



Novel Nutritious Precision Food Item GEGGZA Developed from Longevity Lessons Shared by People across the World



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Abstract

The incidence of Obesity, diabetes, hypertension, elevated bad cholesterol, triglycerides and heart disease is escalating globally at an alarming rate but there are also those few who are also living longer and healthier lives by avoiding or minimizing the consumption of foods that can contribute to weight gain or worsen diabetes or elevate blood pressure or clog arteries. A number of diets have been found to provide health benefit and wellness. One of the most reliable lessons for developing a personalized diet for living long has been shared by those who have lived long beyond the age of 95. Two of the longest living person so far have indicated that olive oil also a key ingredient of Mediterranean diet and eggs are important keys to longevity. Another key to longevity is the consumption of low starch high fiber vegetables and this has been central to diets from longevity village in China and Okinawa, Japan. Combining these 3 ingredients and spicing with antioxidant rich herbs as well as nutraceuticals like curcumin found in turmeric root has resulted in a wellness food item termed GEGGZA that can be refrigerated for a week and portioned as a meal and consumed after a minute of warming in a microwave on a high setting. GEGGZA is not meant to cure any disease or a treatment but a component of the diet for those with metabolic syndrome that will provide sustained health benefit.

Background

Longevity has no geographical or racial boundaries [1]. Calorie restriction accompanied by a balanced high fiber, low saturated fat, low sugar diet [2], physically and mentally active life style, adequate rest, optimal medical care including timely surgical procedures [3,4], infection control [5] and inheritance of normal genes [6] play a critical role in longevity. Those who have lived to 95 years or beyond have a lot of nutrition lessons to teach to the millennials, Generation X and Y and baby boomers [7,8]. Jeanne Calment of France who holds the record of longest verified longevity in history of 122 years taught us the importance of olive oil consumption, with a kilo of chocolate every week and port wine [9]. Emma Morano who was the longest living person until 2016, attributed her longevity to consumption of eggs [10]. Nelson Mandela in spite of his long years in prison lived to 95 and his major calcium and potassium source was amasi or South African fermented milk with probiotic ingredients [11]. Based on the life styles of people living beyond 100 in China's longevity village, the importance of having 10 portions of vegetables distributed in each of the 3 meals is emphasized [12]. Based on this research on longevity, 3 ingredients are critical in developing novel longevity food item GEGGZA, viz. eggs, a variety of vegetables and olive oil. There can be different variations of GEGGZA but at this time Spicy GEGGZA and Mediterranean GEGGZA are the choices [13,14] with openings

for creative variations to make it personalized and more delicious (Figure 1).



Figure 1 : Spicy GEGGZA.

Spicy GEGGZA

Ingredients eggs (whole eggs or egg whites alone or mostly egg whites and smaller portion of egg yolks based on individual cholesterol levels), vegetables at least five (Commonly eggplants,

tomatoes, onions, spinach or Kale, okra, karela or bitter gourd, mushrooms), olive oil, pinch of sea salt, capsicum peppers of various colors, pablano peppers herbs (basil, garlic, ginger, oregano, chives, mint, parsley or cilantro), hot peppers (Jalepeno, green chilies, habernero, etc) spices (black pepper, turmeric, paprika or red chili powder, cumin powder). The fresh chopped vegetables, herbs and spices are cooked in olive oil along with some sunflower or canola oil first (not deep fried) in a flat nonstick pan and then the egg batter is poured over it and allowed to seep through and the GEGGZA is cooked to a safe temperature covered until you have a firm GEGGZA without burning. The slices can be refrigerated at 4 deg C for up to a week and each slice portion (a quarter of the GEGGZA in a 10 inch pan) is heated in a microwave for 1 minute provides a balanced low salt, low saturated fat, no sugar, high protein and fiber meal with plenty of antioxidants. Oat flakes and cooked beans of any kind are sprinkled on top. Cheese and Meats in small portions are optional (Figure 2) (2018).

Mediterranean GEGGZA ingredients eggs (whole eggs or egg whites alone or mostly egg whites and smaller portion of egg yolks based on individual cholesterol levels), vegetables at least five (Commonly eggplants, tomatoes, onions, spinach or Kale, mushrooms), table spoon of olive oil, pinch of sea salt, capsicum peppers of various colors, pablano peppers, herbs (basil, garlic, ginger, oregano, rosemary, chives, mint, parsley or cilantro), spices (black pepper, turmeric). The fresh chopped vegetables, herbs and spices are cooked in olive oil first (not deep fried) in a flat nonstick pan and then the egg batter is poured over it and allowed to seep through and the GEGGZA is cooked to a safe temperature covered until you have a firm GEGGZA without burning. The slices can be refrigerated at 4 deg C for up to a week and each portion provides a balanced low salt, low saturated fat, no sugar, high protein and fiber meal with plenty of antioxidants. Meats in small portions are optional. (Figure 3) Appearance of the ingredients of a spicy GEGGZA with generous inclusion of chopped small *Momordica charantia*, bitter gourd (Karela) with seeds, before pouring of the egg batter to experience reported health benefit of natural reduction of elevated plasma glucose levels and enhanced insulin secretion. The vegetables seen above include besides bitter gourd are onions, tomato, eggplant (brinjal), mushrooms, cabbage, green peppers, jalapeno peppers The combination of several vegetables, herbs, olive oil and spices tempers the bitter taste.



Figure 2 : Mediterranean GEGGZA ingredients.



Figure 3 : Appearance of the ingredients of a spicy GEGGZA with generous inclusion of chopped small *Momordica charantia*, bitter gourd (Karela).

Results of Independent Nutritional Analysis of Geggza

Per 100 g. Average portion size is a slice weighing 400 grams (Equinox Test Certificate)b Reference Number EQNX: MUM:LAB: F:16:09:0060

a)	Fat (from Olive oil) by method from FSSAI grams (gm)	7.9
b)	Protein (from egg white) by method from FSSAI gm	5.0
c)	Carbohydrate by Difference gm	7.3
d)	Energy by Calculation Kcal	120
e)	Sugar FSSAI Manual	Nil
f)	Crude Fiber FSSAI Manual gm	2.4
g)	Dietary Fiber AOAC 19th Edition g	6.3

The spicy GEGGZA has additional ingredients not present in the Mediterranean GEGGZA which includes a table spoon of turmeric about 2 grams. 4% of the turmeric is curcumin. A 400 gram slice of GEGGZA would have half a gram of turmeric or 20 mgs of curcumin which would be cleared. The level of spiciness is left to the individual's tolerance for spices [15, 16]. The proportions indicated here are guidelines based on 1000s of GEGGZAs that have been prepared or supervised by the author and sampled by 100s of people all over the world. Vegetables sold especially in tropical places could be contaminated with bacteria and molds and could have high levels of LPS and mycotoxins [17]. Proper washing if necessary with a dilute antibacterial hand washing soap of the fresh vegetables or preserved for short periods by refrigeration, not previously contaminated by bacteria or fungus are recommended to be used in GEGGZA, to keep endotoxin and mycotoxin levels

as low as possible and below the permissible levels approved by the FDA. Even the eggs are to be carefully selected from a store that procures USDA grade eggs. On top of that as a precautionary measure the raw unbroken eggs are left in a dilute dishwashing solution for 5 minutes before rinsing thoroughly with clean water and then cracking open. Only commercially available olive oils free of bacteria and fungus should be used. Each person attempting the preparation can customize the GEGGZA based on availability of fresh bacteria and mold free vegetables, spices and herbs and the individual's taste.

Discussion

GEGGZA is a balanced nutrition food item for consideration by persons attempting to lose weight, maintain a healthy diet, for diabetics, for hypertensive persons trying to reduce salt intake and for persons aspiring to live long. GEGGZA is not recommended to be consumed for those allergic to eggs or any of the ingredients mentioned here. GEGGZA is not claimed to be therapeutic or treatment replacement for any disease but more a wellness food item. The amounts of nutraceuticals like curcumin from turmeric, lycopene from tomatoes, vitamins and minerals from various vegetables, glucose lowering ingredient from karela, capsaicin from the peppers etc added in preparation of GEGGZA are not in treatment portions. Curcumin and other Indian spices are potential candidates for treatment of a variety of conditions [18-20]. For use as treatment claim of different disease conditions, significantly large quantities (gram quantities than suggested for incorporation in GEGGZA) would be potentially required to be administered under medical supervision as an alternate treatment when nothing else works and due to the insolubility of curcumin in water (but soluble in olive oil or other oils) there could be toxicity as suggested in previous work. Spices such as curcumin when consumed in minimal trace amounts such as in GEGGZA should be cleared more easily than when they should be used in gram quantities. *Momordica charantia*, bitter gourd when included in GEGGZA in moderate proportion could have health benefits in pre-diabetics or with marginal elevated glucose but will require monitoring of glucose levels under medical supervision [21-24].

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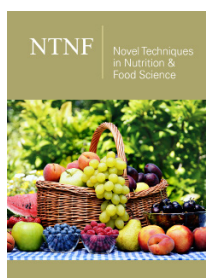
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