



RESEARCH ARTICLE

CHANGE IN LIFESTYLE AND DIETARY HABITS DURING COVID-19 PANDEMIC

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Abstract

On December 2019, the outbreak of a novel infection coronavirus(SARS-CoV2) became a global pandemic and named as Coronavirus disease (COVID-19) World Health Organization (WHO). On 22 March, 2020 the Prime Minister of India announced and 14 hours' public curfew and from 24 March, 2020 suddenly announced complete lockdown. The complete lockdown in India made changes in the living habits and dietary pattern of public. To study the impact of COVID-19 Pandemic lockdown in India the online survey was conducted on 72 subjects, which was based on their lifestyle and dietary habits, among the family, friends, relatives and colleagues of different age groups due to lockdown.

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Introduction:-

COVID-19 is a severe acute respiratory syndrome caused by SARS coronavirus 2 (SARS-CoV-2). In December 2019 from Huanan seafood market Wuhan City of Hubei, Province of China SARS-CoV-2 transit from animals to humans, and spread to the rest of the world. On the 30 January 2020, due to the growing infection rates at Chinese and international locations the WHO Emergency Committee declared a global health emergency. On 12 March 2020, the COVID-19 first death was reported in India. On 22 March 2020, prime minister of India announced 14 hours' public curfew.

To handle the worsening of pandemic in country on 24 March 2020, the prime minister suddenly ordered a complete nationwide lockdown for 21 days. During the sudden lockdown in India, all places of public gatherings such as schools, cinemas, restaurants, shopping complexes, higher educational institutions were closed. To avoid crowds and control the spread of COVID-19 employees and students were being asked to work from home. All types of transportation services, including rail, road and air, were suspended with exceptions for essential services were closed. [1]

The mortality rate of Covid-19 is 2–16%, the rapid spread of the disease and high mortality in the susceptible population (mainly aged over 60 years and also in patients with medical conditions such as diabetes, cardiovascular diseases, etc.,) has resulted in a global lockdown and life has come to a standstill causing yet another world economic recession after 2008. The incubation period is presumed to vary between 2 and 14 days. The transmission through surface contact of aerosol droplets from infected persons, followed by touching nose, eyes, and mouth. Evidence also points toward vertical transmission to new-born, also by fecal transmission.

The pathogenesis of COVID-19 is highly complex and involves suppression of host antiviral and innate immune response, induction of oxidative stress followed by hyper inflammation described as the “cytokine storm,” causing

the acute lung injury, tissue fibrosis, and pneumonia. There are several nutraceuticals have proven ability of boosting immune system, antiviral, antioxidant, anti-inflammatory effects. These include Zinc, vitamin D, vitamin C, curcumin, cinnamaldehyde, probiotics, selenium, lactoferrin, quercetin, etc. the right combination and grouping some of these phytonutrients in the form of a food supplement may help to boost the immune system, prevent virus spread, preclude the disease progression to severe stage, and further suppress the hyper inflammation providing both prophylactic and therapeutic support against COVID-19. [2]

Restrictions and lifestyle changes during lockdown have been associated with poorer psychological wellbeing. Reduced social contact, feelings of isolation, and fear of contracting or spreading dangerous viruses have been historically linked to poor wellbeing. Time spent in quarantine during previous disease outbreaks has been shown to have negative psychological effects. Psychological symptoms (stress, anxiety, depression) have been shown to rise in tandem with time spent in proposed that poorer psychological wellbeing and mental health during COVID-19 lockdown is associated with health behaviors such as alcohol consumption, diet, sleep, and physical activity.[4]

This new situation due to lockdown may compromise maintaining a healthy and immune boosting diet, as well as a regular physical activity. For example, restricted and limited access to daily grocery shopping may lead to reduce the consumption of fresh foods, especially fruit, vegetables and fish, in favor of highly processed ones, such as convenience foods, junk foods, snacks, and ready-to-eat cereals, which tend to be high in fats, sugars, and salt. Moreover, psychological and emotional responses to the COVID-19 outbreak may increase the risk of developing dysfunctional eating behaviors. Eating habits and lifestyle modification may threaten our health. Maintaining balanced and a correct nutrition status is crucial, especially in a period when the immune system might need to fight back. [3]

Hence, the thorough study on the impact of lockdown and changes in the lifestyle and diet pattern is necessary.

Material and Method:-

The well planned survey method was used that included the study area, selection of sample, formulation of the questionnaire and pretesting of the questionnaire was used. And finally collection of data.

Locale:

The study was conducted with the help of families, friends, relatives and colleagues located different towns, villages, cities and states of India. The survey was conducted during the complete lockdown period i.e. in between the 25, April 2020 to 25, May 2020. The duration of survey was one month.

Sample:

The selection of subjects was random and above 18 years. The total number of subjects was 72 in number.

Formulation of Questionnaire:

The questionnaire used for the collection of data. The relevant and necessary changes and addition based on the pretesting of questionnaire was done on the final questionnaire.

Result:-

This Pandemic leads to an unexpected Lockdown for months. This sudden lockdown situation has direct impact on the lifestyle and diet pattern of the people. This study find out the different aspects of change in lifestyle, food habit, physical activity, diet pattern, awareness of Covid-19 and daily water intake.

Table 1:- Demographic profile of the subjects.

Personal Characteristics	Number	Percentage
Gender		
Female	50	69.4
Male	22	30.6
Age in Years		
20-25	31	43.1
26-35	29	40.3
36-50	12	16.6

Occupation		
Government Employee	21	29.2
Private Job	06	08.3
Doctor	02	02.8
House wife	05	07.0
Engineer	03	04.1
Students	35	48.6
Educational qualification		
Graduate	14	19.4
Post graduate	36	50.0
Doctorate	20	27.8
M.B.B.S	02	02.8
Family Type		
Nuclear Family	50	69.4
Joint Family	22	30.6
Family member		
2-4	35	48.6
5-7	32	44.4
>8	05	07.0

Table 1 highlights the personal characteristics of the subjects. It concluded that majority of the subjects were female (69.4%) as compared to the percent of men (30.6%) in the online survey of impact of Lockdown in human life. Age group selected was 20 to 50 years, almost equal percent of subjects comes in the age group of 20-25 years (43.1%) and in the age group of 26-35 years (40.3%) very few were in the age group of 36-50 years (16.6%). The maximum percent of subjects involve in this study was students (48.6%) followed by the subjects who has government jobs (29.2%) and percent of housewife was (07.0%) only. Majority of the subjects were postgraduates (50.0%) and some of the subjects was doctorate (27.8%). The large number of subjects are living in nuclear family (69.4%) consisting of 2-4 (48.6%) family members in the family as compared to the people living in joint families (30.6%). Almost every subjects were well aware about pandemic outbreak (98.6%).

Fig 1:- Awareness regarding COVID-19 Pandemic.

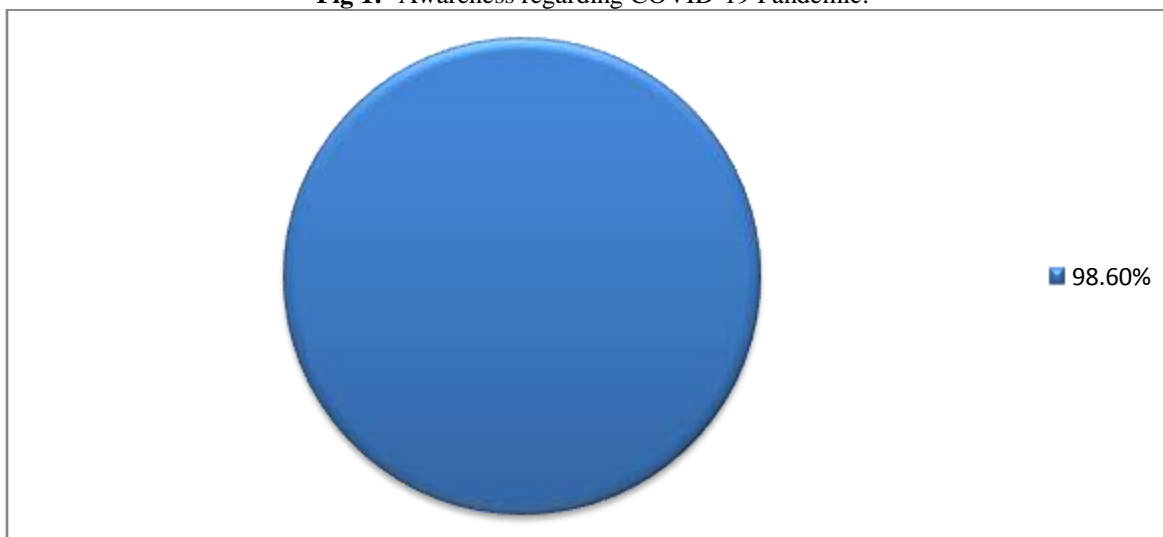


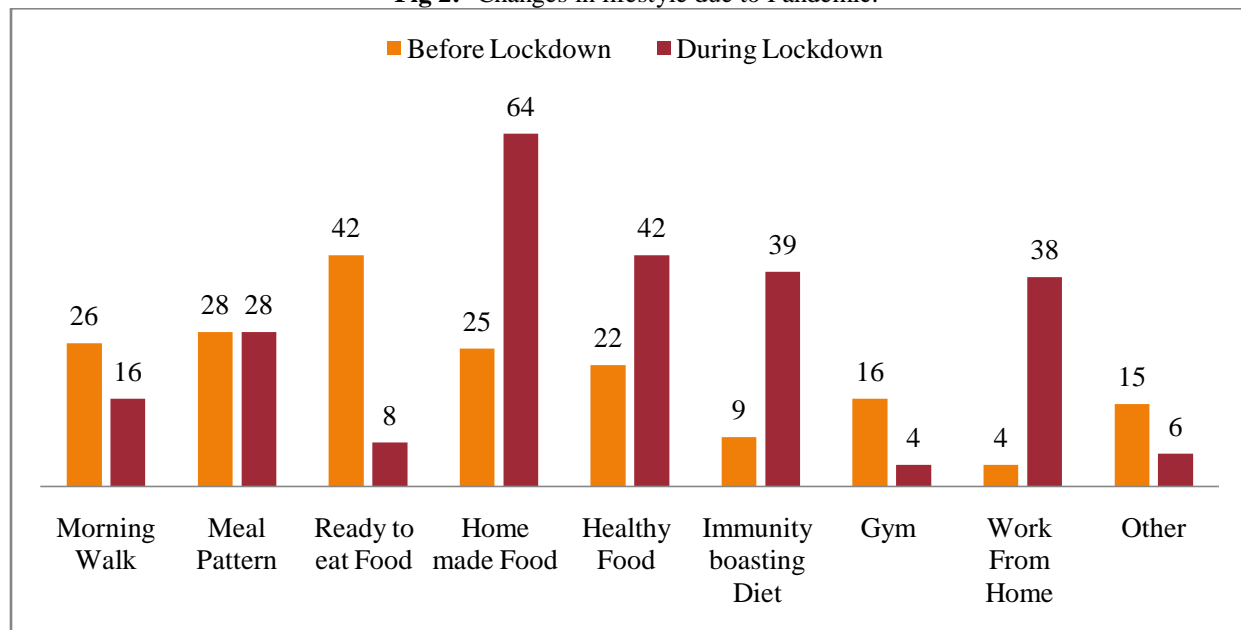
Table 2:- Awareness regarding Covid-19 pandemic Lockdown.

Responses	Number	Percentage
Do you think knowledge regarding Covid-19 is sufficient?		
Yes	42	58.3
No	03	04.2
Somewhat	19	26.4

Maybe	08	11.1
Do you think lockdown and social distance is necessary for every individual?		
Yes	65	90.3
No	01	01.4
Maybe	06	08.3
Do you agree with the services provided by government in this lockdown?		
Yes	66	91.7
No	06	08.3
Are you following the necessary precautions during lockdown?		
Yes	70	97.2
No	02	02.8
Do you believe lockdown has negative effect economically?		
Yes	33	47.1
No	34	48.6
Somewhat	03	04.2

Table 2 concluded according to the survey that majority of people was agree with the amount of knowledge they have about Covid-19 (coronavirus) was sufficient (58.3%) and was satisfied (91.7%) with the services provided during lockdown. Majority of subjects followed the necessary precautions (97.2%) and social distance (90.3%) during lockdown period. It was also observed that during lockdown due to Covid-19 pandemic there was a negative impact (47.1%) on the economic status of their families. Economists assume that the impact of COVID-19 on the economy will be high and negative when compared with the SARS impact during 2003.[5]

Fig 2:- Changes in lifestyle due to Pandemic.



According to the study there is visible change can be observed in fig 2 regarding the change in the lifestyle of people due to lockdown. The majority of people consume homemade food only (88.9%) during lockdown as compared to ready to eat food (11.1%). The intake of healthy food (58.3%) and immunity boosting diet (54.2%) was increased during pandemic lockdown period. Mostly people switch to the work from home (52.8%). Although negative impact was observed in the physical activity, such as only few people does morning walk (22.2%) and gym (05.5%) during lockdown period.

Table 3:- Awareness regarding Immunity Boosting Diet.

Response	Number	Percent
Are you aware of importance of immunity Boosting Diet?		

Yes	62	86.1
No	10	13.9
Do you believe Vitamin D play Important role for better Immunity ?		
Yes	33	45.8
No	07	09.7
Maybe	33	45.8

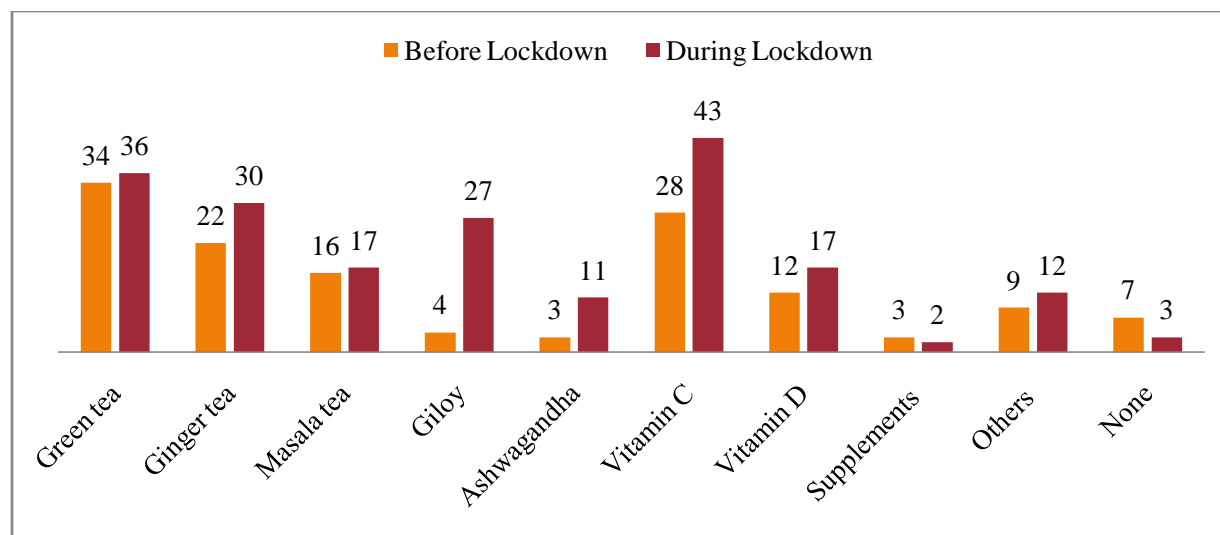


Fig 3:- Impact of Pandemic on Immunity boosting food intake.

According to the article the COVID-19 pathogenesis is highly complex and involves suppression of host immune response and several nutraceuticals have a proven ability of immune-boosting and play an important role in diet. These include Zn, vitamin D, vitamin C and phytonutrients in the right combination in the form of a food supplement may help to boost the immune system providing both prophylactic and therapeutic support against COVID-19. Majority of subjects was aware of immunity boosting diet (86.1%) compared to were not aware of (13.9%). They were asked about the role of vitamin D as boosting immunity of individual (45.8%) were agree, whereas (09.7%) were disagree with it. It was observed that fig 3 majority of subject increase the intake of vitamin C (59.7%) in diet along with giloy (37.5%), ginger tea (41.7%), ashwagandha (15.3%) and other.

Conclusion:-

1. It was concluded that the majority of subjects were well aware of Covid-19 pandemic and follow the lockdown rules along with taking all necessary precautions to stay safe. The maximum subjects were student and well educated and continue their study and work from home.
2. There was change in lifestyle of subjects were observed during lockdown consumption of ready to eat food was decreased as compared to home made food, lack of physical activities but positively directed towards the healthy and immunity boosting food and awareness regarding immunity boosting food also increased.
3. During such challenging situation some families may also go through the negative impact on their economic status. During this pandemic lockdown, adapting healthy lifestyle and diet was the only key to stay mentally and physically strong.

Recommendations:-

1. By adapting few precautions i.e maintaining social distance, avoid gathering, washing hands frequently, wear mask properly, use sanitizer and immunization will help to restrict the spread of Covid-19 (coronavirus).
2. Maintaining body weight, physical activities and taking proper diet will help to maintain the immunity of the body.
3. Food supplements should include rich in zinc, vitamin c, vitamin d, allicin, cinnamaldehyde, curcumin, probiotics, piperine, selenium and other phytonutrients which help to boost the immune system, prevent virus spread, preclude the disease progression to severe stage, and further suppress the hyper inflammation providing both prophylactic and therapeutic support against COVID-19

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