Corona and Ayurveda

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Contributor: Ajaya Bhattarai

Abstract:
Globalized hunger or having less food production due to Corona is one of the results of unorganized vast development, lack of knowledge within the series of event in a fraction of century for the economic upgrade which hampers health, environment, the consciousness of the public too and increase marginalized life which covers poverty, lack of health knowledge. Ayurveda explains the condition of the body and variation of food with Dosha, Desha, Dinacharya, Ritucharya which for quality of life which refers to the balance of multi-functional part of the body for having multi-benefit which is the basis of quality life.

Ayurveda Coranavirus Food security

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Manish Sah[1], Ajaya Bhattarai[1]*

[1]*Department of Chemistry, M.M.A.M.C., Tribhuwan University, Biratnagar, Nepal*

**Corresponding Author, Email: bkajaya@yahoo.com*

Introduction

The strange cases i.e. remarkable pneumonia have taken place having a connection with the animals' market, fish market within the public on the final month of 2019 AD in the hospital of Wuhan city of China (Xu et al., 2020) [1].

Such circumstance was analyzed by the World Health Organization (WHO) shows a strange micro-biotic organism which is later known as a novel coronavirus and known as COVID-19. Genome sequencing and PCR had been carried out for analysis of the virus. So, the WHO, R & D department is started to analyze the solution via quick diagnosing, therapeutics, or development of a vaccine for the startup of laboratory tests (Wang et al., 2020) [2].

Hence the committee of WHO declared the proper awareness, precaution method and also notify about the increasing rate within international areas, open border as well as stated by the website of Johns Hopkins University and other media. Within such period, China, Asian countries feeling high losses (Velavan and Meyer, 2020) [3].

It is known as single-stranded RNA viruses that contaminate either human or the other creatures as well (Kooraki et al.,2020) [4]. Such a virus was first detected from common cold suffered patients in 1966 which was analyzed by Tyrell and Bynoe. It has spherical morphology within a cartridge or covering projection as solar corona. Generally, corona stands for crown having subfamilies comprises alpha, beta, gamma, and delta coronaviruses. Alpha and beta- coronaviruses are determined via mammalians like bats. Gamma- and delta- coronaviruses had determined via pigs and birds (Anther et al., 2020) [5].

Thereby, the difference within such special biotic micro-organisms within 26kb-32kb. The beta- coronaviruses caused rigorous health problems or fatalities among all of 7 types of sub-set viruses. SARS-CoV-2 belongs to beta-coronavirus groups. Four structural genes are encoding as the nucleocapsid protein (N), the spike protein (S), a small membrane protein (SM) and the membrane glycoprotein (M) with an extra membrane glycol-protein (HE) observe within the HCoV-OC43 and HKU1 beta-coronaviruses where the genome of such microorganism is 96% similar to beta-coronavirus (Kucharski et al., 2020; Cao et al., 2020)[6,7].

Generally, Covid-19 transfers from animals to animals of the non-vegetarian market cities in China. But, thereby determination of the host had been neglected for seeking the actual transmission route of the virus. Cases have been detected from pneumonia which observed that the behavior of SARS-CoV-2 is similar to COVID-19 (Li et al., 2020; Zhou et al., 2020) [8,9]. Such pandemic has brought a lot of pandemics as analyzed by the various organizations.

But, till now management of food within the public in a nutritive manner, discipline maintain within the public for such manner for the well supply of food is still lack which can be analyzed via problem created by Covid-19 in many factors of food security. But such factors help to dissect the query and understand the path of well-food management on basis of the concept of *Ayurvedic.* Within it, we must analyze the conditions of food security before the Covid-19.

Is there a possibility of maintain food security within locally level of people, what are the basic problem of respective farmers which must be watched in detail figure or the multi-functional mean? There has been a deep relation between the human body and food. Our body itself a sophisticated machine who’s caring, progress is needy to everyone for multi-function, upgrade human consciousness, behavior in the multi-dimension mean. Even humans always hypothesize to have an awesome lifestyle. What type of food is necessary to whom? What is the actual calorie intake with the vary of nature of the body? Except for food what is the necessary principle, individual preference for a healthy life? Is the nature of food, the nature of the body can respect food security? The collectiveness of quality, management, availability, consumption mean of food are the necessary guidelines which have been present within this article for sustainable health and food management.

Food security beforehand of the coronavirus (COVID-19)

World Food Summit states “Food security continues only when every human being have the accessibility of nutritive food for the flourishing of healthy life” (FAO, 1996) [10] which is the actual definition of food security with

the virtue of the following dimensions (FAO, 2006) [11]:

1- Food availability: There must be a convenient means of quality, the quantity of food either from domestic production or imported mean.

2- Food access: There must be proper involvement of legal, political, economic, and social means for accessibility of food to every public.

3- Utilization: Within food, proper arrangements of water, health caring, nutritional mean, which is the need of the physiological system.

4- Stability: There must be an attainable mean of adequate amount of food to every population, individual either any shock, crisis or vulnerability, cyclical (seasonal food insecurity). So, the term "stability" for food refers to the availability and access aspects of food security (World Bank, May 28, 2020) [12].

The impact of Covid-19 on the agricultural sector

Due to the COVID-19 pandemic, the protective measure is increasing which is the constituency of quarantine; shut down on shopping mall, restaurant, movement of public on road i.e. lockdown (Nicola, et al., 2020, p.185) [13].

Such a pandemic affects every sector of the public i.e. harness of humanity and even agriculture is being too impacted (Sichem, 2020) [14].

The various sub-section of agriculture is too affected via Covid-19 which shows the falling of prices of agriculture commodities by 20% (Bhosale, 2020) [15].

Jobless, lack of income decreases the financial transaction which maintains the need for food via selling or buying or indirectly benefits to respective farmers. The UN-WFO (United Nations World Food Program) notified that 265 million suffer food insecurity by December 2020 if the pandemic is in continuation phase whereas 135 million people are in the food insecure phase before Covid-19. Food is being wasted i.e. loss of Nutrition because the trader isn’t dealing at a good prices with farmers (World Bank, May 28, 2020) [12]. Unquestionably, Covid-19 effects in verities of ways within developing, under-developed, developed countries due to variation of labor shrinkage, etc (The Global Economy, 2020) [16].

The impact of Covid-19 on food demand

The demand and supply pattern of food depends upon purchasing, household income, labor within transportation or production of such food which is totally in the threatened stage which decreases the number of vegetarian shops, storage of food which made circumstances of less food within the market i.e. lack of food governance (Schmidt et al., 2020a) [17].

Having food in-home shows about eating involvement in routine but is it sustainable? The analysis of the USA states that the behavior of the consumer is changing due to changing the sub-set of socio-economic patterns (Kolodinsky et al., 2020, p.6) [18]. So, above mention factors suggest that Covid-19 has directly dropped the financial transaction, demand, and supply chain which is a vital reason of having food insecurity and unable to reach either healthy people for precaution via nutritive food or vulnerable public for having a good health (Sichem, 2020) [14].

Due to a lack of good market access, farmers sell their products to nearby shops either product gain market or not, and unable to supply where it needs, may ensure damage after some days which is the opposition to sustainable access to food.

So, Grocery stores are being shut down and lack food even towards the restaurant, hotels, hostels, institutions, and sought about alternate goods which are impossible (Schmidt et al., 2020b) [19].

The pandemic, which is jeopardizing human and businesses health alike, including small-and large-scale farms, has led, at least anecdotally, businesses, farmers, and consumers to change the model and behavior, in the light of closed restaurants and schools, grocery stores depleted promptly by consumers (Kolodinsky et al., 2020, p.6) [18].

The impact of Covid-19 on world food prices

The maximum public of the world depends upon the importing of food. So, there is a direct link to food security with world food price arrangements (Lacirignola, Adinolfi & Capitanio, 2015) [20]. The price of food, household income which are may vary within the public but plays a vital role in the supply chain of food where Covid-19 created a financial crisis as well (Cranfield, 2020) [21].

The report of World Bank (April 23, 2020) stated that Agriculture valuation isn't much correlated with economic growth which shows a slight variation in the first quarter of 2020 via staple food whose price is high. But agriculture commodity gets affected via trade deficit, lack of labor, affection within the supply chain which is taken place within developing or developed countries of the product like fruits, vegetables, flowers, etc. (World Bank, April 23, 2020) [22].

As reported by Bhosale (2020) [15] agriculture commodities have fallen via 15-20% which coverage vegetable, grapes or sugar. Maximum food is fallen in the rotten phase due to a lack of access to the market of the product like tomatoes, potatoes, onions.

Canada observed increment in agriculture commodities but Cranfield (2020)[21] observed that such diversified observation possible in situations of COVID-19 via proper supply goods to the agent which manage the food stock market, new price-regulation, regular survey for price control, the convenient role of consumer protection associations, mandatory action for price manipulation, media participation for exposing fraudulent companies.

As reported by Sichem (2020, p.6) [14] the vital mission is to the fulfillment of nourishing food for optimistic health than focus on food commodities or economic slope on which every country should think.

As suggested by Deaton & Deaton (2020) [24] long term running of availability of food defined as impacted due to Covid-19 which is a serious issue within us either due to the accessibility of transport, nutritive value, finance, jobless, etc. The problem i.e. 820 million people are in the hunger phase before Covid-19 but due to such virus the number is too increased and may invite conflict, war zone, etc.

The necessity to use knowledge of Ayurveda

Ayurveda is known as the Vedic health system practiced in India and Nepal for thousand years via million or millions of people (Sharma, 1981–1996; Bhishagratna 1991 and 1996; Murthy, 1984, 1986, 1991 and 1992, 1998 and 2000; Sharma and Clark, 1998) [25-31]. But such literature isn't more familiar in the modern medical environment but it created a lot of known scientists without degrees but having enormous knowledge. So, it exists with criticism which decreases as time passes (Lord Walton, 2000; U.K. Department of Health, 2001; Hansard, 2001) [32-34].

In Linguistic means, Ayurveda is the combination of two-word i.e. "Ayus," stands for life begin from subatomic particles having enormous power for existence in Universe and "Veda," stands for the package of the pure or conscious level of knowledge for activating positive sense. So, Ayurveda texts respect multi-function, the multi-dimension approach of understanding of increasing life expectancy as stated by the fundamental text on Ayurveda, the Caraka Samhita (Sharma, 1981–1996) [25].

Food is important for existence which describes in Ayurveda as *ahara(food)* known as a composition of giving *panchamahabhut*(major five elements of the earth) which varies from the respective body and determines the level of conscious, physical energy in the body which is traditionally known in Nepal and India having special therapeutic effects [35].

Ayurvedic literature describes the variation of food with the variety of geography, natural potential, properties of the body, season condition which respects either physiological, neurological, the pathological mean of the body [36]. The constituency of the diet must be focused before taking about their behavior and determine the internal fire which changes biochemical (diet constituency) to verities mean energy need for existence either mind or physical, if not taken properly it can create verities of problems either chronic or communicable [37].

***Prakriti* (Body natures according to Ayurveda)**

The basic criteria of health and food are depending upon unique individuality having holistic mean (Patwardhan et al., 2004) [38]. The determination of food, treatment, health depends upon *dhosa* i.e., *Vata (V), Pitta (P), and Kapha (K)* and if such item is known as *Tridosha (unique balance of Vata, Pitta, Kapha)* i.e. maintenance of respective organs of the body (Valiathan, 2003) [39]. Every *Tridosha* has respective behavior i.e. V is connected via the motion of the body, de-generation activities, function within physically or mentally. P is connected via

metabolic activities, vision, or emotional behavior. K signify generation, recombination, synthetical mean. Every *Dosha(*humor*)* has specific characteristics (*Gunas*) which regularly observe in psychology, mental, physical behavior via analyzing such virtue, commanding of one or more *dhosa* known as the peculiar *Prakriti* sub-set. The term *Prakriti* means constituency of respective *dhosa* for analysis of the criteria needed during ayurvedic suggestion, therapeutic means, and especially during food behavior for respecting prevention is better than cure (Sharma and Clark, 1997) [40].

Within the world, every public is being departmentalized on basis of *Prakriti* whereas in every distinctive person there is dominant behavior of one or two *Prakriti*. The subtle constituency of V, P, K are leading as permission by DNA sequence-based genetic makeup. Generally, every person is categorized on V, P, K Prakriti, religious mean, local cultural mean (Swoboda, 1996) [41].

There is $3*10^9$ nucleotides pair whereas 99.9% among them are equivalent whereas left (over) 0.1% is single nucleotide polymorphisms (SNPs) which account for diversity among physical behavior, psychology, physiology, and such variability respond to types of drug or respective diseases (Bonn, 1999; Cargill et al., 1999) [42-43].

Knowing the DNA sequence variations based on SNPs via phenotypes mean is a good way to study in the 21^{st} century (Syvanen, 2001) [44]. Moreover, sequencing within DNA or phenotypes can be varied due to variability within the macro- and micro-ecosystem which determines the various behavior within particular genes (Chicurel and Dalma-Weiszhausz, 2002) [45]. To follow Ayurveda completely, we need to focus on the various aspects:

Dinacharya **(The Daily Routine)**

Ayurvedic prescribed about the diversity of timing of food consumption for healthy life and well-being. The term *swastha* (Healthy) depends upon the equilibrium of *Dosha(*humor*)*, *Dhatus(*tissue*), Malas(*waste products*)* with the virtue of science of spirituality, mental or sensory organs which must be accounted for the schedule of the day within the current era [46]. Due to the lack of understanding about *Dinacharya*, a lot of health problems are being faced by the public like hypertension, diabetes, heart attack, etc. although having a nutritious diet.

Dinacharya **and its applicability [47,48,49]**

Bramhamuhurta (Wake-up time): Afterward of night, the best time to arrive is 96 min before sunrise i.e. *Bramhamuhurta* because the five senses are in pleasurable nature which decreases negativity and the essence of positive vibes known raises.

Malotsarjan (excretion): It is being considered which reflects urinating well which increases the glowing of the skin, strength in the body increases life expectancy, manages the digestive system.

Achaman (Washing mouth with water): Washing is being done either of the sneeze, excreta, and rids out from various chronic diseases.

Dantadhawan (Tooth Brushing): The cleaning of teeth via twit (12 Angul in length, thick as a little finger) of *Ark, Nyaghrodh, Khadir, Karanj, Nimb, Arjun, Yashti* in accordance with the behavior, it is being used. Sushruta state *Dantamajan* (toothpaste) is applicable for *Dantadhavan* and the brushing style must be in vertical direction i.e. bottom to top which increases fresh behavior, released out the bad odor and increases the desiring of food and also maintenance of the hygiene in or section, managing of gums and teeth.

Jivanirlekhan (Clean tongue): Generally, it must be carried via iron, silver, gold tongue cleaner which the bad odor of the mouth and Shrink down the coating of the tongue and arise hungrily and taste.

Anjana (Clean eye): *Anjana* refers to the cleaning of the eye and shine like the bright moon in the sky and prohibit from burning, watering of eyes, itching of the eye.

Nasya(Clean nose): The Head is a vital component of a body where the nose is the only entranceway. *Nasya* causes lightness or relaxation of the head, appropriate sleep, awakening, raise sturdiness of all sense organs, good breathing behavior, facial glow, relax the mind.

Kavala (Gargling)-Gandusha (Holding fluid inside the mouth/ Oil Pulling): It manages a good voice, drops out the bad odor of mouth, and maintains the behavior of taste, erosion within teeth being kept off.

Dhumpan (detoxification): It relaxes within the chest, throat and also liquifies the kappa and also raises the strength of sense organs.

Abhyanga (Oil bath): Via proper massage, life expectancy raises and maintain tiredness behavior and decrease the *Vata* related problem. It maintains the nourishment behavior in the body, sweet dreams. By doing *Padabyanga*(foot massage), steadiness to leg and hand and also upgrade the eyesight *Shiroabyanga*(head massage) mitigates the hair fall problem, blacking of hair and long also maintain hair root stable via nourishment of sense organs and also make spongy skin.

Udvartana(rubbing of the body): Via *Udvartana,* enhancement in complexion behavior of skin, dilation within blood vessels. Relaxation and stability of energy level and decrease Kapha Dosha in the body.

Vyayam (exercise): Via exercise, proper geometry of the body maintains which nourishing the health. There must be the practice of *Ardhyashakyta Vyayam* (less energy exercise which leaves just after sweating which generally done in summer) which maintains body weight, enhance Agni for digestion, decrease lazy behavior and uplifting the energy level of the body, kick out stress and enhancement the working behavior.

Bhojan (food): Generally, it contains sattvic and only half of the stomach should be filled with a nutritive diet having solid food, 1/4th liquid, and rest ¼ the must be hollow for air for proper digestion. There must be six tastes within the food and also follow guidelines (*Ahar Vidhi Vidhan, Ashtau Ahar Vidhi Vishesha Yatana*) as prescribed by Ayurvedic Samhitas. As stated by *Acharya Charaka*, for sustainable health, clarity, life expectancy, happy, intellectual, soul or physical relax then the combination of food and timing of food must be targeted.

Tambul(betel leaf is known as Paan): After having food, tambul is taken for proper digestion of food, positive oral behavior, upgrade the functional behavior of sense organs.

Snana [50] (Bath): Bath increases the energy level either physically or conscious, life expectancy, *ojas* (Shine), curing by removing sweat, impurities of the body.

Anulepana [51] (Oily application): Maintain good looks, remove bad odor, decrease tired behavior, remove sweat, etc. Generally, *Anulepan* is being done for having beautiful makeup as prescribed by Ancient Samhita's.

Rakshoghna [52] (Protective measures): Proper, air, and temperature maintenance means of clothes which increases shine, make attractive and lovely.

Vastradharana [53] (Wearing cloth): Having clean clothes increases beauty, cool mind, maintain the body. But clothes are known as status symbols and the quality of clothes is not good either for the protection of skin by harms, UV Ray's, etc. rather choose clothes by other looks.

Dharana (Wearing garlands) [54]: Different drugs are being used like *Chandana* (Santalum album), *Kesara*(*saffron seeds*), *Kasturi* (Abelmoschus moschatus) for garlands which are a source of strength, a relaxed mind, fragrance, etc.

Kavach Dharana (Wearing of protective covering) [55]: Wearing protective covering enhances clearness, complexion, luster, and strength.

Shankar Chatradharana (Wearing head turban and umbrella) [56]: Wearing a turban overhead helps to keep the hair clean and good for hair. Umbrella protects from rain, wind, dust, fumes, mist, and intense heat of the sun. It improves complexion and good for eyes and enhances shine.

Preference for food

The variation of nutriment is based on factors like *Prakriti, Guna* (attributes), *Samskara* (processing), *Sathmya* (homogeneity), *Vaya* (Age), *Desa* (Habitat) and *Kala* (Seasons) [57].

Preference of food based on Prakriti

As reported above, the lifestyle, food, diet plan varies with respective Prakriti. Likewise, *Kapha* dominant people need minimum food but takes maximum food for digestion due to its slow metabolizing process and also tolerate thirst or hunger.

The physical appearance is the mass gain in a small quantity of food/meal and chances of obesity are more. So, they regularly take part in fasting, take a small quantity of meals having pungent, bitters, or astringent tastes. They love to take spicy, hot beverages within food constituency.

Pitta dominant person needs heavy good in frequent intervals of time and having high efficiency metabolizing activities than others and unable to allow hungriness, habitual of water intake, and may cause acid-based diseases. Generally, the person of such category loves to take sweet, astringent having cool nature, avoiding spicy based food for controlling acidity.

Vatta dominant person has the nature of quick eating if a small amount of food and unable to gain proper weight although consuming nourishing food and have high chances of degenerative diseases. They love to take fat constituency food i.e. clarified butter, edible oils, meat with hot nature having sweet, salty, or sour nature [58].

Preference of food based on *Guna* and *Rasa*

The constituency of food is on basis of their *Guna* (attributes), *Prakriti*, seasonal variations, and *Agni*. There is also the consideration of *Guru* (heavy to digest) and *Laghu* (light to digest). Example: There is difficulty (heavy to digest) in the digestion of black gram but easy (light to digest) for green lentil. So, each *Prakriti* has a good relation to the preference of food on basis of *Guna*. Example: The nature of *Kapha* is *Guru* (heavy) and *Snigdha* (unctuous). So, the similar nature of food shouldn't suitable for *Kapha* and increase its nature and cause varieties of diseases due to lack of equilibrium. So, food must be chosen on basis of counterbalance the nature of health for attaining the equilibrium. The *Agni* (digestive power) also plays a vital role i.e. less digestive power or *Agni* can't digest *guru* (heavy), *Snigdha* (unctuous), and *sheath* (cold) but easy to digest to the person having high *Agni*. The truth of *rasa* (taste) also plays a vital role in the preference of meals for maintaining balance within the *Tridosha or Agni* of the human body.

Preference of food based on samskara

The *Samskara* (the process of the dietary item) can change the *gunas, rasa* of food that depends upon preparing food. So, choosing behavior must be attainable during the consumption of food. Processing food also serviceable like mixing of dry ginger with milk is good for asthma patient & deep frying in oils [59] influential for atherogenesis.

Concept of Viruddha

The *Viruddha* (incompatibility) [60] is also analyzed by ayurvedic about a combination of one food with others that must be perfect. Some foods shouldn't mix, because the mixing of such item can decrease the respective food efficiency and may hamper our health. So, in Linguistic mean, it's known as *Viruddha i.e.* can't exist together. For example blueberries and milk both are important but if they are mixed then there is a reduction of anti-oxidant properties of blueberries [61]. There are eighteen types of *Viruddha* that have texted in Ayurveda which can leads to many problems either metabolizing activities or systemic disorders. A combination of the food items is good when the curd is taking with green lentils.

Preference for food based on age

Varies of metabolizing activities taken place with the variation of ages which indicates the variation of *Dosha* dominance behavior also varies in the parallel mean. Like, *Kapha, Pitta, Vatta* has occurred in children, young, old age respectively [62]. Diet must be taken into consideration for each group via respecting *dosha* for safe health.

Preference of food based on *desha*(place)

The place, season-changing where food is originated and consumption are also credited during preference of food for good health as suggested by Ayurveda. There is a variation of metabolizing activities in the body with the season, the place with the framing of diet maintenance.

Quantity of food

The quantity of food shouldn't depend on wish to have rather depends upon verities of food, *Agni,* working of an individual. While taking heavy food, the quantity must behalf for easy digestion process and food must be divided into three parts i.e. *bhumi* (solid), *half* (liquid), *vayu* (air) and there are presences of digestion path (*agni*), the shape of the body (*space)*. Heavy diet in the morning and very less food at dinner time [63]. Hence, *panchamahabhut* needs to maintain balanced energy and prevent diseases.

Timing considerations

The time of food taken varies upon individual needs which may vary from one person to another but must be within the ayurvedic guidelines. The ayurvedic stated about 2 times a day with differences of 8hr [64]. The timing must consider about digestion of previous food and responding the hunger and good digestion may cause hunger thirst, proper excretion of urine and stool, feeling light body. In *ayurvedic, Sanskrit* term, consumption of diet ahead digestion of earlier diet known as *Adhyayan* [65] & may cause health disorders.

Other rules of consumption

Within the time-framing of food, quickness of meal taking is also known as vital means. In such a term, slow eating helps to upgrade the digestive process, upgrade satisfaction, weight balance [66]. Mindfulness behavior of eating must be considered to upgrade digestive behavior and promote glycemic control [67].

Lifestyle disorders

The behavior of Overweight or obesity is related to high blood pressure/cholesterol levels, decreases insulin level which may invite diabetes [68]. Maximum fat above 60% may cause diabetes & 20 % relates within cardio problem [69]. Elevation of only cholesterol may increase 60% of CVD problems at a global level. The lifestyle diseases of the 21st century comprise diabetes, hypertension which modify the body with the decrement of energy level and are known as "silent killer" but increasing within the phase of 5-7 years [70]. Mostly, they affect the kidney, eye, heart, brain [71]. These all diseases are caused due to lack of dietary behavior, unhealthy lifestyle and invite anxiety, sad, negativity vibes, tension asthma, heart diseases, etc. [72]

Vegetable and phytochemical

The peculiarity of vegetables is described hereby: [73]

- Alkali metal salt metabolizing organic acid for the liberation of alkaline nature needed for health
- Vitamins and carbohydrates are well behavior able to update muscular activities with a heart to strengthen the contraction of the heart.
- Less amount of fat or proteins which is responsible for decreasing the weight of an individual.
- Less amount of alkali salt is present i.e. Na constituent one.
- The volume of the meal can be decreased via substitutions of vegetables for the same calories.
- Good for split uric acid, prohibition the formation of kidney stones.
- Productive for secretions of gastric, increase Fe absorption, and also update the formation of RBC.
- Decrement of gallbladder via lowering blood cholesterol or bile.
- Even, fewer carbohydrates food can be consumed by diabetic patients.
- The high content of retinol in carrot is needed via the person who is the insufficiency of it.
- Vegetable contains fewer lipids that tranquilize dyslipidemia and left cholesterol which reaches the gut and prevents via the regripping process.
- The anemic patients can consume tomatoes and also update digestive secretions.
- Cabbage contains sulfur group (anti-microbial), salts (antithyroid effect), and also has healing behavior on gastroduodenal ulcers.
- Vegetable update immunity via metabolizing the fighting with free radical, decreasing the water-retentive behavior, update tissue oxygenation behavior, update blood circulation.
- The phytonutrients are good for maintain the young age of cells due to the constituency of vitamins, proteins, lipids, carbohydrates, enzymes, and minerals needed for the body and maintain antibodies.
- A vegetarian diet can decrease the neural problem of the elderly.

Results and discussion

Food security is the result of the unconscious management of food in multi-dimension mean whose analysis has been presented hereby. Ayurveda respect limitations, consumption of food in accordance with an individual's *Prakriti* which helps to upgrade physical behavior, balance psychology, upgrade conscious [74]. Till now, a lot of NGO/INGO, FAO, UN, WGP like organizations are trying to manage food security via applying the policy, but all policy has been changed or upgrades within the sequence of time which results in unsustainable management of food [75].

Although, food is served such food-management results in the high slope of diseases either chronic or temporary due to behavioral consumption of food observed in today's lifestyle [76] due to ignorance of the "concept of *Prakriti, Dosha"* [77] by the individual. A person having food isn't enough because caring for the machine also plays a vital role in upgrade efficiency not only fuel. Likewise, "*Dincharya",* management of daily practices which is diverse within the sequence of time of day & variation of lifestyle, diet, behavior among season then known as "*ritucharya*" [78].

The phytonutrient analysis of any plants, medicine is being analyzed within specific boundaries either tools, treatment producer, the time whereas our body & environment is dynamic [79].

In other to stay in such a dynamic module, Ayurveda principle which strictly clear about the types of food consumed based on the property of food, nature of the body, regularity within the body system [80].

Covid-19 is a serious problem but every problem teaches a new lesson to that food security is a vicious problem due to Covid-19. But, the principle of management of food has been inscribed about 5000 years ago within Ayurveda whose respective principle has been mention above [81]. The non-veg food has been restricted by Ayurveda in our culture because such food increase metals deposition behavior within the body system [82] & also decreasing the quality of air, quantity of water, land resources [83] which is a boon for humanity via agro-based green industry which is the demand of 21st century for absolute decrement of food security. The goals of UN-SDG (United Nations- Sustainable Development Goals) [84] must be analyses via respecting economy, innovation, calorific diet.

The productivity of organic food [85,86] produces the local level and respecting plant growth as well with an implement of panchagavya [87] which symbolize sustainable food security i.e. respecting GOAL 2 of UN-SDG (Zero hunger). Ayurveda focuses on the management of food, diet plan, the system of the body which shows Sustainable management of health [88,89]. So, the principle of Ayurveda respects GOAL 3 of UN-SDG (Good Health and Well-being).

Ayurveda respect *panchatatwa* which directly convergence toward pure hydrosphere, atmosphere, biosphere for the existence of the environment and health [90]. So, It respect (GOAL 6: Clean Water and Sanitation, GOAL 7: Affordable and Clean Energy, GOAL 13: Climate Action, GOAL 14: Life Below Water, GOAL 15: Life on Land). The term *desha* which refer to the management of food, diet plan, *dincharya* within the atmosphere of the same place which symbolize the decrement of packing food which has less nutritive value, increases metal content [91] than the natural mean, and also disbalance the purity of the land, water, ozone, the temperature of surrounding, air [92] which sharply defined about (GOAL 11: Sustainable Cities and Communities).

The responsible diet has been illustrated by Ayurveda which varies via *prakriti, Dosha, desha, guna, rasa* [57] which support (GOAL 12: Responsible Consumption and Production). The 21st century is economy uplifting century instead of the Scientific age because the most public are in poverty due to high medical cost [93] for which people of under-developed, developing nation sell land (food as ornaments), lack of proper knowledge about management of health[94], phytonutrients[95] mention above and diet, education cost is high[96] but being westernized where "saving upgrade economy" hasn't been seen.

The management of health can save upgrade because a “healthy mind only survives in a healthy body"[97] and can innovate for the progress of the nation and kill out from poverty i.e. (GOAL 1: No Poverty). The progress, conscious is a startup from childhood due to *kaf Nature* [98] which helps to take the intellectual decision in life but specific guidelines must be obeyed i.e. respecting *panchatatwa, spirituality* [99] which is analyzed by Ayurveda.

Due to such know only, a person can innovate eco-friendly innovation like eco-friendly drugs [100] which are lacked and verities of problem are being observed which degrade health [101], economic insecurity, too. What is the use of such innovation as chemical fertilizer [102] for food upgrading, just to increase the economy? Hence, Ayurveda inspires sustainable-based innovation which only inspires via qualitative education with respect to spirituality, environment, Culture, food security. So, Ayurveda teaches the qualitative mean either education or innovation (GOAL 4: Quality Education, GOAL 8: Decent Work and Economic Growth, GOAL 9: Industry, Innovation, and Infrastructure).

Interestingly, Ayurvedic medicines including *Gurjo* (Tinospora cordifolia) are being used in the treatment of COVID-infected people in Nepal and its effectiveness has also been seen. But there is no scientific basis for the fact that these herbal medicines cure corona but increases immunity to fight disease [103].

The isolation of Curcuma or curcuminoids from Turmeric provided the anti-flammatory and immunomodulatory properties. It has been noticed that the edible consumption of Turmeric also provided health benefits (Aggarwal, Gupta, & Sung, 2013) [104]. Besides, curcumin's largest producers and consumers are Southeast Asia where a very low number of deaths are noticed from SARS-CoV-2 infections [105].

The critical analysis of curcumin and SARS-Cov-2 hasn't been known but many Scientific reports reflect the anti-viral importance of curcumin against immunodeficiency virus (HIV) via hindering virus replication or via blocking inflammatory pathways operating in the acquired immunodeficiency syndrome (Prasad & Tyagi, 2015) [106]. The literature suggested it's antiviral nature against Chikungunya and Zika virus (Mounce, Cesaro, Carrau, Vallet, & Vignuzzi, 2017) [107]. Curcumin also has anti-inflammatory and immunomodulatory behavior due to inhibitions of inflammatory mediators like prostanoids and cytokines and also has anticancer, antiarthritic, and antiatherosclerotic property (Aggarwal, Gupta, & Sung, 2013) [104].

It has anti-oxidant properties and also formulates lipid-lowering behavior which can tackle cardiovascular and metabolic diseases (Pagano, Romano, Izzo, & Borrelli, 2018) [108]. Even curcuminoids have antithrombotic properties because the report of thrombotic events is maximum within COVID-19 patients (Wichmann et al., 2020) [109]. Curcumin also improves lung via it's anti-cytokine and antifibrotic activities which get affected via COVID-19 (Lelli, Sahebkar, Johnston, & Pedone, 2017)[110].

Nepal has huge diversity. Our lands are divided into Terai, Hills, and Mountains. The journal Phytotherapy Research published that the flowers of the red spider lily (Lycoris radiata) found in the mountains whereas the *gurjo* (Tinospora cordifolia) and *ganda* (Calendula officinalis) found in hills and the *gudmar* found in the lowlands(Terai) will be useful in the treatment of coronavirus. Red Spider Lily flower should not be used directly, it is poisonous. But further investigation is yet to be done in SARS-CoV-2. Most of the plants are found in China[111-113].

The Central Department of Chemistry, Tribhuvan University, will receive about 10 million Nepalese rupees from the University Grants Commission for research on COVID. Only one proposal towards science has been approved [114].

Conclusions

The rate of health degradation is increasing with the rate of modernization whose results are cancer, diabetes, viral fever, Corona. Health must be able to defeat any infection for which the lifestyle must be modified within the Ayurveda because Ayurveda manages the health instead of cure the health. Even, Ayurveda is easily accessible for every community either developing countries, under-developed countries around the world, and access the quality of life. If such practices are happening then, proper management of health and public won't harsh via high medical cost which they are paying recently either for CORONA, or any other diseases.

Every public concern about it because even Ayurveda respect nature, environment, health, economy because fewer expenses upgrade the economic status of people which is the need of developing countries, under-developed countries around the world like Nepal, Pakistan, Bangladesh. Ayurveda restrictions of having meat which isn't good for health and the environment in the multi-dimension mean. Hence, Ayurveda respects *panchatatwa* and inspire researcher to research which respects *panchatatwa*, sustain via local resources, and even principle of UN-SDG, humanity, nature as well as to sustain civilization.

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