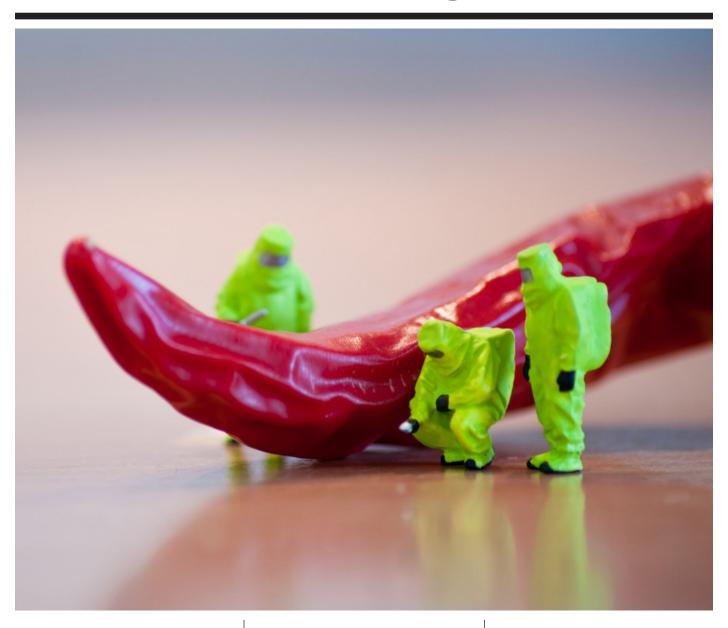
#### THE CELIAC SOCIETY OF INDIA PRESENTS

## WHEAT VIEWS 6

JULY 2023 ISSUE 01 / VOLUME 08



#### DIALING BACK DIABETES

The small changes you need to make to eliminate the big 'D'

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## GRAINS OF TRUTH

A new superfood that's actually centuries old and revitalising!

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#### DIY BANANA & TURMERIC KEBABS

Recipes for gluten-free living, curated by the Celiac Society of India

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## EDITOR'S NOTE



Dear Readers,

In this issue, we delve into the fascinating world of millets, the advancements of artificial intelligence in food, and how these topics intersect with individuals living with celiac disease.

Unlock the world of millets: gluten-free ancient grains like quinoa, jowar, bajra, ragi, and more. Our feature highlights their nutrient richness, culinary flexibility, and role in a healthy gluten-free diet.

For those with celiac disease, AI aids in analysing ingredients and labels, identifying gluten-free options and reducing cross-contamination risks. This edition also includes coverage of our monthly webinar on wheat-related disorders; a series in collaboration with KnoWewell, J Mitra & Prana, crossword, recipes and practical tips for living gluten-free with celiac disease.

We are thrilled to announce the second edition of our flagship event, the International Symposium on Gut Health, to be held in New Delhi at the end of the year. The theme for this edition is "Combating lifestyle disorders with millets."

Another initiative of the CSI is a campaign called "Mera Millet Magic" under the banner of FAO to ensure that one millet meal is consumed daily by everyone.

We extend our gratitude to the researchers, healthcare professionals, and individuals who generously contributed to this newsletter. We welcome your feedback and suggestions for future topics.

Warm regards,

*ISMU*Ishi Khosla













#IYM2023 #YearofMillets #MeraMilletMagic



FOOD AND AGRICULTURE ORGANISATION (FAO) OFFICIAL EVENT FOR INTERNATIONAL YEAR OF MILLETS 2023.

## TAKEAPLEDGE TODAY!

- To Eat One Millet Meal Each Day.
- To Produce, Promote and Revive Miracle Millet (Gluten-free) as a major component of the Food Basket.
- To Strengthen Global Nutrition, Food Security, Decent Jobs and Economies.
- To Accelerate Climate-Resilient Smart-Agriculture Action.



#### For Queries:



+91-9873322822



meramilletmagic@gmail.com

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#### Theme: Combating Lifestyle Disorders with Millets

The Celiac Society of India is pleased to announce the second edition of its flagship event with a renewed focus on gut health. The proposed dates are 20th and 21st January, 2024.

The objective of the symposium is to raise awareness about the role of food choices in building gut health and immunity. Our focus will be to highlight the connection between the gut microbiome and modern day lifestyle related disorders and malnutrition.

The theme of this edition is: Combating Lifestyle Disorders with Millets. The act of making conscious grain choices can not only improve gut health but also have a positive impact on the environment around us. Through this event we'd like to highlight India's prowess as a nation that has a rich tradition of indigenous grains like millets.



#### INTERNET OF FOOD

## A leading organisation in propelling proper digitalisation for informed food choices

n the planet and the Internet, food has arguably become the most important commodity today. Food is a vital commodity, yet the current system faces inefficiencies and global challenges in achieving food security. Today's consumers seek information on nutrition, affordability, safety, ethical sourcing, and waste reduction. Although technology has been employed for better decision-making, its widespread availability remains limited.

The Internet Society Special Interest Group for the Internet of Food (SIG-IOF) serves as a discussion platform for next-generation Internet standards in digital food aspects. The IOF project promotes data sharing and improved sensing systems to enhance efficiency and sustainability in the food industry. With 110 chapters worldwide, it is a global movement for positive change.

The idea of the Special Interest Group was conceived in 2014 between Johan Jorgensen, the Chairperson of SIG-IOF, and Patrik Falstrom, a co-board member of SIG-IOF. IOF is gaining interest because we are curious to know about food and its production: how to produce, process, store, and distribute food to make better decisions. Pairing food data with personal data enables personalised choices on nutrition and wellbeing. The idea is to break free from data silos and expensive access, ensuring that food data is accessible to all. IOF aims to empower individuals with Internet-powered food data, just as it does with web, email, and social media access.

IOF empowers stakeholders with real-time food information and shelf life predictions, minimising food waste. It enables unique food item identification and offers person-specific diets through a use-case catalogue encompassing arable farming, dairy, fruits, vegetables, and meat products.

The Internet of Food (IOF) combats food myths with science and data. SIG-IOF offers a platform to discuss the proper digitalisation of the food system, considering the growing influence of algorithms on our food choices. If left unchecked, algorithms may shape our identity through food, aligning with the saying 'We are what we eat.'

1



## THE SWEET TRUTH

Why it is important (and easy) to reduce Type II Diabetes

iabetes mellitus (type 2) is a chronic condition affecting how the body utilises food for energy. It is a metabolic disorder which causes a spike in blood glucose levels. It potentially affects the nerves, eyes, kidneys and other major organs and systems of the body, if left untreated. The presence of diabetes also affects other functions of the body. It is necessary to check and monitor blood sugar levels so that prevention, management and reversal become easier and faster. A healthy lipid profile along with controlled blood pressure can delay the onset of the complications associated with diabetes. According to the Centre Of Disease Control, one becomes prone to develop diabetes if one remains physically inactive for less than 3 times a week. Non-alcoholic fatty liver disease further increases the chances of having diabetes.

74 million
Indians are living with diabetes

80 million

Indians are pre-diabetic

135 million

Indians are expected to have diabetes by 2045

#### **Risks Factors of Diabetes**

Obesity
Physical inactivity
Sedentary lifestyle
Unhealthy diet
Behavioural habits
Genetics
Less sleep
Stress
Exposure to pollutants
Uncontrolled blood pressure

However, the good news is that the majority of the risk factors are modifiable. Small changes in diet and lifestyle can cut down the risk of diabetes. In India, currently, 74 million people are living with diabetes, and 80 million are prediabetic. Prediabetes does not take much time to progress to diabetes. India is expected to have 135 million people with diabetes by 2045. The Indian Council of Medical Research (ICMR) has revised its dietary recommendations for diabetics and pre-diabetics.

Uncontrolled blood cholesterol

#### Did You Know?

- Diabetes affects children too. Type 1 diabetes, previously known as juvenile diabetes, can develop in childhood and requires lifelong insulin therapy.
- People with diabetes have a 2-3 times higher risk of developing Alzheimer's disease compared to those without diabetes.
- Diabetes is a leading cause of kidney failure.

#### A diabetes control recipe: Cut carbs, and boost protein

A study published in the journal *Diabetes Care* says that the results highlight the need for revised dietary guidelines that would recommend necessarily appropriate changes in the macronutrient composition to reduce the burden caused by diabetes in South Asia, a population which is genetically predisposed to diabetes. Mostly, our diets are composed of more than 75% carbohydrates. This should be reduced. It is suggested to increase the consumption of more plant and animal-based proteins while cutting down a small portion of carbohydrates.

Macronutrient	Newly diabetic	Prediabetic
Carbohydrate	Reduce to 55%	56%
Protein	Increase to 20%	20%
Fat	Increase to 25%	27%

Recommendation: If the lunch comprises of 2 cups rice OR 4 roti, replace one roti or 1.5 cups of rice with good protein.

Finally, protein must not be ignored: plant protein, fish and chicken are good options, however stay off the red meat!





#### IT'S MILLET TIME

#### How bringing in millets might beat malnutrition

n August 2022, while addressing the nation in the radio programme "Mann Ki Baat", honourable Prime Minister of India, Sri Narendra Modiurged people to join the efforts in eradicating malnutrition. This was brought to light keeping in mind the Poshan Maah (National Nutrition Month) which is observed in India in the month of September, every year.

PM Modi mentioned about "Fortified Rice Decision in Line with Endeavours to Improve Nutrition Levels". In order to combat malnutrition among the poor, the Union Cabinet has announced that fortified rice will be supplied through government schemes like PDS and PM-POSHAN. This supply will be accomplished in three phases by 2024.

Social awareness is crucial in addressing this issue. Technology and public participation are vital for the nutrition campaign. Millions of mobile devices are provided to Anganwadi workers to monitor service accessibility.

Millets is the new 'superfood'. They are highly nutritious crops which are rich in fibre, micronutrients

and proteins. They are beneficial for consumption, as well as farmers as they are easy to cultivate in across a wide range of latitude, altitude, water availability and climate. Millets are an obvious choice for farmers in this era of climate change and natural resource depletion. Millets have always been a part of our agriculture, culture and civilisation since times immemorial. There are mentions of millets in our Vedas, Pruananuru and Tolkappiyam. Different types of millets are grown in different parts of India such as rajgeera (amaranth), sanwa (barnyard), kuttu (buckwheat), ragi (finger millet), kodo millet, foxtail millet, sama (little millet), bajra (pearl millet), proso millet, jowar (sorghum) etc. Today, millets are gaining popularity across the globe. India is the largest producer of millets in the world. Thus, India has a major responsibility in making this initiative a success.

Considering the nutritional value of millets, the Government of India took the initiative to propose the United Nations to declare 2023 as the "International Year of Millets." This global declaration aims to address the pressing issues of malnutrition and the pervasive challenge of hidden hunger. More than 70 nations have accepted the proposal. ■



## NUTRITIONAL INTERVENTIONS FOR A HEALTHIER LIFE

Our objective today is to set sail towards a healthier version of ourselves. The Celiac Society of India, in collaboration with KnoWeWell, arranged a 6-part webinar series entitled "Global Healing Approaches to Enhance Your Immune System." Part 3 of this series delves into Nutritional Interventions for a Healthier Life, exploring practical approaches to managing diseases. This series features top experts like Dr Tom O'Bryan, Chief Health Officer of KnoWeWell, Ishi Khosla, Founder of Celiac Society of India and Dr Terry Wahls, Professor of Clinical Medicine. To catch the video click here.

outh is facing diverse nutritional issues at an alarming rate," says nutritionist Ishi Khosla. The rising prevalence of PCOS/PCOD once limited to overweight individuals, now affects 1 in 5 Indian women regardless of weight or BMI. Adult cystic acne, congenital diseases like type 1 diabetes, thyroid disorders, and autism highlight our

declining health. Technology is a tool, not a magic pill for health. As Dr. Tom wisely puts it, "To truly become healthy, we must change the way we think about health."

Comorbidities such as obesity, diabetes, heart disease, high blood pressure etc. have played a huge role in mortality with Covid. Studies say that 94% of the people who have died of covid had one or more comorbidity. Quality over quantity: eating less and nourishing foods boosts the immune system. Weight loss isn't just about calories; proper supervision, food choices, and addressing central obesity are crucial. Let's focus on holistic health, not just BMI.

Nutrition should focus on individual nutrient needs, not population averages. Let's ditch 'calorie counting' and embrace an anti-inflammatory, insulin-friendly diet. Shift the conversation to real food, not just micronutrient counting. It's time for a holistic approach to nourishment.

## **FATS**Good and Bad



#### **GOOD FATS**

Olive oil, cold water fish, mustard oil, ghee, coconut oil, nuts & seeds

#### **BAD FATS**

Trans fats, margarine vanaspati & reused oils

Shattering fat misconceptions: Not all fats are created equal. Low-fat diets in India often led to high-carb intake and increased insulin levels, promoting inflammation. However, very gracefully the Mediterranean diet told us that even though it was high in fats such as olive oil, nuts and fatty fish yet the mortality rates from heart disease, diabetes, Alzheimer's and other chronic degenerative diseases were far lower.

Fats are not bad for us, only the bad fat is bad for us: the saturated and trans-fat. It is interesting to note here that in the name of saturated fats, very unfortunately some very beneficial and valuable fat from the diet were eliminated from our traditional diets. Ghee, also called clarified butter, has a very priced position and is looked up as a wonderful food and part of medicine. Along similar lines, coconut oil was abused. So, we must understand that not all saturated fats are equal; the industrially produced saturated fat that comes in the form of vanaspati, margarine and bakery fats are bad for us. In terms of consumption, we need to have a variety of fat. We need omega-3 fatty acids, which are one of the highly anti-inflammatory foods in our diets, that

"We as Asians are not very good at handling carbohydrates and genetically are predisposed to diabetes and belly fat and therefore more inflammation."

are present in fish and also have plant equivalents. Thus, fats need their due position.

We as Asians are not very good at handling carbohydrates and genetically are predisposed to diabetes and belly fat and therefore more inflammation. Traditionally, we as Indians are used to eating heaps of chapatis and high amounts of rice and staying fit and fine. Still, there was a context and a backdrop to that physical activity level, which is very low today.

Dr. Terry Wahls, a physician herself, battled Multiple Sclerosis (MS) and experienced its debilitating effects. She gradually lost mobility and relied on a wheelchair, reaching a point where she couldn't even sit up at her desk. Determined to find a solution, Dr. Wahls delved into the research, experimented on herself, and made significant

## Is there anything like "too clean"?

When it comes to the impact of cheat meals and individual tolerance, there are two approaches to consider. The Hygiene Hypothesis suggests occasional exposure to bugs and organisms strengthens the immune system, much like exercising muscles. Similarly, listening to our body's response to clean eating versus indulging can guide us in making informed choices for our overall well-being.

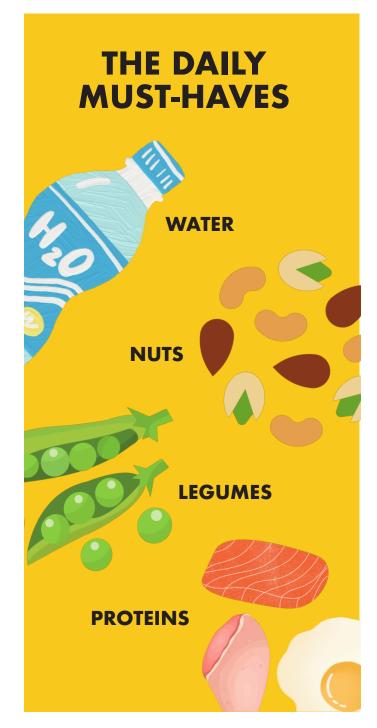
changes. She switched from being a vegetarian to embracing the paleo diet, eliminating grains, legumes, and dairy.

She also incorporated electrical muscle stimulation, dietary modifications, and meditation into her routine. Through this integrative approach, her decline slowed, and she regained mobility, even being able to bike within a year. Dr. Wahls stressed the importance of nutrition for brain health, specifically highlighting key nutrients such as zinc, magnesium, biotin, vitamins A, D, and K, lipoic acid, and acetylcarnitine for optimal mitochondrial function. Observational studies reveal that many people fall short of consuming enough fruits and vegetables, with around 80% having less than three servings of vegetables per day.

The Dietary Inflammation Index (DII) measures the effect of dietary parameters on inflammation molecules. It considers 45 food parameters, including minerals like iron, magnesium, selenium, and zinc, and vitamins A, C, D, and E. Monounsaturated fatty acids (MUFA), polyunsaturated fatty acids (PUFA), and omega-3 are healthy fats, while omega-6 and trans fat should be limited. Antioxidants and polyphenols such as betacarotene and flavonoids have positive effects. Adding turmeric, ginger, and garlic to your diet is advised. Following diets like Mediterranean, MIND, paleo, or Dr. Wahls' approach with a score of -8.87 promotes anti-inflammatory benefits.

"Adopting an antiinflammatory diet and lifestyle reduces the risk of comorbidities and insulin resistance, potentially reducing medication usage."

In contrast, an inflammatory diet with high added sugars and processed foods scores +7.98. The DII score correlates with various health risks, including obesity, diabetes, heart disease, asthma, and autoimmune disorders. Dr. Wahls experienced



improvements by eliminating processed foods, eggs, gluten, and dairy from her diet.

Changing dietary patterns is challenging due to the pleasure response triggered by high-sugar and ultra-processed foods. Identifying the underlying cause and involving families in the dietary plan enhances sustainability. Adopting an anti-inflammatory diet and lifestyle reduces the risk of comorbidities and insulin resistance, potentially reducing medication usage. Factors such as sleep, stress management, hormonal balance, and finding meaning in life contribute to overall health.

(More information on Wahls diet is available on terrywahls.com)

Depleted soil, chemicals, and commercial farming have left us lacking in micronutrients. The most important nutrient supplements, according to Dr. Tom, are vitamin D, vital minerals are good fats such as omega-3.

Ms. Khosla claims from her practice the difference between a usual diet and adopting a gluten-free diet can be seen in the results of biochemical reports and physiological state. Surprisingly, conditionspecific modifications of the diet give a good result however, outcomes of a well-planned gluten-free diet are outstanding. It is worth mentioning here that it is not just gluten that matters, but many other grains that must be avoided/added to the diet. Substances must be eliminated from the diet. only when it is known of being warranted. As a practitioner, she believes in eating a variety of things in moderation, unless warranted. Even when the harmful ones are eliminated, it does not show up as a positive change unless good alternatives are chosen.

## Anti-inflammatory food items



- Variety of fruits and vegetables of different colours
- Fish
- Dark green leafy vegetables
- Mustard seeds
- Sesame seeds
- Flax seeds
- Chia seeds
- Walnuts
- Spices

A lot of people equate enjoyment with food. Do we need to change our "benchmark" for enjoyment, which need not mean decadent foods but leading a healthy life and bonding?

There is a control panel of sorts in our gut. When it gets inflamed, things change. This is evidently seen in babies. They know when to stop, and it is impossible to push an extra sip after they are done. When they are grown up, they eat all types of foods at different places and things change over time. We can certainly modulate our plate and make clean and better choices. We do enjoy our food and any advice which takes our food away from us, is not likely to last. Food certainly has to be eaten for health and enjoyment.

#### Comments on alcohol?

A little alcohol is fine, but not too much of it. A glass of red wine can be good for you, but let's not overdo it. It's like finding the perfect balance between enjoying life and staying healthy. Men should limit it to 2 glasses of wine and women 1 glass. Under the diseased condition, it must be totally avoided.

#### Mustard oil is always smoked to remove the strong smell. Is that harmful?

There hasn't been any study yet showing the efficacy of this traditional practice. According to Ms Ishi, that does not need to be done.

#### Are sweet things like jaggery also inflammatory? Do we get diabetes if we stop eating sugar?

Jaggery, a natural sugar, surpasses white sugar with added minerals and antioxidants. A better choice for satisfying cravings. But beware of its high carb content, which can raise insulin levels and contribute to inflammation. Inflammation, not sugar alone, is the cause of diabetes.

#### What is the recommended diet for someone with chronic depression and anxiety?

Dr. Michael Gershon's The Second Brain is recommended for those experiencing depression. According to him, there is a nine-to-one ratio of messages between the gut and the brain. Imbalanced neurotransmitters contribute to depression and anxiety. Restoring gut health is crucial for reversing these conditions.

#### THE DARK SIDE OF NITROGEN

#### Are Nitrogen Fertilisers Fueling Celiac Disease?

itrogen in the soil helps to improve its yield. Since the 1960s, the use of nitrogen fertilisers for cultivating wheat crops has increased tenfold globally. However, excessive nitrogen use in wheat fields is likely directly linked to an increased risk of celiac disease. Nitrogen fertilisation poses a potential global health problem and significantly impacts soil microbes and land function. According to a global study led by Josep Penuelas, intensified nitrogen fertilisation results in wheat crops grown in nitrogen-rich soil transferring excess gliadin to the grains.

Gliadin is a group of proteins involved in gluten formation, and excess gluten consumption leads to celiac disease, causing allergic reactions in humans. Various institutes in different nations have confirmed that per capita wheat and wheat product consumption has remained relatively constant over the past few decades, despite a significant increase in gliadin concentration. Consequently, there has



been an approximate annual increase of 1.5kg of gliadin consumption per person. Additionally, it has been revealed that the area of land fertilised with nitrogen has remained practically unchanged, but the intensity of nitrogen application has increased over the years. Other factors such as new bread additives have also contributed to the rising cases of allergies and celiac disease.

#### **CROSSWORD**

## What are your wheat views?

#### **ACROSS**

4. Common name of finger millet

5. Highly nutritious grains which has the potential of climate mitigation

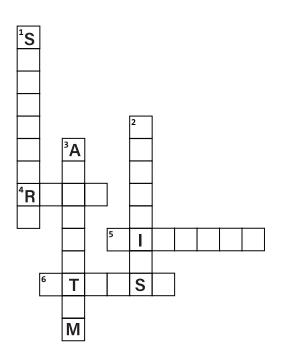
6. \_\_\_\_\_ causes chemical reactions in the body and increases inflammation and disease risk

#### **DOWN**

1. This type of lifestyle employs very little physical activity; increases the risk of chronic diseases

2. Study of genes and heredity

3. \_\_\_\_\_ will govern our physical existence



# Recipe image source: Sandyathome

## WHAT'S COOKIN'?

This month: Banana & Turmeric Kebabs and

Baked Vegetables & Egg Casserole

#### BANANA AND TURMERIC KEBABS

#### **INGREDIENTS**

Raw banana, parboiled	2
Raw turmeric, grated	···· 1 tbsp
Onion, chopped ·····	1/4
Ginger, grated	
Coriander leaves ·····	1/4 cup
Roasted chana powder ·····	1/4 cup
Red chili powder	
Coriander powder	1 tsp
Turmeric powder ·····	
Black pepper ·····	··· 1/4 tsp
Roasted cumin powder ·····	
Amchoor ·····	
Flax seeds ·····	1 tsp
Green chili, chopped ·····	
Poha powder ·····	····1 tbsp

#### **METHOD**

- Peel banana and add all ingredients.
- Mash and mix well; bind in round shaped kebabs.
- Coat with poha powder.
- Heat oil in a pan and fry kebabs.

Tip: Serve them with mint chutney.

#### **SUPERFOOD - TURMERIC**

3 reasons why you should add turmeric to your daily diet

- This extraordinary spice doesn't just add a pop of colour and flavour to your dishes; it's a natural powerhouse that supports digestion and boosts immunity.
- Curcumin, the active compound in turmeric, exhibits potent anti-inflammatory properties, making it a natural ally in reducing inflammation-related ailments and supporting a healthy immune system.
- Its neuroprotective properties make it a valuable addition to a brain-healthy diet.





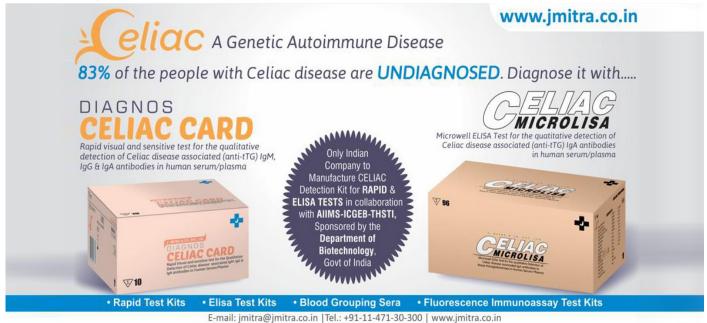
#### **INGREDIENTS**

Egg 1
Almonds, chopped ····· 10
Onion, chopped ····· 2 medium sized
Carrot, chopped1 medium sized
Button mushroons, chopped 5
Spinach leaves, chopped a few
Black pepper 1/2 tsp
Salt to taste
Oil 2 tsp

#### **BAKED VEGETABLES** AND EGG CASSEROLE

#### **METHOD**

- Wash onion, carrot, mushroom, spinach.
- Preheat oven to 350°.
- Wash egg and beat in a bowl with salt and pepper together.
- Heat a frying pan with oil. Add onion and cook until it turns golden.
- Add the mushrooms and carrots and cook, stirring occasionally, until tender, about 5 minutes.
- Add the spinach and toss until wilted and almost all of the liquid is evaporated, about 5 minutes.
- Add salt to taste and ½ tsp pepper. Cook about 5 minutes.
- Turn off heat and let the mix cool to room temperature.
- Oil the inside of a casserole dish with 1 tsp oil.
- Put the cooled veggie mix on the bottom of the
- Pour the egg mixture over and mix gently.
- Bake in the oven for 35 minutes. The edges will brown up.
- Let the casserole sit on the counter for 5-10 minutes before slicing or serving. Add almonds on the top.



#### NO PAIN, NO GAIN

#### An anti-inflammatory diet ignites a weight loss journey at 46!

autam Shukla (name changed), aged 46 years, came with complaints of pain in his back and was suffering from an inflammation in the sacroiliac joint (joint linking the pelvis and lower spine). His blood work showed positive tests for thyroid antibodies, deficiency of iron, vitamin D, high eosinophils and uric acid, PTH (parathyroid) and abnormal cholesterol levels along with dyslipidemia. Furthermore, he had intestinal inflammation and his faecal calprotectin was elevated to as high as  $167\mu g/g$  (normal = 50  $\mu g/g$ ) which is an inflammatory marker.

His anthropometric measurements were beyond normal as his BMI was 30 kg/m2 (obese); being

obese he could not exercise efficiently. Physiotherapy could not relieve him from his issues.

Only by changing his grains and upon adopting an anti-inflammatory diet and lifestyle brought him healthier and easier life. He lost 7kg in 4 months and eventually his pain disappeared. All his inflammatory markers were also resolved.

His case underscores the importance of personalised approaches, including dietary modifications and the adoption of an anti-inflammatory diet, in addressing complex health conditions and restoring well-being.





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More information about ISWD 2019 can be found at *iswd2019.com*.