collaboration with healthcare professionals. Patient-centered care is respectful of and responsive to individual patient preferences, needs, and values.

Minna Bagga

Ass. Prof.,
SRGCW Amritsar

NEW SUPER FOODS ON THE RACKS : CHIA SEEDS

Also called “Runners' Food” because of their Power Packed Protein punch- Small but mighty and versatile , they are easy to incorporate in your daily diet. Chia (or chian or chien) has mostly been identified as *Salvia hispanica* L. Today, chia is grown and consumed commercially (ground as well as whole) in its native Mexico and Guatemala, as well as Bolivia, Argentina, Ecuador, Nicaragua, and Australia. Basil seeds, which resemble chia seeds, and which are used to prepare cold beverages commercially , are in fact *Ocimum basilicum*. Typically, Chia seeds are small ovals with a diameter of approx 1 mm. They are mottle coloured with brown, grey, black and white. The seeds are rich in omega-3 fatty acids since the seeds yield 25–30% extractable oil, including α -linolenic acid. The composition of the fat of the oil may be 55% ω -3, 18% ω -6, 6% ω -9, and 10% saturated fat.

Besides the essential fatty acids, Chia also contains mucin, strontium, Vitamins A,B,E and D , Niacin, Thiamine and minerals including sulphur, iron, iodine, magnesium, manganese. They are also a rich source of anti oxidants. Regular consumption of Chia can reverse oxidative stress, thereby reducing probability to develop atherosclerosis . When consumed, Chia seeds create a gel-like substance in the stomach. This gel-formation action is due to the soluble fiber in chia seeds and it can work as a prebiotic supporting the growth of probiotics in the gut. Chia seeds may be added to other foods like salads, oatmeal etc as a topping or put into smoothies,juices, milk shakes, breakfast cereals, energy bars, granola bars, yogurt, tortillas, and even bread. The gel from ground seeds may be used to replace the egg content in cakes while providing other nutrients, and is a common substitute in vegan baking. Its mild flavor and compact size make it easy to slip a spoonful into pretty much anything – so experiment !

Raw versus Soaked :

There seems to be much debate as to whether one needs to soak Chia seeds before eating ! Soaking undoubtedly makes it much easier to digest and our body can then access the dense nutrients inside the seeds. So prefer soaking them before adding them to any recipe of smoothie if possible, to get more nutrients out of it. To soak, simply mix them in water, almost ten times the amount of chia and let them set for about 30 mins – 2 hours. Since chia can hold upto 12 times its weight as water, they are wonderful to prevent dehydration. Unlike flax seeds, we do not need to grind Chia seeds to access their nutrients. One can eat them whole and still get their 'energy packed punch' . One can even eat a spoonful straight – but

beware- they tend to stick in your teeth !

Another option is to grind Chia seeds in a coffee grinder to break down the hard outer shell before eating them. When pulverized, Chia seed flour can be used in most recipes like pancakes, muffins ,breads and even pastas. When grinding w-3 seeds however, it is important to store them in a sealed glass container in a refrigerator or freezer.

There are so many reasons to eat Chia seeds and there is no better time to start them now !

GETTING SMARTER WITH CHIA

Ingredients:

- Chia 5-6 tsp
- Yogurt/curd – ¼ cup
- Fresh strawberries / fruit of choice – 1 cup
- Milk / almond / nut milk – 1 cup
- Honey – 1 tsp
- Optional – fruit essence

Method:

- Combine all the ingredients except Chia seeds in the n blender and blend for a minute & Stir in Chia seeds
- Pour the mixture into a glass and let it set in a refrigerator for 2 hours & Serve with fresh fruit.

Ritu Sudhakar RD

(Chief Dietitian, DMC&H, Ludhiana)

UPCOMING EVENTS

- AICNU 2017, Mumbai (June 3rd-4th, 2017)
- IDACON 2017, Kolkata (December 18th-20th, 2017)
- Dietitians of Canada 2017 National Conference, St John's, NL, Canada (June 7th-10th, 2017)
- 2017 National Meeting of Dietitians NZ, Wellington, NZ (August 31st–September 1st, 2017)
- 10th EFAD Conference, Rotterdam, Netherlands (September 28th–30th, 2017)
- 7th Asian Congress of Dietetics (ACD), Hong Kong (July 5th–8th, 2018)

DOCTOR SPEAKS !

Interviewer: What is your take on the role of a dietitian.

Dr. Parminder Singh : A dietitian holds a pivotal role and bridges the gap between a physician and the patient. Diabetics will usually have a lot of queries regarding diet and physicians do not have enough time ever to answer the queries.

Interviewer: What are your expectations and patients expectations from a dietitian?

Dr. Parminder Singh : A dietitian should be able to break the myths related to diet in a scientific manner so as to convince the patient . She should be able to help and guide the patient to a best suited diet for her with use of natural ingredients rather than prescribing supplements and other processed foods. Should be able to design recipes that are modern yet good for a patient's disease should be able to give variety and this will improve compliance.

Interviewer: What is your message for the new entrants in the field of Dietetics?

Dr. Parminder Singh : It is a very good field for females and it is something close to their heart as most of them love to cook. Fresh dietitians too should try to guide using the scientific facts and their own innovative ideas. They should avoid commercialization. Be more patient friendly, help with individualized diets as no one diet is perfect specially for obese patients. As Counselling skills are important, I recommend the dietitians to master this skill.



Dr. Parminder Singh
Prof. & Head
Deptt. of Diabetes & Endocrinology
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MEET THE PIONEERS

Dr. (Mrs.) Molly Joshi completed her graduation from Kerala University in 1964 and Masters' Degree from MS University of Baroda in 1968. She acquired her PhD degree from Punjabi University Patiala in 1994. She started her career as a Dietitian in CMC, Ludhiana in 1969 and served as Chief Dietitian and Professor, CMC College, Ludhiana from 1985 to 2007. During her illustrious career she has worked wholeheartedly at many posts in various prestigious boards and Associations, including the Indian Dietetic Association. She authored 2 editions of 'Hospital Diet Manual'. Dr. Joshi has been a thesis supervisor for Post graduate and Doctorate students and an examiner in several universities. She has represented IDA at many international conferences and was honoured with the 'Best Dietician Award' in 1996 and 'Dr. Amiya Bose Memorial Oration Award' in 2014. She is a true gem with a positive aura around her.



Dr. (Mrs) Jasvinder Kaur Sangha joined the Punjab Agricultural University as Teaching Associate in 1980 and worked at various teaching posts before being promoted as Dean, College of Home Science, PAU in 2013. During her long and illustrious career, Dr. Sangha has been actively engaged in teaching, research and extension in the discipline of Food and Nutrition for the last 34 years. In addition to teaching UG students, she has guided 23 PG students as Major Advisor and has been an external examiner in universities all across the country. She was honored for her work in the field of community nutrition with the J N Bose Memorial Award (Community Nutrition) of the Indian Dietetic Association in 2012. Dr. (Mrs) Sangha has numerous research papers to her credit in various national and international journals and has presented papers at conferences and seminars all across the globe. She was a Co-author of the paper awarded "Young Scientist Award" at 7th Punjab Science Congress; 2004. She has authored many books, manuals and booklets. Apart from being a renowned academician, she has been an active participant in extra curricular activities like NSS, Dance drama and Music club. She is role model for all of us.



THE LOW CARB HIGH FAT (LCHF) DIETS

It's been the hottest topic among commoners as well as dietetics forums. The Ketogenic or Paleolithic diets. Recently between March – April 2017, I have been part of 2 dietitians meetings that addressed this topic in a big way. The low carbohydrate diets encompass the ketogenic and Paleolithic diets. Clinical dietitians have known the best of ketogenic diets have been for epileptic cases whereas Paleolithic diet is a way our ancestors used to eat and does not include dairy products. There have been several modifications from the original since vegetarians find it difficult to sustain a paleo plan and often include dairy products for a wide variety of dishes to consume on a daily basis. For simple understanding Paleolithic diets are 20% carbohydrates, 40% protein, and 40% good fats Ketogenic diets are 5% carbohydrates, 20% protein, and 75% fats Diet based on food pyramid guidelines: 60% carbohydrates, 15% protein, and 25% fats.

How did these diet approaches become popular?

In the 19th century, the Banting diet named after William Banting was very popular as LCHF. In the 1980s Atkins reintroduced the LCHF / Banting diet to the world especially during a phase when fat were considered the villains. The food pyramid placed emphasis on complex carbohydrates, 5-8 servings of fruits and vegetables, plus meat, beans and dairy and very low fat. Manufacturers would remove fat and add HFCS to processed food and these flooded the market. The increased consumption of carbohydrates with a poor lifestyle triggered overweight and obesity.

Our Indian diets are loaded with carbohydrates, low protein and fibre. The increased intake of carbohydrates triggers the release of insulin that helps in the uptake of glucose into the cells. Any excess carbohydrates are converted to fat and are stored in the adipose tissue. With central obesity, genetic predisposition, late sleeping hours, physical inactivity some individuals with their increased carbohydrate consumption have become insulin resistant. Its truly multifactorial and once insulin resistant, the usual weight loss diets with roti, dal, rice, subzi for main meals and fruit and sprout for snacks don't seem to work anymore. These individuals have turned intolerant to carbohydrates. Only if insulin levels in the blood are kept under control, does the fat from the adipose tissue gets released for the purpose of energy utilization. Protein, fibre and good fats in the LCHF diet help in achieving this goal. The LCHF diets gained popularity with the present generation who have genetic predisposition to diabetes, NCD, low physical activity and late sleep – wake hours. By reducing the carbohydrate to 30-50gm/ day, the

insulin levels are kept under control and the body utilizes ketones for energy. Grass fed cow's milk and other dairy products, pastured fed meat, nuts, omega 3 rich oils – virgin olive oil, virgin coconut oil, butter, eggs, non starchy fibre rich vegetables, fruits that are less sweet (optional) can be included in this plan. Carbohydrate dense foods like grains, legumes, cashew, peanuts, omega 6 rich oils, seed oils, roots and tuberous vegetables, broiler hens, flavored milk, sugars, desserts, beer are excluded in this plan. The initial weeks can be challenging when the glycogen stores are getting depleted. Headache, fever(keto flu), mood swings are noticed quite often but these reduce in the second week. Sufficient electrolytes and optimal water consumption is advised. The LCHF seems most beneficial for individuals with impaired glucose tolerances, type 2 diabetics and those with insulin resistance. The LCHF plan could be a last ditch effort for anybody who is contemplating on bariatric procedure. A word of caution, these diets should be started under professional guidance of a qualified dietitian and a physician (blood tests, medical clearance required).

The LCHF diet is contraindicated in these conditions.

- Pregnant or nursing women
- People with active cancer
- People severe inflammatory bowel disease of any type
- Fredrickson Type I, II, III, IV, V Hyperlipoproteinemias
- Lipoprotein lipase deficiency
- Familial apolipoprotein C-II deficiency
- ApoA-V deficiency
- GPIIb/IIIa deficiency
- Familial hepatic lipase deficiency
- Familial dysbetalipoproteinemia
- Familial hypercholesterolemia
- Familial defective apoB-100
- Autosomal dominant hypercholesterolemia
- Autosomal recessive hypercholesterolemia
- Sitosterolemia

Closing comments:

The LCHF seems useful when all other traditional diets have failed for insulin resistance, IGT. These diets are specialized need the medical clearance and constant guidance from a qualified dietetic professional.

Shiny Surendran

*MSc, Grad Dip Sports Nutr (Intl Olympic Committee)
Dietitian & Accredited Consultant Sports Nutritionist, Chennai*

REVERSE PRE-DIABETES

Pre-diabetes is when your blood sugar level is higher than normal, but is not sufficiently high so as to constitute diagnosis of diabetes. It is an indication that you could develop Type-2 diabetes if you don't make some lifestyle changes. Pre-diabetes is a pre diagnosis of diabetes, we can take it as a warning sign.

Symptoms of Pre-Diabetes

Diabetes develops very gradually, so when a person is in pre-diabetes stage one may not have any symptoms at all or else one may observe that, One feels hungrier than normal, is losing weight despite eating more, is thirstier than normal, has to go to the washroom more frequently & feels tired soon.

Although all these symptoms are associated with diabetes but if one is in early stage of diabetes, one may notice some of the above symptoms. Some people may experience conditions that are associated with insulin resistance such as polycystic ovarian syndrome and acanthosis nigricans, which involves the discoloration and darkening and thickening of skin of elbows, knees, neck, armpit, knuckles etc.

Risk Factors

Pre Diabetes prevalence is rising at alarming rates worldwide because of increased urbanization, high prevalence of obesity, sedentary lifestyles and faulty dietary habits and mounting stress among other factors. In addition to above factors, people aged 45 and above, family history of diabetes, PCOD, Gestational Diabetes, hypertensive or with dyslipidemia are also prone to Pre-Diabetes.

How is it diagnosed?

Pre-Diabetes is diagnosed with the help of Fasting Plasma Glucose, Oral Glucose tolerance test and HB A1c tests. The blood glucose level are measured after these tests determine whether a person has pre-diabetes or diabetes. People with pre-diabetes should check their sugar level once in three months and HbA1C every six months.

Can Pre-Diabetes be reversed?


Studies have shown that people with pre-diabetes can prevent or delay the development of type-2 diabetes by 30-50% through changes in their life style, including modest weight loss (as little as 5-7% of current weight). Treat pre-diabetes as an opportunity to improve your health. Pre-diabetes is a stage when the 'clock starts ticking ' long before the clinical diabetes develops. Onus is on us dietitians to not only add years to the lives of the patients but also life to the years of the patients. We should aim to earn the glory of "Diabetes Care Capital" of the world.

Monisha Sikka

(Dietitian & Nutritionist, Jalandhar City)

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INDIAN DIETETIC ASSOCIATION LUDHIANA CHAPTER
Contributions are invited for the next issue of the newsletter which will focus on understanding Dietary Management of Renal Diseases.

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PROBIOTICS IN DIABETES

This is an era of gut health and gut microbiome has been associated with a host of maladies including infections, inflammatory, autoimmune and various metabolic disorders. A dysfunctional gut microbiome has also been implicated in diabetes mellitus. In type 1 DM different populations of gut bacteria have been linked to its susceptibility whereas in type 2 DM these gut bacteria appear to help maintain insulin sensitivity, control inflammation and affect hunger control mechanisms. Also, quantum of bacterial populations is reportedly different in diabetics versus non-diabetics; there are fewer Firmicutes and more Bacteroidetes and Proteobacteria in diabetes. In lieu of gut dysbiosis, probiotics have said to play important role in both type 1 and type 2 Diabetes. Probiotics, as defined by WHO, are live microorganisms which when administered in adequate amounts, confer a health benefit on the host. A recent meta analysis has revealed that probiotics may improve glucose metabolism by a modest degree especially if used for more than 8 weeks or if multiple species of probiotics are consumed.

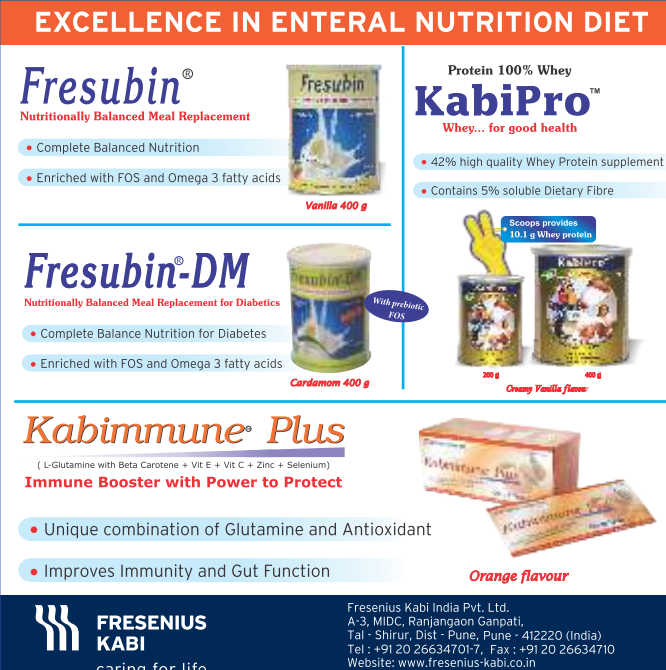
The consumption of dahi, a traditional Indian fermented milk, containing *Lactobacillus acidophilus*, *L. casei* and *L. lactis* has been shown to reduce the glycemic curve and HbA1c. *Lactobacillus plantarum* is also suggested to reduce glycaemia, improve glucose tolerance and reduce insulin resistance. Probiotics in yogurt and *C. ficifolia* alone or together have shown to have beneficial effects on lipid profile, glycemic control, inflammation and blood pressure in type 2 Diabetic patients. VSL # 3, a commercially available mixture of probiotics containing various species of *Bifidobacterium* has also shown to improve insulin sensitivity. A new hope has recently been shown with use of Fonterra probiotic in pregnancy where incidence of gestational diabetes mellitus was significantly reduced. Hence various probiotic supplementation has shown beneficial effect on selected cardio-metabolic parameters in patients with diabetes. Although the food industry is looking to cash-in on health supporting properties of probiotics, one need to be cautious of the claim, of their disease curing powers. One should discuss with their doctor about the safety, benefits and potential problems.

Dr. Vandana Midha (Prof.)

Dr. Rishu Bhanot (Senior Resident)

Department of Medicine, DMC&H, Ludhiana

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ADVANTAGES AND ADVERSE EFFECTS OF DRUGS USED IN DIABETES

Drug Class (A1C Reduction ¹)	Some Advantages	Some Adverse Effects
Biguanide (1-1.5%)		
Metformin	Inexpensive; durable A1C lowering; weight neutral or weight loss (2-3kg); hypoglycemia is rare when used as monotherapy; reduction in micro-and macrovascular events	GI effects (metallic taste, nausea, diarrhea, abdominal pain); vitamin B12 deficiency; lactic acidosis; decrease in hemoglobin and hematocrit (first year of treatment)
Sulfonylureas (1-1.5%)		
Glimepiride, glipizide, glyburide	Inexpensive; long-term reduction in micro-and macrovascular complications	Hypoglycemia; weight gain; possible aggravation of myocardial ischemia; glyburide has a higher incidence of hypoglycemia and mortality than glimepiride or glipizide; increased risk of hip and other fractures
GLP-1 Receptor Agonists (1-1.5%)		
Albiglutide, dulaglutide, exenatide, liraglutide, lixisenatide	Weight loss (1.5-2.8 kg); no hypoglycemia when used as m monotherapy; albiglutide, dulaglutide, and extended release exenatide (Bydureon) are administered once weekly; decrease in cardiovascular events with liraglutide in high-risk patients	Nausea; vomiting; diarrhea; renal insufficiency and acute renal failure with nausea and vomiting; possible risk of acute pancreatitis; thyroid C-cell carcinomas have been reported in animals and thyroid C-cell hyperplasia has been reported in humans (liraglutide and extended-release exenatide)
DPP- 4 Inhibitors (0.5-1%)		
Alogliptin, linagliptin, saxagliptin, sitagliptin	Weight neutral; hypoglycemia is rare when used as monotherapy	Hypersensitivity reactions (urticaria, angioedema, anaphylaxis, Stevens-Johnson syndrome, and vasculitis); possible risk of acute pancreatitis; fatal hepatic failure; higher rate of hospitalization for heart failure in one study with saxagliptin; possible severe and disabling joint pain
SGLT2 Inhibitors (0.5-1%)		
Canagliflozin, dapagliflozin, empagliflozin	Weight loss (0.1-4 kg); risk of hypoglycemia comparable to placebo; reduction in blood pressure, cardiovascular mortality and risk of nephropathy with empagliflozin	Genital mycotic infections in men and women; recurrent urinary tract infections; volume depletion; increased urinary frequency and volume; hypotension; ketoacidosis; increased serum creatinine and decreased eGFR; hyperphosphatemia with canagliflozin and dapagliflozin; hyperkalemia and hypermagnesemia with canagliflozin; fractures; increase in LDL-cholesterol; increase in hemoglobin and/or hematocrit; possible increased risk of bladder cancer with dapagliflozin

Courtesy: RWJ BARNABAS Diabetes Center, NJ, USA

DIET MANAGEMENT FOR DIABETES WITH CELIAC DISEASE

Celiac disease is an autoimmune disorder in which the protein gluten (found in wheat, barley and rye) causes a person's immune system to attack and damage the small intestine. People with type 1 diabetes are at higher risk and about 8 to 10% of people have celiac disease. There is no cure for celiac disease, but people can manage it by eliminating gluten from their diet. People with diabetes have additional challenges in going gluten-free, but a healthy diet for blood-sugar management can easily be made into a gluten-free diet with some careful shopping and substituting. Here are some tips for managing this disease duo:

Watching blood sugar levels: A diagnosis of celiac disease may lead to variations in the blood sugar patterns, hence close supervision of blood sugar glucose and source of dietary carbohydrate is required.

Consulting a registered dietician: The condition calls for thoughtful planning as diabetes and celiac disease involve different dietary restrictions. The patients should therefore be encouraged to seek help from an experienced dietician.

Reading nutrition labels of processed foods: The person should be encouraged to read the ingredients lists on product labels to look for wheat, barley, rye and even malt. All food labels are required to state if the food contains wheat, but keep in mind that wheat-free doesn't mean gluten-free. Flavorings, colorings and other additives in processed foods may contain gluten.

Dietary Guidelines:

The dietitians can rely on many alternate gluten-free whole grains which can be integrated in a healthy gluten-free diabetic diet along with portion control and tracking of carbohydrates. The important ones are

- Quinoa is a versatile grain that can be added to main dishes or sides.
- Buckwheat, maize, brown rice, amaranth, chestnut flour, millets like foxtail, kodo, finger & barnyard are ideal substitutes to wheat.
- Beans such as chickpeas, black beans, kidney beans and all legumes are fiber-packed and full of protein.
- Fruits and vegetables should be adequately used as a source of fiber & vitamins.
- Low fat dairy, eggs, poultry too should be adequately used.
- Healthy MUFA & PUFA rich oils and fats should be used in moderation.

Nidhi Dang

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DIETETICS DAY CELEBRATION



WORKSHOP ON NEW AGE DIETETICS & NUTRITION ENTREPRENEURSHIP



AMARANTH, QUINOA AND DARK CHOCOLATE CAKE

(Gluten free cake)

INGREDIENTS : 4.5 oz(127gm) dark chocolate, 70% cocoa | 7 Tbsp butter, unsalted | 1/2 cup sugar | 3 Tbsp amaranth flour | 3 Tbsp quinoa flour | 1 tsp pure vanilla extract | 1/3 cup pecans, chopped coarsely | 3 eggs | Pinch of salt

Method

- Preheat your oven at 350 F.
- Butter a 2 x 7 3/4 "rectangular mold and line it with parchment paper.
- Melt the chocolate with the butter in a double-boiler (or a bowl placed on top of a pot full of simmering water).
- Separate the egg yolks from the whites.
- Beat the yolks with the sugar and vanilla until light and white in color.
- Add the chocolate preparation and mix until well incorporated.
- Add the nuts and the flours, and mix well until smooth in texture.
- Add a pinch of salt to the whites and beat them until light and firm. Fold in the previous preparation, making sure that it stays light.
- Pour the batter in the mold and cook for 45 min or so. Check if the cake is cooked by inserting the blade of a knife. It should come out almost dry, but not totally (the cake is moist).
- Remove the cake & let cool slightly before unmolding. Let cool on a rack.

RAGI WHEAT BREAD

INGREDIENTS : 1/2 cup ragi flour | 1/2 cup whole wheat flour | 50 gm jaggery | 1 tsp refined oil | 50 gm spinach, finely chopped | 1/2 cup of curd | 1/2 tsp baking soda

METHOD

- Take a bowl and put above ingredients in it.
- Mix all the ingredients together till it gets consistency.
- Spread the mixture in a baking dish and put it in oven for 40 minutes at 180* .
- Take it out from the oven and slice evenly.