

Food Items Biologically Tailored to Meet Nutritional Deficiency Challenge during Covid 19 Pandemic

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ABSTRACT

Human body has its own mechanism to protect it from all type of illnesses including infectious one as well as from those which are no communicable including onset of metabolic syndrome and pre mature aging etc. Food intake governs the health status and illness history of individuals including the aging onset. This piece of work covers preparation details of certain Naturally Fortified Healthy Foody Drinks and Preparations built upon classical understanding of knowledge integrated with latest advancement in health sciences regular intake of which can not only delay the process aging, improves skin and hair texture but also ensures natural health with having therapeutic potential. These naturally fortified Foody items including Remedial Egg Mix are tailored by minimal processing at domestic level to meet nutritional deficiency challenge during Covid 19 Pandemic.

Detailed discussion on this aspect of health related issues would be avoided as a chapter co-authored by me covering the topic of food driven tourism while discussing certain drivers of natural health using un reported novel approach based understanding on health sciences is already in press. This study can be used to design small business functional units helpful to deal with the various challenges of prevailing in present era of Covid 19 pandemic

Functional food fermentation cheap raw produces diseases health food safety food supply chain microbiome probiotics food safety phytochemicals fortification, epigenetics SOD1 GSH, glucose metabolism cholesterol metabolism Covid 19 Nutritional deficiency challenge.

Keywords: Metabolism; Nutrition; Cholesterol metabolism; Microbiome; Probiotics

INTRODUCTION

Food intake provides body with different metabolites nutrients beneficial microbes and also metabolites produced by them and energy only in case if these biological entities are absorbed in intestine or skin to enter in the blood from where through circulation directly or after having processed in concerned organ or tissues they reach to the targeted cells to interact or to enter in them to perform the specific functions or to convert into energy or/and to waste. The digestibility absorption potential product stability and the safety of minimally processed natural food and naturally fermented food are considerably higher than most of the processed food manufactured at industrial level in bulk quantity with having a shelf life depending on storage conditions and type of food product. Food intake governs the health status of individuals in addition to providing protection from all type

of illnesses besides having therapeutic potential but at the same time food can be the key modulator for initiating different illnesses including pre mature aging as well as fatal diseases leading to death. Yeast genome shares remarkable gene conversation of gene functions with the human genome; greater than 40% of single gene determinants of human heritable diseases have yeast homologs hence studies on yeast revealed a few novel underlying phenomena through which natural health is maintained while experiencing aging illnesses initiates including the fatal deciding the fate of cells and as well as the fate of living entity, Finding in yeast are consistent with human studies supporting the approach that food can initiate, protect and cure diseases also modulating the cellular functions including their fate regulated at genes network level e.g. a clinical link between vitamin E administration, cellular magnesium,

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GSH1 SOD1 GSH/GSSG ratio, sod1p, glutathione and tissue glucose metabolism and the plasma GSH/GSSG ratio seems to play a major role in the modulation of glucose homeostasis mainly in diabetics and modulate the aging process. Sod1p, glutathione including different antioxidants are basic ingredient of several natural raw produces other unprocessed food items and naturally fermented products. As mentioned earlier as well, further discussion on this aspect of health related issues would be avoided as a chapter co-authored by me revealing further details on this domain of knowledge is already in press and in other upcoming papers [1-110].

Fruits and fresh fruit juices (fruits extracts) are highly beneficial for health [8-17,27,34, 36,37,40-45,57,68,71-75]. Following are given a few Healthy Foodie Recipes along with some basic details.

NATURALLY FORTIFIED MANGO FRUITY JUICE

Mango is a fruit rich in vast range of nutrients fiber vital metabolites etc. Which is widely available in many countries at reasonable cost? The biological potentials of Unripe Green Mangoes (Raw Mangoes) are yet to be revealed whereas its marketability as a produce and its biologically processed products can boost its trade globally. The Unripe Green Mangoes on keeping them in jute or cotton clothes at warm place ripe in natural manner within very short time with having improved organoleptic properties [21, 50-54].

Take unripe 2-3 Unripe Green Mangoes (Unripe Raw Mangoes) peel them off by using a clean sharp knife and cut them into small pieces. Add around 1-2 table spoon salt and leave the in a glass vessel for around 2-3 hours at room temperature [8, 9,11,111-124].

These salted Unripe Green Mango pieces can be stored under frozen conditions for up to six months for purpose of preparing juice. To prepare Naturally Fortified Mango Foody Juice, add salted Unripe Green Mango pieces into a vessel add sugar (2-3) table spoon brown or while sugar or honey depending on the desired taste) and leave it at room temperature for 2-3 hours [8,9,83,115-119,121,123].

Put them in commonly used domestic blender jug and pour around 200 mil potable water in blender. To give an aromatic touch adds small peeled off pieces of ripe Fresh Mango (around half mango) in the blender. Blend the content for 30 seconds at least for 7 times with having 1 minute intermediate break. Pour the Freshly Prepared Natural Mango Fruity Juice into a properly clean glass container make up volume up to 1 Litre [83,115,117,119,121,124-130] and store it under refrigerated condition until use. Naturally Fortified Mango Fruity Juice can be stored under refrigerated conditions for 24 hours. [7-11,26,37,38,75,104,111-132]. Mix well before serving. Serve Natural Mango Fruity Juice with crushed ice.

To confer laxative property in Naturally Fortified Mango Fruity Juice add a pinch of Himalayan Black Salt [133] in the juice prepared with having added the fresh ripe mango pieces and

drink at least two glasses of it per day each about half an hour before meal.

NATURALLY FORTIFIED GREWIA FRUITY JUICE

Grewia (*Grewia asiatica*) is widely available in a few Asian countries including Pakistan and India. This fruit is rich in nutrients fiber and metabolites with having low calorie and fat. The key limitation in marketability of this produce and its naturally processed products is its limited shelf life even at refrigeration conditions [48,49].

Take around 1 kg fresh Grewia, wash them with potable water by dipping them in it followed by removing the dirty water by transferring the Grewia settled at the bottom of the vessel to a new glass vessel. Repeat this process 3-4 times. Make five portions of 1 kg Grewia put them in properly washed glass container and freeze them until use. Grewia can be stored under frozen conditions for up to two months while sustaining the organoleptic properties.

Put 1 portion of fresh/thawed Grewia in a glass container. Add 1/2 to 1 tea spoon salt and mix it well. Leave Grewia mixed with salt at room temperature for around an hour [8,9,117, 121-124,128,129].

Add 2-3 table spoon grinded sugar/honey in the Grewia Mix and mix the content well and leave it at room temperature for 1-2 hours [8,9,83,115-117,119,121,123,124].

Add fresh lemon juice extracted from squeezing 1 lemon, mix the content well and leave it for 30 minute Pour Grewia Mix [23,120].

Into commonly used domestic blender jar and add around 250 ml potable water and 2 pinch of black pepper and blend it for about 9 times each for 30 seconds with having 1.5 minutes interval [134,135]. Make up the volume up to 1 Litre [83,115,117,119,121,124,126,130]. Pour Freshly Prepared Naturally Fortified Grewia Fruity Juice in a clean glass container to store up under refrigeration conditions until use [7-11,26,37,38,75,104-132]. Naturally Fortified Grewia Fruity Juice can be stored at refrigeration conditions for one day. Mix well and hold the content for 1 minute before pouring in glasses before serving. Serve Naturally Fortified Grewia Fruity Juice with crushed ices. To improve the laxative property of Freshly Prepared Natural Grewia Fruity Juice, add 1 pinch of Black Himalayan Salt [133] in the glass and drink 1-2 glasses of the Naturally Fortified Grewia Foody Juice per day each 1-2 hours before meal.

NATURAL WATER MELON FRUITY JUICE

Water Melon is rich in nutrients fiber metabolites and a good source of water to keep body hydrated particularly in summer. It is very cheap and can be a healthy nourishing food for poor particularly in summer [39,136].

Take around 1/2 Kg of ripe watermelon cut into small pieces and sieve it through wet Muslin cloth helpful to separate solid content having fiber seeds from its juice. Collect the juice into a glass container and add all the solid content after removing seeds. Pour the mixture into commonly used domestic blend Add 1/4 tea spoon salt [8,9,121,122,124] and sugar (white sugar or brown sugar or honey [8,9,83,115,117,119,121,124,126,130] as per desired taste and blend it for 5 times each for around 30 sec with having an in between interval of 1.5 minutes. Make up the volume up to 1 Litre and pour Freshly Prepared Natural Water Melon Juice into clean glass container to store until use [8,9,11,38,45,71-73,75,83, 115-117,119,126,130,136-139].

Natural Water Melon Fruity Juice can be stored under refrigeration conditions for up to 1day. Mix well before serving it. Serve Natural Fruity Water Melon Juice with crushed ice.

To add the laxative property to Freshly Prepared Water Melon Fruity Juice, add 1 pinch of Black Himalayan Salt [133] in the glass and drink 1 glass of the Foody Juice 1-2 hours before meal.

NATURAL CANTALOUPE, HONEY DEW MELON, MUSK MELON/MELON JUICE

Cantaloupe, Honey Dew Melon Musk Melon/Melon is rich in fiber; metabolites nutrients etc. and provide a healthy source of energy for being naturally sweet when properly ripened [44-47].

Take 1 Cantaloupe, Honey Dew Melon Musk Melon/Melon fruit, peel it off and cut it into small pieces. Put the pieces into commonly used domestic blender and add around 150 ml of potable water into it. Usually Cantaloupe, Honey Dew Melon Musk Melon/Melon is naturally sweet so there is no used to add sugar (white or brown) or honey in it. However in case if the fruit is not optimum ally ripened add 1-2 teaspoon sugar (white or brown) or honey in it Blend it for 5 times each for around 30 sec with having an in between interval of 1.5 minutes [83,115-117,119,121,124,126,130]. Make up the volume of Freshly Prepared Natural Cantaloupe, Honey Dew Melon/Melon Juice up to 1 Litre and pour it into a clean glass container to store it under refrigeration conditions until use [8,9,11,38,45,71-73,75,83,115-117,119,126,130,136-139]. Natural Cantaloupe, Honey Dew Melon Musk Melon/Melon juice can be stored under refrigeration for 1 day. Stir well before serving. Serve Natural Cantaloupe, Honey Dew Melon Musk Melon/Melon Juice with crushed ice.

TIP TO ENHANCE THE MOUTH FEEL AND TO BEAT THE HUNGER

Apart of providing an excellent source of nutrition, metabolites fiber etc. With instant energy and to hydrate the body in healthy manner, intake of these Natural Foody Juices/Freshly Prepared Naturally Fortified Foody Juices can delay the hunger and enhance tummy full feel by virtue of its rich solid content that includes fiber as well and decrease the rate of absorption of energy providing nutrients beside protecting the human body from experiencing glycemic index s spike, a consequence which

triggers cascades of many interdependent manifestations leading to illness syndromes. The potential of Natural Fruity Juices to give mouth feel and to beat hunger while heightening their healthiness 3-5 table spoon of basil seeds are added in Freshly Prepared Natural Foody Juices/Freshly Prepared Naturally Fortified Foody Juices and they are stored under refrigeration condition for 3-5 hours before serving them [140-143].

REMEDIAL EGG MIX-TIP TO MANAGE THE PROBLEM OF INSOMNIA

These days, during Covid 19 Pandemic insomnia is a common problem [144-147].

Inappropriate intake of diet stress and extensive use of IT gadgets are generally the common cause of insomnia. To have proper sleep it is important to stop working on IT gadgets at least three hours before going to bed [146-149].

Regular intake of healthy food e.g. Freshly Prepared Naturally Fortified Fruity Juices and Remedial Egg Mix are proven to be helpful to improve the sleep duration and its quality beside maintain good health, protecting from diseases and curing them in natural manner [11,12,23,25,26,38,68-73,75-78,110,136-138, 150-156].

Remedial Egg Mix taken around 1-2 hours before sleep also helps to have uninterrupted prolong sleep. To prepare Egg White Rich Fried break 4-5 eggs in a glass container leave 1-2 egg yolk and remove all of rest egg yolks. Add 1-2 pinch salt in it. Beat the egg content well for 2-3 minutes. Put half table spoon oil (maize or corn) or butter (1/2 teaspoon) and spread it well on non-sticking fry pan before pouring egg content into it. Leave it for 20-30 seconds until the lower side of egg content coagulates well. Turn the coagulated egg content down and cook up to desired organoleptic qualities [76-78,155-158]. It is advisable to consume eggs of grains fed hens those have never been administrated any hormones.

NATURALLY FORTIFIED FRUITS SALAD

Naturally Processed Fruits Salad is rich in nutrients metabolites fiber etc. And a good source of beneficial microbes and their metabolites. Regular intake of Naturally Fortified Fruits Salad up to 2-3 times a day helps to regain natural prolong sleep maintain good health besides protecting from many diseases and also provides their natural cure [4,7-17,23,27,34,38,40,43,57, 68-70,73,101,104,110,111,136-138,159-162].

To prepare Naturally Processed Fruits Salad Take 1 melon/honey dew melon/musk melon [44-47], 1/2 papaya [33,162] 3 apples [41,42], 3-4 banana [18-22], 2-3 guava [31,32,35-37], 3-4 oranges [23-26] and 2-3 know [23-26,162-164]. Peel off only papaya melon/honey dew melon oranges and kinnow. Cut all the fruits except Oranges and Know into small pieces (3-5 cm). Put 1/2-1 Teaspoon spoon salt and 1 pinch of Himalayan Black Salt [133] mix the content well into a glass container and leave the content at room temperature for 2-3 hours

[8,9,35,38,117,121-124,128,129,164-166]. Add 1-2 Table spoon sugar (white or brown) or honey, mix well and leave the content at room temperature for 1 hour [8,9,35,37,38,41,83,115,117,119,121,123,124,126,129,130].

Kino freshly hand squeezed Kino and Orange Juice into it along with the remaining solid content after removing them from their attached peels [24-26]. Add around 1/4 to 1/5 Teaspoon Black Pepper [134,135] in the content and mix it well. Add Amchoor (dried green mango powder) [21,50-54], Tamarind extract (Dip pulp of fruit of Tamarind in water for 20 minutes, remove seeds and solid content and pour the juice into Naturally Processed Fruits Salad) [28,29] Chat Ka Masala (a spices mixture containing coriander seeds Cumin seeds thymol mango powder Himalayan Black Salt mint leave powder cinnamon funnel seeds star anise mace black cardamoms green cardamoms) [14,15,43,135,159,160,167-176] or berries pulp e.g. fresh strawberry pulp into it as per need to attain desired taste and mix it well with fruit salad content [55,56,153]. 1-2 Table spoons of basil seeds can also be added to Naturally Fortified Fruits Salad followed by holding 2-3 hours under refrigeration conditions to enhance mouth feel and tummy fullness [140-143]. The Naturally Fortified Fruits Salad can be stored under refrigeration conditions for about 15 to 18 hours. Naturally Fortified Foody drinks Remedial Egg Mix and Naturally Fortified Fruits Salad are not only rich in nutrients metabolites fiber etc. but are also a source of beneficial microbes and their metabolites with having improved nutritional digestibility absorption therapeutic potentials while having augmented safety and security as the Naturally Fortified Food Products hence these products governs the health status mind wellbeing and aging process in individuals regularly consuming them unlike the processed diet which is unhealthy and can initiate different illness on regular consumption [1-29,31-45,48-59,68-75,78,99-104,110,111,114,116,118,124-126,128,129,131,132,134-136,138-140,147-148,150-153,156-160,162-164,166-176].

In this era of Covid 19 Pandemic, globe has gone through massive transformation leading to disruption in food supply chain beside huge number of fatalities due to Covid 19 virus causing health manifestations in addition to adversely affecting the whole trade and transportation operations across the world making nutritional availability to sustain health and combat diseases among populations a depreciating factor particularly against Covid 19 infection has emerged as a big challenge all over the world [177-181]. Under this situation Naturally Fortified Food Products and Remedial Egg Mix prepared as described earlier provide a viable option to nourish global populations within limited available resources facilities and manpower

Covid 19 vaccines available so far partly confers protection against limited Covid 19 variants for short duration with having health concerns including some serious ones beside ethical issues e.g. half of the genome of the virus is from avian origin and rest half is originated from bat origin making vaccine unacceptable for certain followers of various religious ideology [181-190].

Various food preparations are proven not only to protect the individuals from Covid 19 illness but also diminish illness

manifestation and decrease the number of fatalities [23,85,132,175,190].

Since there has been incidences of bird flu virus infection among hens in Pakistan, there has been a salient decrease of Covid 19 prevalence numbers all over the country where poultry particularly chicken curry and eggs are present in daily main course of meal providing cross immunity against Covid 19 infection and needed nutritional supplementation indicating that oral vaccine against Covid 19 would be very likely more effective to confer protection. This study can be used to design small business functional units helpful to deal with the various challenges of prevailing in present era of Covid 19 pandemic [177,178,188-190].

As mentioned earlier as well, further discussion on this aspect of health related issues would be avoided as a chapter co-authored by me revealing further details on this domain of knowledge is already in press and in other upcoming papers [109].

DISCUSSION

This piece of work is built upon present status of knowledge to evolve various novel food systems having enriched with nutrients metabolites microbes organoleptic and therapeutic potentials through naturally processing at domestic level in cost effective manner using locally available cheap produces while conferring food safety and ensuring their security though their shelf life under refrigerated condition is extended only for 1 day but at the same time protecting the products from losing a wide range of metabolites and biological factors also responsible for their therapeutic potentials and beneficial for health but are unstable under *in vitro* conditions [4,6,7,15,17,21,23-25,27,29,31,32,35,38,40,44,45,48,55,68-72,74,85,103,104,110,118,127,131,132,135,137,139,140,148,150-153,156-159,162,167,169,172].

Naturally fortified Foody items including Remedial Egg Mix are naturally tailored different integrated biological strategies including fermentation involving minimal processing at domestic level to meet nutritional deficiency challenge during Covid 19 Pandemic helpful to sustain health and mind wellbeing, protect from diseases and cure them while decreasing the fatality rate. Extended discussion on the work would be avoided as a chapter co-authored by the author covering certain relevant details is in press [109].

CONCLUSION

In simple words, this study based on classical understanding integrated with latest advancement in health sciences provides a globally applicable alternative for supply chain having incorporated with genomic manipulation potentials governed by latest biotechnological approaches which are expensive, requires huge investment resources and trained manpower in addition having more challenges and serious ethical and health concerns. This study can be used to design small business functional units providing options for making best use of available resources while adding value to them within limited facilities which in turn would job opportunities and help the world to cope with nutritional deficiency health challenges financial constrains

avoiding the need of extensive processing and hi tech storage facilities particularly in this Covid 19 era.

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