

# Life Style, Attitude and Consumption of Health Supplements during the Covid-19 lockdown: A study of tion in and around Pune, Maharashtra, India

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## ABSTRACT

The SARs- COV2 or corona virus infection has contributed to major lifestyle changes for every individual. Protection against this, or any other virus is offered both by precautionary measures like cleanliness and sanitization and improvement of body's immune system. World Health Organization and Ministry of AYUSH has recommended several measures to boost up the immunity power. In this context, the Government and Medical Association has recommended use of health supplements to enhance immune system. This study aims to understand the awareness and consumption of health supplements by people in this pandemic situation and the various measures undertaken to boost immune system. Data was collected through a structured questionnaire and was analysed with the help of statistical tools. The data was initially analysed using Frequency Distribution Methods. Further analysis of data using relevant statistical tests is in process and would be presented in subsequent studies. Data analysis showed that during the pandemic the food habits, sleep pattern and lifestyle of the respondents had changed considerably. Respondents have become more health conscious, are aware of health supplements and are more inclined towards consuming Ayurvedic preparations.

**Keywords** COVID 19, pandemic, Lifestyle changes, Health Supplements. Awareness of Health Supplements, consumption of health supplements, immune system, boost immune system

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## Introduction

Coronavirus disease also known as COVID 19 has brought about a lot of changes Both in the functioning of organizations and human beings. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is responsible for causing the infection. The disease originated in the Wuhan city of China in December 2019 and since then has become a global pandemic and a global cause of concern. India reported the first

case in January 2020. As of March 2021, India ranks second amongst the countries having largest number of coronavirus confirmed cases with currently 1.79 million cases and 2.01 thousand deaths Ministry of Health reported that the Fatality rate in India in this pandemic is the lowest, it is 1.27%. Pune was amongst the worse - hit cities in India with highest number of coronavirus cases

Indian Government has taken various timely measures in order to curb the spread of coronavirus infection. The first response was thermal screenings of passengers coming from China and other countries. As the number of cases started increasing, the Government of India recommended maintenance of social distancing and imposed restrictions on travel and entry. Screening for infections increased. Government of India imposed a nation - wide lockdown in the end of March 2020. Strict lockdown measures were imposed for about 3 months, following which restriction were removed in phased manner.

Coronavirus pandemic has turned out to be a global public healthcare issue. The crisis situations and isolation due to lockdown has impacted individuals physically, psychologically and emotionally. Surge in anxiety cases, mental health problems and suicides due to economical, unemployment, financial and personal issues are a matter of concern. World Health Organization, Indian Government, Ministry of Health, Ministry of AYUSH and Medical Associations have been regularly giving guidelines to manage personal health during this pandemic situation. Amongst the different measures, they had suggested the use of health supplements to increase the immunity levels of individuals to help the individuals fight against coronavirus infection.

The current paper tries to understand the awareness and consumption of the health supplements by the studied population. The paper also tries to capture the changes in Lifestyle and Attitude of the respondents during this pandemic situation.

## REVIEW OF LITERATURE

WHO reported that COVID 19 caused by new coronavirus, SARS-CoV2 started with a cluster of viral pneumonia cases in Wuhan, China. Following this the number of cases grew steadily in all the parts of the world. It was declared as a global pandemic and a global threat to mankind. COVID 19 affects the respiratory tract. The common symptoms of COVID 10 include fever, dry cough, fatigue, sore throat, nasal

congestion, breathing difficulties, headache, muscle and joint, pain and loss of taste and smell. Those people who have been observing asymptomatic, mild infection are advised to take medicines at home and quarantine themselves in their homes. Patients with to a severe condition have to be treated in hospitals and at times have to be kept on ventilators.

Sinha and Mishra (2020) studied the prognosis of the COVID 19 infection on patients with comorbidities. Comorbidities include prevailing conditions of diabetes, hypertension, cardiovascular disease, COPD, chronic kidney disease, obesity, liver diseases and asthma. They also stated that these comorbidities increase the chances of in-hospitalization complications and the prognosis of such patients is severe, may even lead to death. In a study conducted by Singh, Sharma and Maurya (2020), they stated that even when anyone can get infected from Corona Virus, people above the age of 60 years and those with comorbidities were at a higher risk of succumbing to the infection. The mortality studies done by the authors in India stated that around 9.39% households are at a risk of losing at-least one member in the family due to a family member having a pre -existing condition like diabetes, hypertension, respiratory and heart diseases. They also stated that countries with a high aging population show higher risk, requirement of hospitalization and higher fatality rate. They were also of the opinion that people in urban areas and people having a good quality of life are more prone to the infections and may suffer more. The reason could be the prevalence of comorbidities amongst these people. They stated that the socioeconomically backward people may have a greater mortality rate due to unhygienic conditions and improper health care facilities.

According to Press Information Bureau Report (2020), the fast - increasing cases are exerting tremendous pressure on Indian Socio-economic situation and the Healthcare system. For a second largest populated country, increasing COVID 19 cases is a catastrophe. The easy and immediate method to curb the spread of an infection is avoiding

exposure to the infectious agent and follow proper hygiene protocols. A 14 h Janata curfew was imposed on 22<sup>nd</sup> March 2020 and a further lockdown of 21 days was initiated in various cities that was extended due to worsening of the situation and increase in the number of infectious cases till 31<sup>st</sup> May 2020. (Kumar et. al., 2020) After that a phased re-opening was initiated in India. Ministry of Health and Family Welfare (MoHFW) has been raising awareness of the Corona virus outbreak and is instrumental in undertaking necessary action to control and curb the disease. At the same time ICMR in association with WHO is issuing guidelines for testing, conventional prevention and treatment strategies for the patients.

Along with physical and physiological symptoms, various psychological issues have been reported. Roy et. al. (2020) conducted a secondary research to understand the various mental issues that came in the forefront due to or during this humanitarian crisis. They noted that cases with increased stress, anxiety, depression, insomnia, denial, anger and fear are seen in COVID 19 pandemic. Issues related to increased mental issues and psychological problems are reported from various parts of the world, including developing countries like India. Xang et. al. (2020) India has a proven history of traditional medicines and is known for the use of these traditional medicines in prevention and treatment of various diseases. These traditional medicines are also known to increase the immunity or the ability of individual to fight the disease. Ministry of AYUSH (Ayurvedic, Yoga and Naturopathy, Unani, Siddha, and Homeopathy) has been making people aware of and giving guidelines for use of traditional medicine against the COVID 19 infection.

In the current paper, the researchers have tried to understand the lifestyle and attitude changes and the awareness and consumption of health supplements amongst the respondents during the COVID 19 pandemic

### RESEARCH OBJECTIVES:

The research objectives included -

published an article stating that the COVID 19 pandemic is a harbinger of increased suicidal cases. Dsouza et. al. (2020) investigated the factors which led to increase in suicides during the pandemic. They stated that the prominent cause of suicides was the fear of COVID 19 infection followed by financial crisis, loneliness, social boycott, pressure of being quarantined, work related stress, unable to come due to lockdown and unavailability of alcohol. Grover et. al. (2020) conducted an online survey in India to understand the psychological influence of the lockdown during the global crisis of COVID 19 infection. The survey suggested that almost two fifths of the population in India are suffering from mental and emotional issues due to the lockdown and the prevailing pandemic. An overall policy and guidelines to handle the psychological and behavioural issues was suggested. Helplines are created to give regular updates on the pandemic as well giving support and help in addressing the physical, physiological and the psychological problems faced by the people due to the pandemic. (Kumar et. al., 2020). Various preventive and treatment measures are also undertaken by the Government and the Healthcare systems in India.

- To understand the effect of Covid-19 pandemic on the lifestyle of the studied population
- To understand the awareness about health supplements among the studied population
- To study the association of the awareness about health supplements and the demographic characters of the studied population
- To understand the attitude of the studied population towards health supplements
- To understand the consumption pattern of health supplements by the studied population
- To understand the various measures taken by the studied population to boost the immune system

### RESEARCH METHODOLOGY

The study involves Qualitative as well as Quantitative research techniques. In the current descriptive research, primary data was collected from 84 respondents residing in and around Pune. A structured questionnaire was created on Google Forms and the link was forwarded through Email and What's App groups. The data collected was initially analysed using frequency distribution methods. Further analysis using chi square test and z test for testing hypothesis is underway and would be presented in another research paper.

#### Data Analysis

In the current paper, the collected data was analysed using frequency distribution method.

Table1: AGE

The frequency distribution of respondents according to AGE along with its bar graph is as given below.

Age	Frequency	Percent
18-25	14	16.7
26-35	17	20.2
36-45	33	39.3
46-55	13	15.5
56-65	4	4.8
> 65	3	3.6
Total	84	100.0

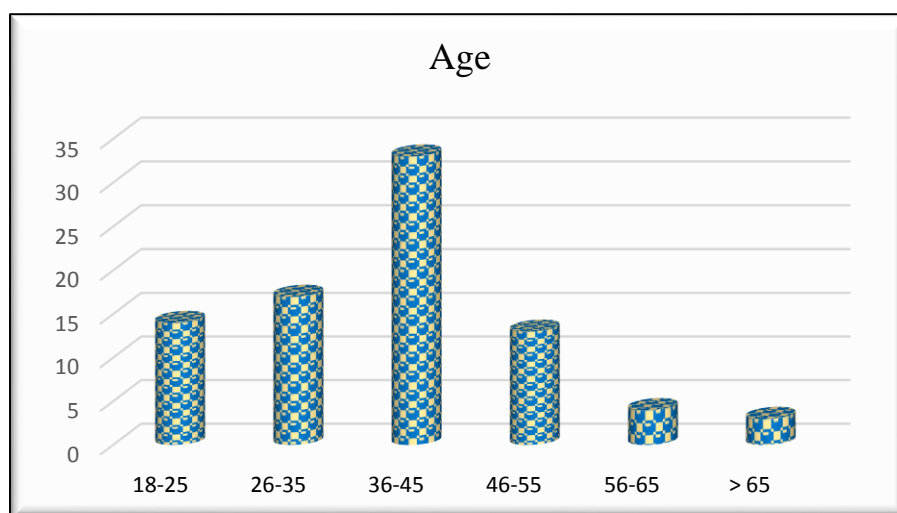


Table2: Gender

The frequency distribution of respondents according to Gender along with its bar graph is as given below.

Gender	Frequency	Percent
Female	41	48.8
Male	43	51.2
Total	84	100.0

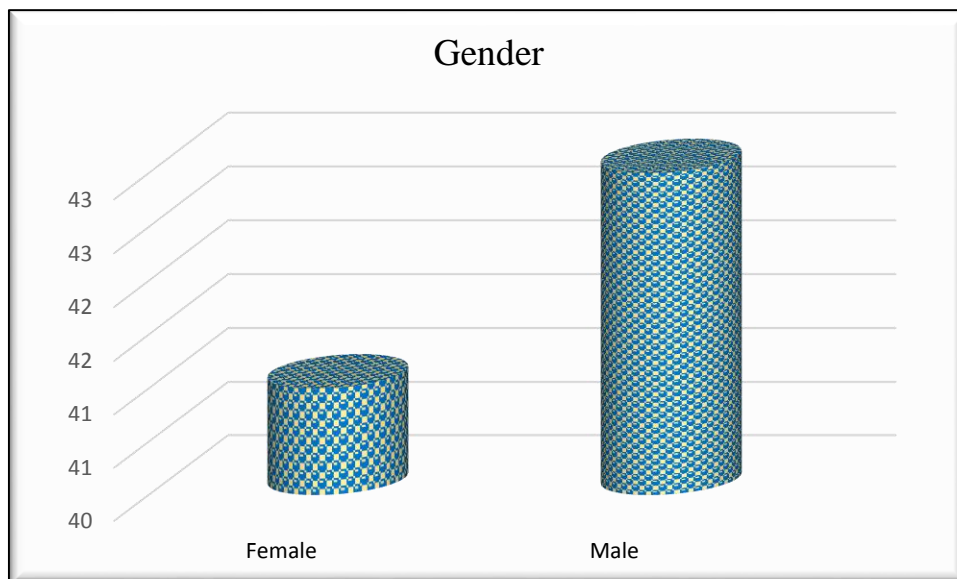


Table3: Occupation

The frequency distribution of respondents according to Occupation along with it's bar graph is as given below.

Occupation	Frequency	Percent
Business Owner/ Self Employed	10	11.9
CA	2	2.4
Clerical services	1	1.2
Engineer	11	13.1
Housewife	4	4.8
Manager	3	3.6
Medical/ Healthcare Professional	17	20.2
Retired	1	1.2
Teacher/ Professor	13	15.5
Other	22	26.2
Total	84	100.0

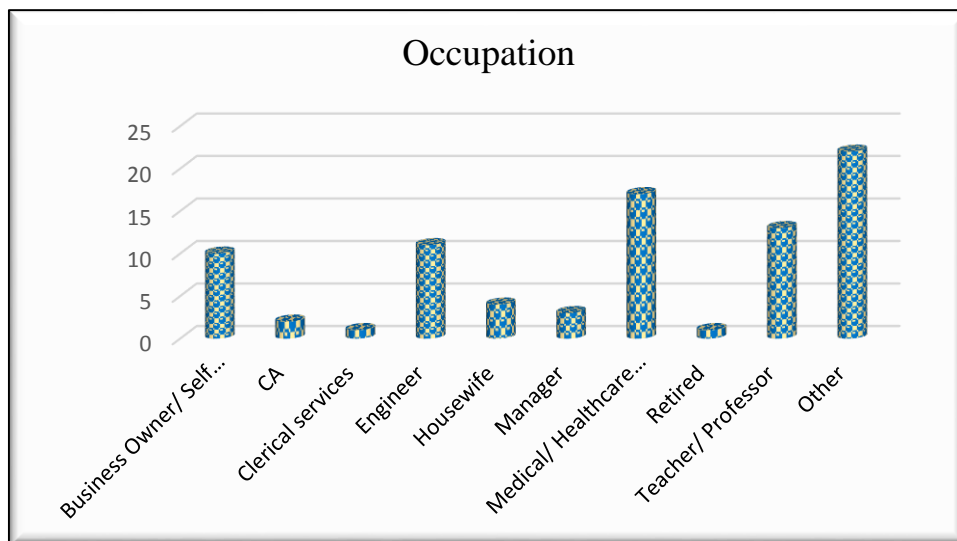


Table4: Educational Qualification

The frequency distribution of respondents according to Educational Qualification along with it's bar graph is as given below.

Educational Qualification	Frequency	Percent
12 <sup>th</sup>	2	2.4
Graduate	18	21.4
Post Graduate	48	57.1
Above Post Graduate	16	19.0
Total	84	100.0

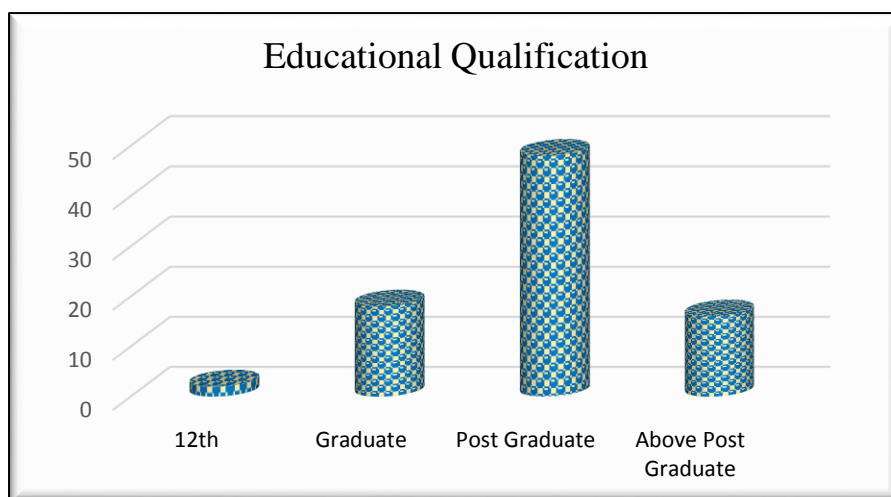
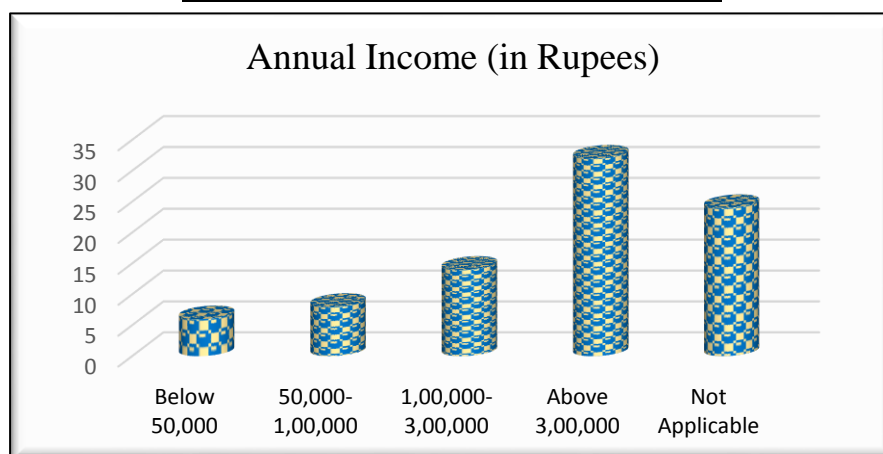


Table5: Annual Income

The frequency distribution of respondents according to Annual Income along with it's bar graph is as given below.

Annual Income (in Rupees)	Frequency	Percent
Below 50,000	6	7.1
50,000- 1,00,000	8	9.5
1,00,000- 3,00,000	14	16.7
Above 3,00,000	32	38.1
Not Applicable	24	28.6
Total	84	100.0



## Section 2

Table6: Daily routine/ Lifestyle Modifications

The frequency distribution of respondents according to Daily routine/ Lifestyle Modifications along with it's bar graph is as given below.

Daily routine/ Lifestyle Modifications	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
I intend to continue these changes in my food habits even after the lockdown	4	5	25	27	23	84
%	4.8	6.0	29.8	32.1	27.4	100.0
I have gained weight during the lockdown	23	18	14	21	8	84
%	27.4	21.4	16.7	25.0	9.5	100.0
My sleep pattern has changed during the lockdown	13	12	18	25	16	84
%	15.5	14.3	21.4	29.8	19.0	100.0
I am regularly taking exercise during the lockdown	10	15	19	22	18	84

%	11.9	17.9	22.6	26.2	21.4	100.0
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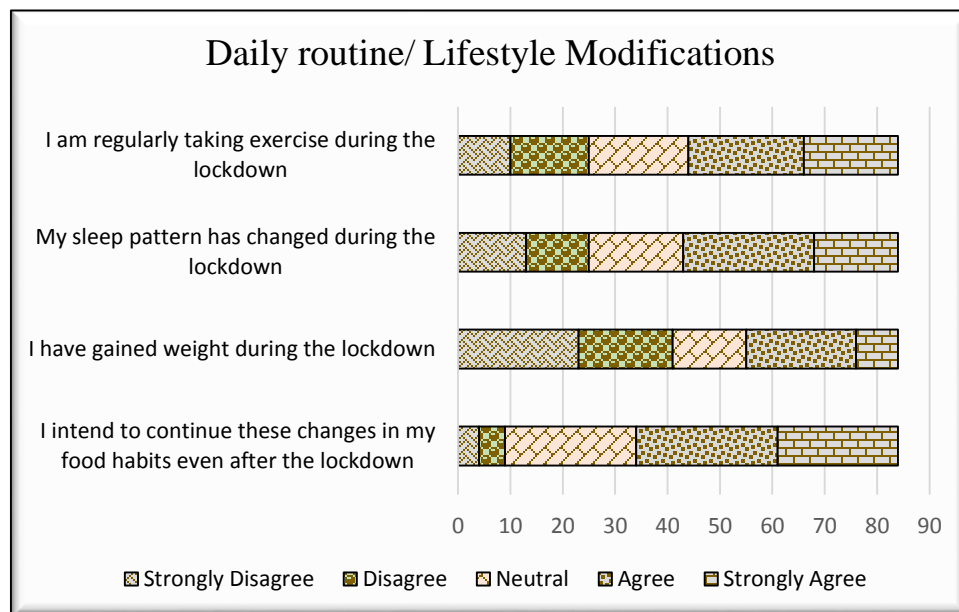


Table7: I am consciously eating more of the following food items during the lockdown

The frequency distribution of respondents according to 'I am consciously eating more of the following food items during the lockdown' along with it's bar graph is as given below.

I am consciously eating more of the following food items during the lockdown	Frequency	Percent
Fruits	49	58.3
Daily diet	1	1.2
Dairy products	38	45.2
Vegetables	59	70.2
Eggs	25	29.8
Meat/Seafood	8	9.5
Others	11	13.1



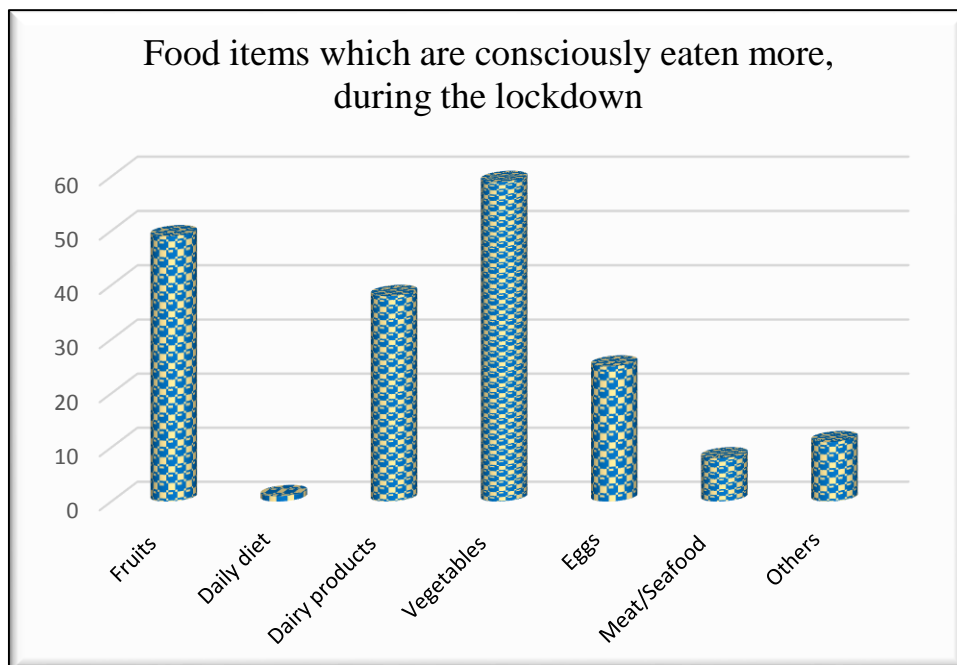


Table8: Which of the following describes your exercise routine?

The frequency distribution of respondents according to ‘Which of the following describes your exercise routine?’ along with its bar graph is as given below.

Which of the following describes your exercise routine?	Frequency	Percent
Do not exercise at all	10	11.9
Exercise occasionally	17	20.2
Exercise regularly: 1-2 times a week	6	7.1
Exercise regularly: 3-4 times a week	17	20.2
Exercise regularly: 5-6 times a week	13	15.5
Exercise everyday	21	25.0
Total	84	100.0

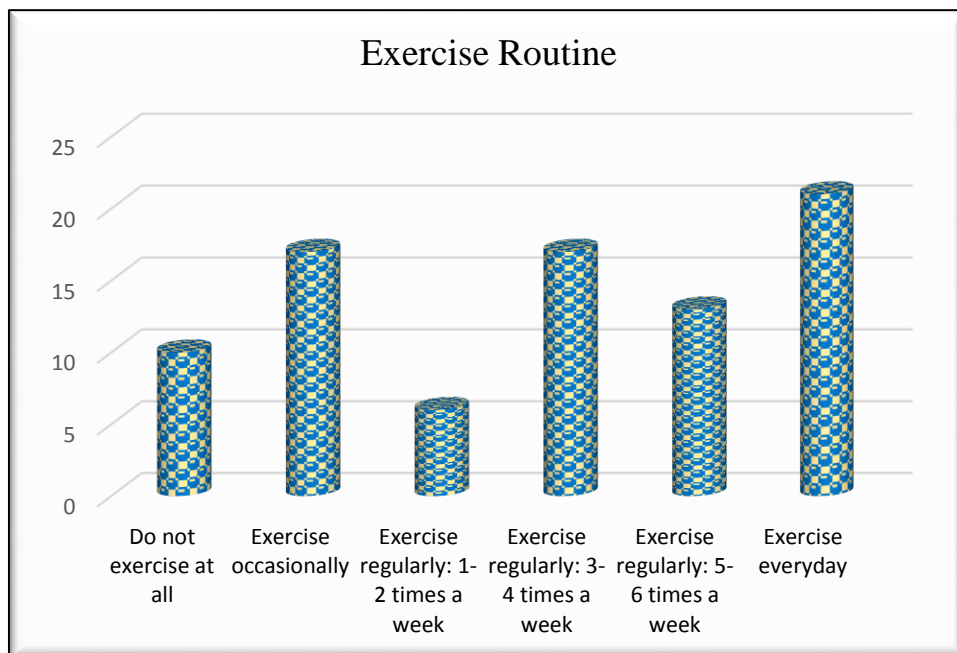


Table9: What is the duration of exercise?

The frequency distribution of respondents according to 'What is the duration of exercise?' along with it's bar graph is as given below.

What is the duration of exercise?	Frequency	Percent
Less than 20 mins	22	26.2
More than 20 mins but less than 45 mins	25	29.8
More than 45 mins but less than 60 mins	19	22.6
More than 60 mins	13	15.5
Not applicable	5	6.0
Total	84	100.0

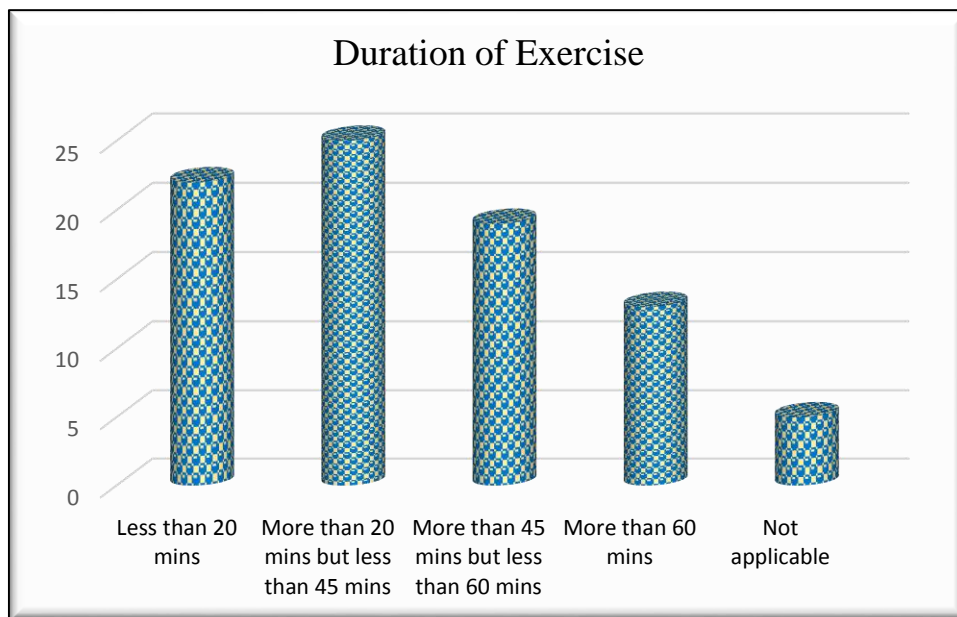
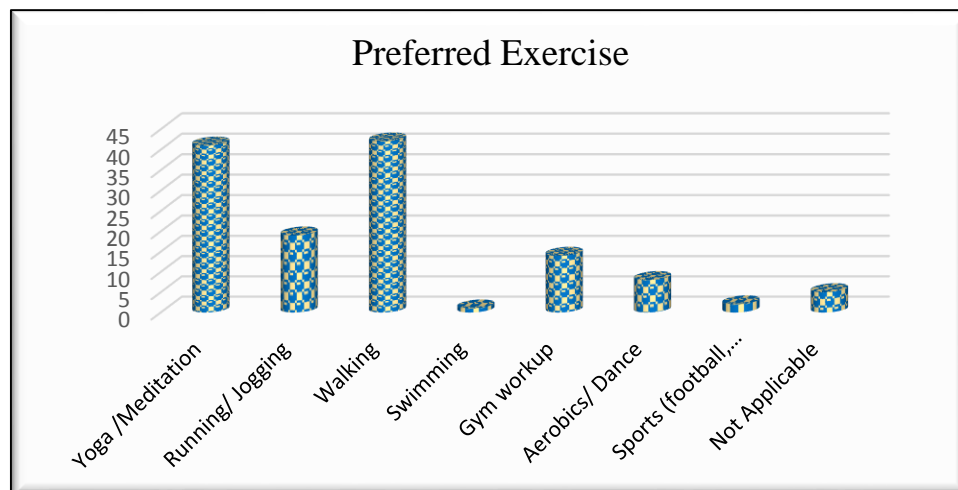


Table10: If yes, which exercise you prefer?

The frequency distribution of respondents according to 'If yes, which exercise you prefer?' along with its bar graph is as given below.

If yes, which exercise you prefer?	Frequency	Percent
Yoga /Meditation	41	48.8
Running/ Jogging	19	22.6
Walking	42	50.0
Swimming	1	1.2
Gym workup	14	16.7
Aerobics/ Dance	8	9.5
Sports (football, badminton, etc.)	2	2.4
Not Applicable	5	6.0



### Section 3

Table11: Do you feel that you are healthy?

The frequency distribution of respondents according to 'Do you feel that you are healthy?' along with it's bar graph is as given below.

Do you feel that you are healthy?	Frequency	Percent
No	13	15.5
Can't Say	16	19.0
Yes	55	65.5
Total	84	100.0

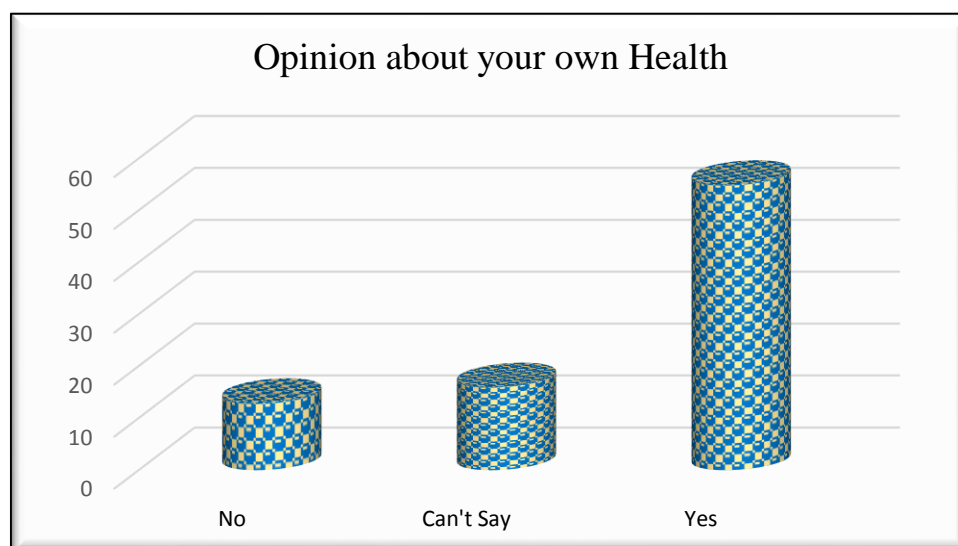


Table12: What do you feel about the status of your health?

The frequency distribution of respondents according to ‘What do you feel about the status of your health?’ along with it’s bar graph is as given below.

What do you feel about the status of your health?	Frequency	Percent
Excellent	14	16.7
Very good	24	28.6
Good	22	26.2
Fair	20	23.8
Poor	3	3.6
Very Poor	1	1.2
Total	84	100.0

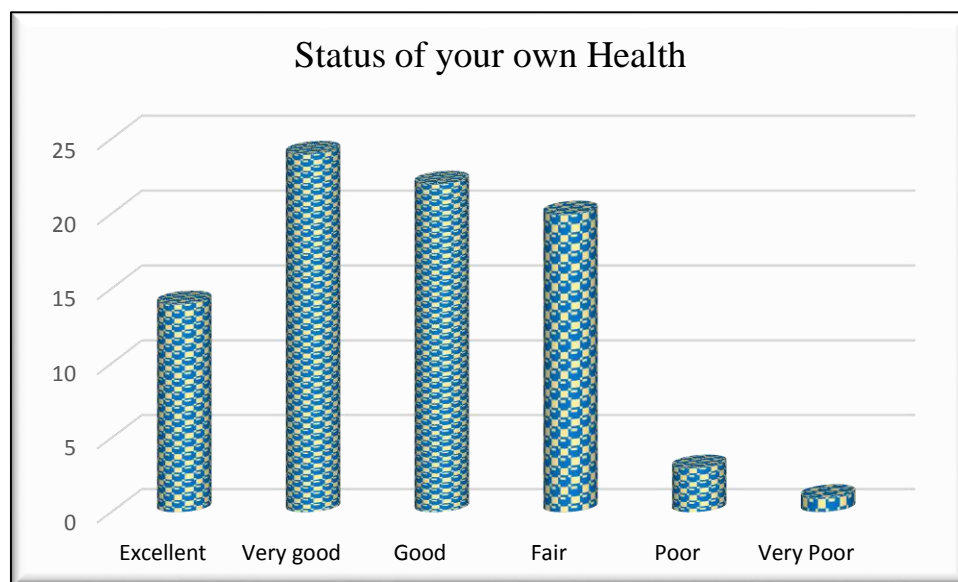


Table13: Do you have any of the following  
Medical history?

The frequency distribution of respondents according to ‘Do you have any of the following Medical history?’ along with it’s bar graph is as given below.

Do you have any of the following Medical history?	Frequency	Percent
Hypertension	4	4.8
Diabetes	7	8.3
Heart problem	1	1.2
Thyroid problems	5	6.0

Asthma		0.0
Anaemia	4	4.8
Cancer	2	2.4
Kidney problems	2	2.4
Other (Inguinal herni, Insomania, Sleep Apnea, TB)	4	4.8
None of the above	61	72.6

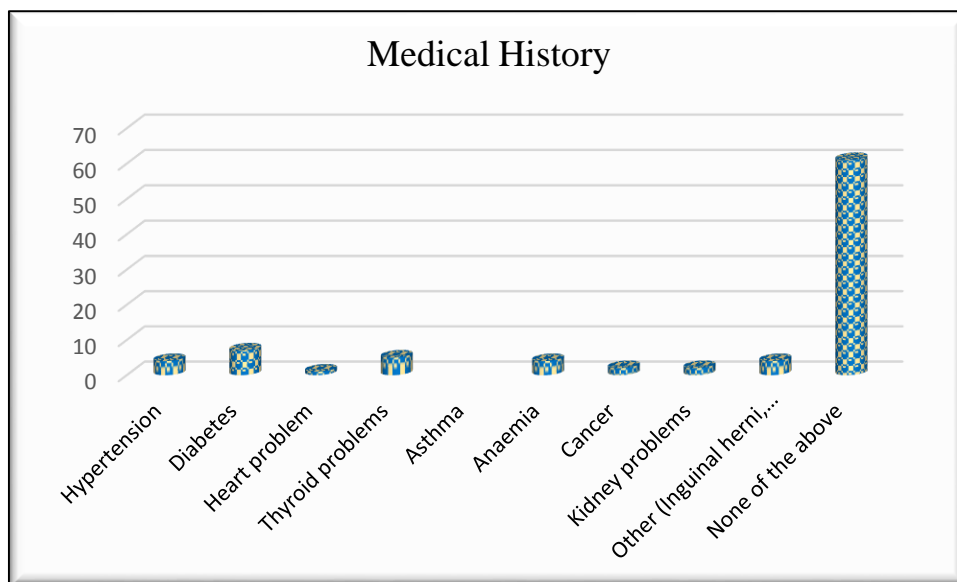


Table14: Do you regularly take medicines for the above-mentioned disorder?

The frequency distribution of respondents according to 'Do you regularly take medicines for the above-mentioned disorder?' along with its bar graph is as given below.

Do you regularly take medicines for the above-mentioned disorder?	Frequency	Percent
Not applicable	34	40.5
No	36	42.9
Yes	14	16.7
Total	84	100.0

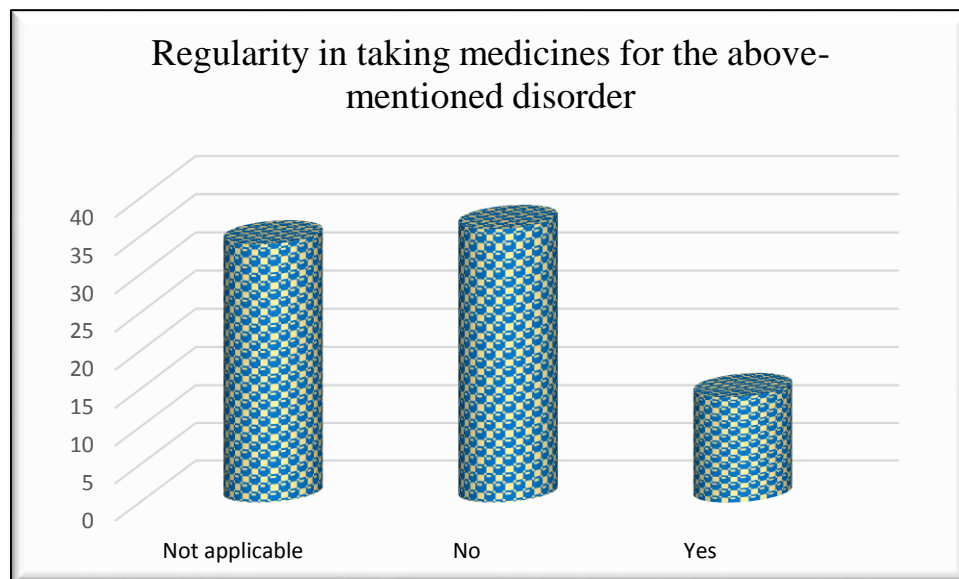
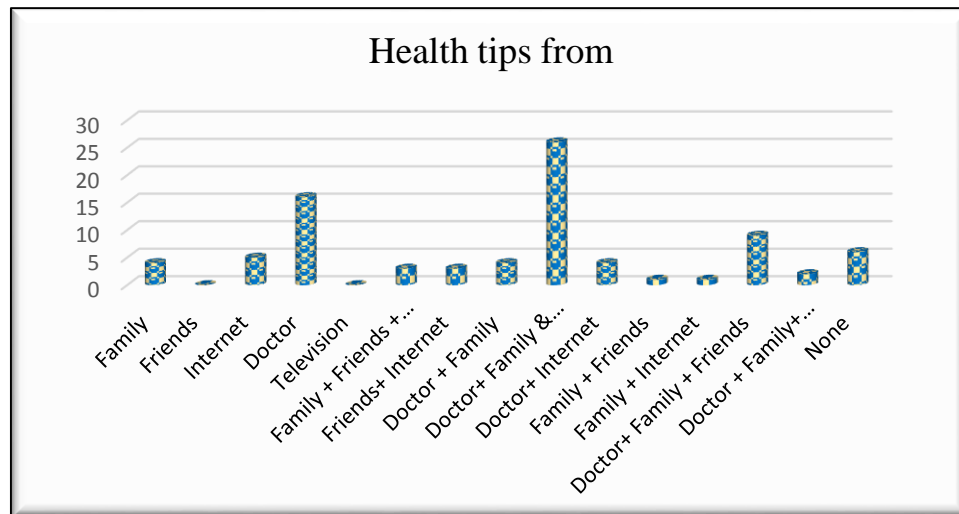


Table15: From whom do you receive health tips?

The frequency distribution of respondents according to ‘From whom do you receive health tips?’ along with it’s bar graph is as given below.

From whom do you receive health tips?	Frequency	Percent
Family	4	4.8
Friends	0	0.0
Internet	5	6.0
Doctor	16	19.0
Television	0	0.0
Family + Friends + Internet	3	3.6
Friends+ Internet	3	3.6
Doctor + Family	4	4.8
Doctor+ Family & Friends + Internet	26	31.0
Doctor+ Internet	4	4.8
Family + Friends	1	1.2
Family + Internet	1	1.2
Doctor+ Family + Friends	9	10.7
Doctor + Family+ Internet	2	2.4
None	6	7.1
Total	84	100.0



#### Section 4

Table16: Do you think it is necessary to take health supplements?

The frequency distribution of respondents according to ‘Do you think it is necessary to take health supplements?’ along with it’s bar graph is as given below.

Do you think it is necessary to take health supplements?	Frequency	Percent
Maybe	28	33.3
No	30	35.7
Yes	26	31.0
Total	84	100.0

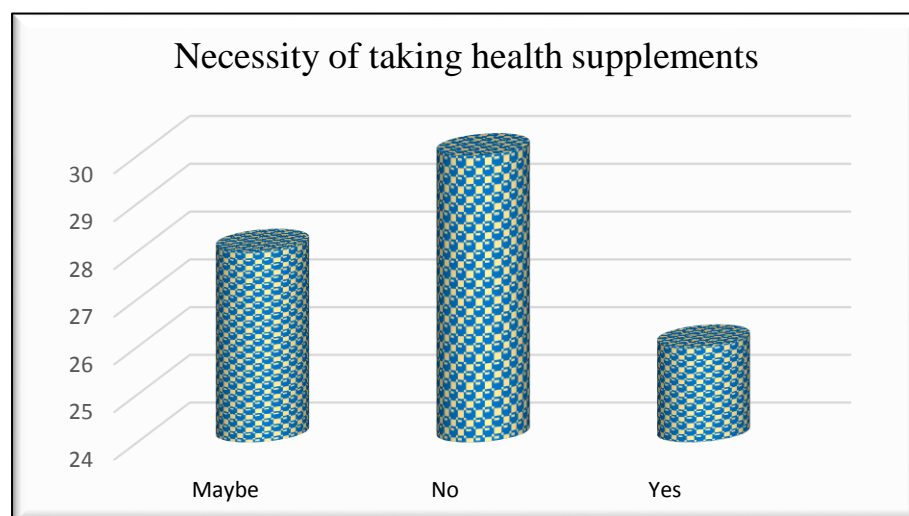


Table17: Have you or any family member has started taking health supplements during the lockdown?



The frequency distribution of respondents according to 'Have you or any family member has started taking health supplements during the lockdown?' along with its bar graph is as given below.

Have you or any family member has started taking health supplements during the lockdown?	Frequency	Percent
No	42	50.0
Yes	42	50.0
Total	84	100.0

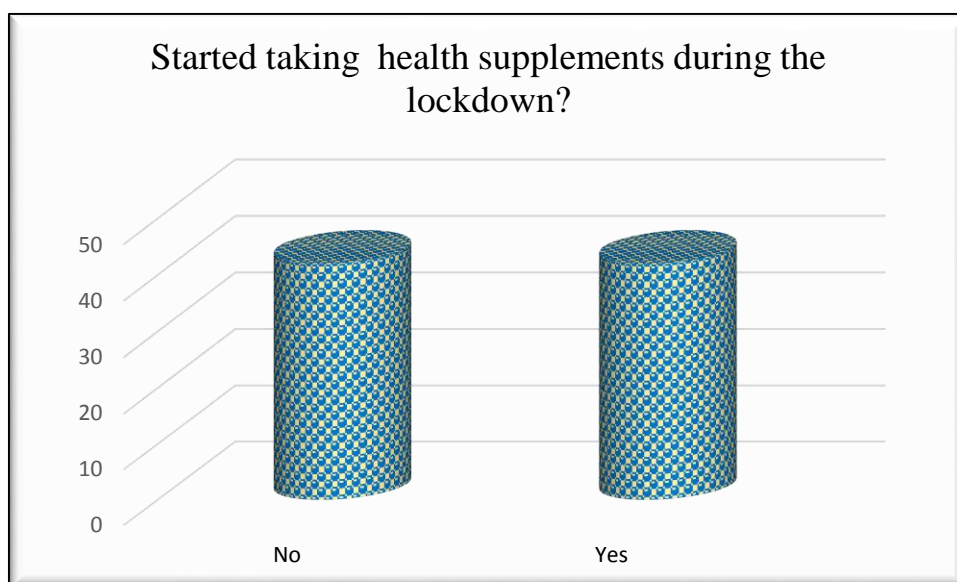


Table18: Which type of health supplements do you purchase?

The frequency distribution of respondents according to 'Which type of health supplements do you purchase?' is as given below.

Which type of health supplements do you purchase?	Frequency	Percent
Anti-oxidants like omega-3, omega-6, fish oil, etc	3	3.6
Ayurvedic supplements like Chyawanprash, AYUSH Kwa	2	2.4
Ayurvedic supplements like Chyawanprash, etc.	4	4.8
Ayurvedic supplements like Chyawanprash, etc., Hom	3	3.6
Calcium Supplements	1	1.2
Food supplements like protein powders, probiotics,	12	14.3

Homeopathic supplement like Arsenic album 30, None	1	1.2
Multivitamins	6	7.1
Multivitamins, Ayurvedic supplements like Chyawanp	5	6.0
Multivitamins, Calcium Supplements	1	1.2
Multivitamins, Vitamin C	1	1.2
Multivitamins, Vitamin C, Ayurvedic supplements li	1	1.2
Multivitamins, Vitamin C, Vitamin D, Ayurvedic sup	1	1.2
Multivitamins, Vitamin C, Vitamin D, Calcium Suppl	2	2.4
Multivitamins, Vitamin C, Vitamin D, Zinc, Ayurved	1	1.2
Multivitamins, Vitamin C, Zinc, Ayurvedic suppleme	1	1.2
Multivitamins, Vitamin D, Ayurvedic supplements li	1	1.2
Multivitamins, Zinc, Calcium Supplements	1	1.2
None of the above	26	31.0
Vitamin C	2	2.4
Vitamin C, Vitamin D	1	1.2
Vitamin C, Vitamin D, Calcium Supplements, Ayurved	1	1.2
Vitamin C, Vitamin D, Zinc	1	1.2
Vitamin C, Vitamin D, Zinc, Ayurvedic supplements	2	2.4
Vitamin C, Zinc, Ayurvedic supplements like Chyawa	1	1.2
Vitamin D	2	2.4
Zinc, Calcium Supplements	1	1.2
Total	84	100.0

Table19: What is the reason to start health supplements?

The frequency distribution of respondents according to ‘What is the reason to start health supplements?’ along with it’s bar graph is as given below.

What is the reason to start health supplements?	Frequency	Percent
Doctor's suggestion	34	40.5
Friend's suggestion	9	10.7
Advertisement	3	3.6
Social media influence	10	11.9
Seller's suggestion	1	1.2
None of the above	38	45.2

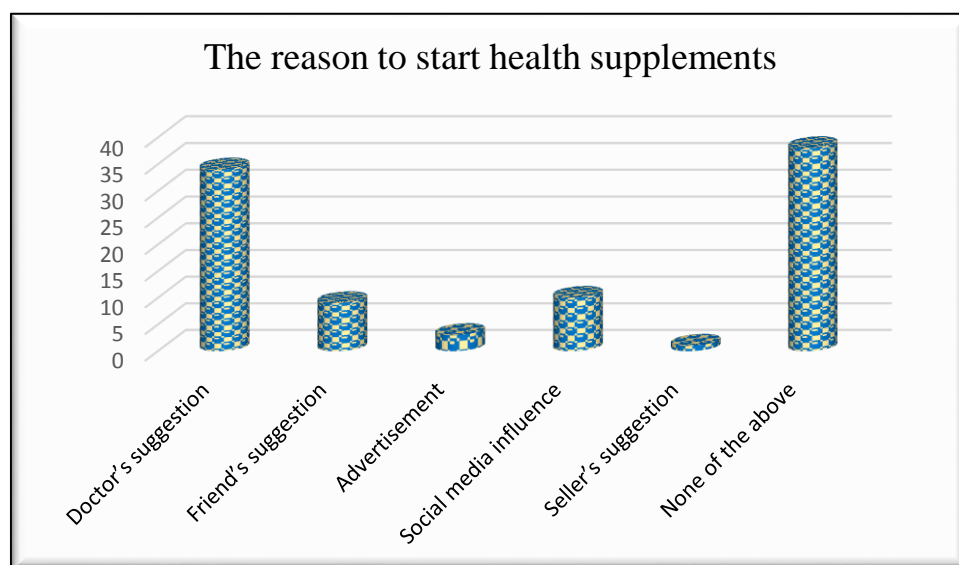


Table20: What is the duration of consumption of health supplements?

The frequency distribution of respondents according to 'What is the duration of consumption of health supplements?' along with it's bar graph is as given below.

What is the duration of consumption of health supplements?	Frequency	Percent
≤ 2 months	28	33.3
3-5 months	6	7.1
≥ 6 months	13	15.5
Not applicable	37	44.0
Total	84	100.0

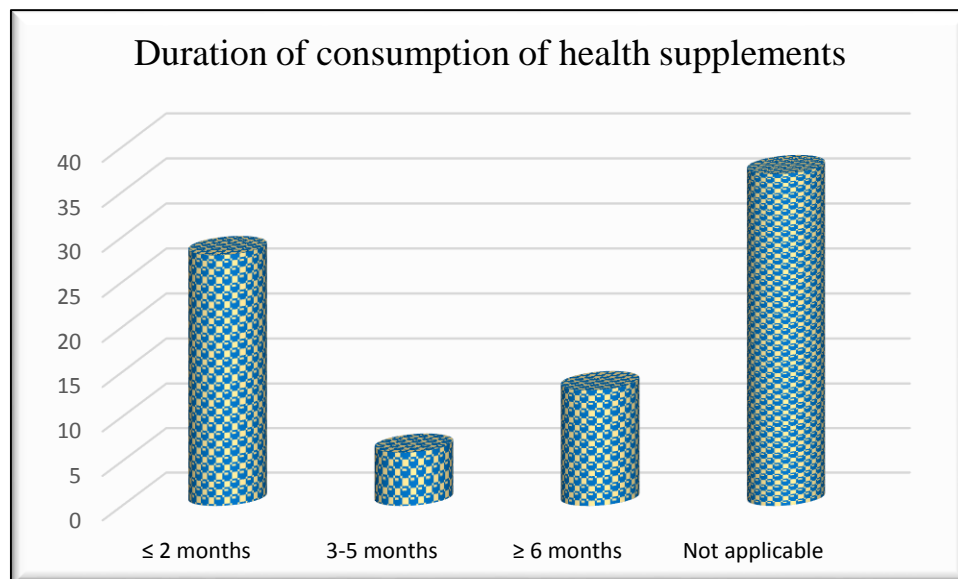
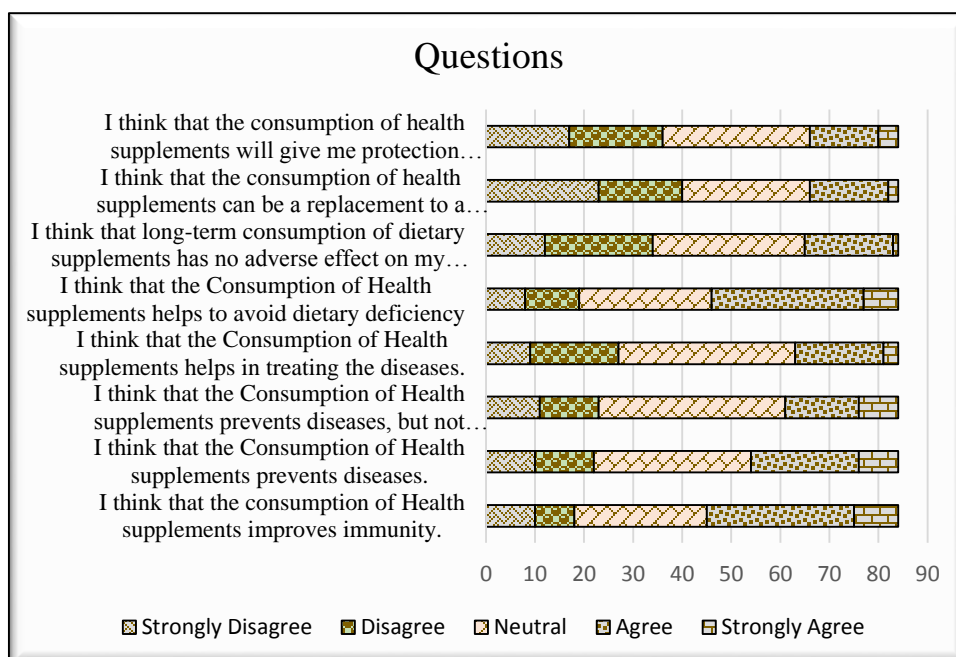


Table21: Questions

The frequency distribution of respondents according to Questions along with it's bar graph is as given below.

Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
I think that the consumption of Health supplements improves immunity.	10	8	27	30	9	84
%	11.9	9.5	32.1	35.7	10.7	100.0
I think that the Consumption of Health supplements prevents diseases.	10	12	32	22	8	84
%	11.9	14.3	38.1	26.2	9.5	100.0
I think that the Consumption of Health supplements prevents diseases, but not Covid-19	11	12	38	15	8	84
%	13.1	14.3	45.2	17.9	9.5	100.0
I think that the Consumption of Health supplements helps in treating the diseases.	9	18	36	18	3	84
%	10.7	21.4	42.9	21.4	3.6	100.0
I think that the Consumption of Health supplements helps to avoid dietary deficiency	8	11	27	31	7	84
%	9.5	13.1	32.1	36.9	8.3	100.0

I think that long-term consumption of dietary supplements has no adverse effect on my body	12	22	31	18	1	84
%	14.3	26.2	36.9	21.4	1.2	100.0
I think that the consumption of health supplements can be a replacement to a balanced diet	23	17	26	16	2	84
%	27.4	20.2	31.0	19.0	2.4	100.0
I think that the consumption of health supplements will give me protection against Covid-19	17	19	30	14	4	84
%	20.2	22.6	35.7	16.7	4.8	100.0



## FINDINGS

The demographic profiling of the respondents showed that they belonged to varied age from ranging from 18 years to about 65 years of age. About 49% of them were females and 51% were males. The respondents also belonged to various professions and were educated. Most of respondents were qualified graduates and had an annual income of more than 1 Lakh.

About 59.5% of respondents stated that their food habits were changed, 48.8% stated that their sleep

pattern had changed, 47.6% respondents said that they started exercising regularly. Around 30.5% of the respondents had no changes in the food habits, sleep pattern or started undertaking exercise regularly.

Respondents are consciously eating more of fruits, vegetable, dairy products and eggs, whereas the consumption of meat was seen to be low. Only 1% respondents said they consumed the daily diet that they used to before the pandemic. About 90% of the respondents exercise and they preferred Yoga/ Meditation, walking and jogging/ running. About

42% respondents receive their health Tips from doctor, family, friends and internet.

Data related to health supplements showed that 26% respondents feel that they should take health supplements while 28% were not sure and the remaining said there was no need to take health supplements. 42 % respondents or their family members have started consuming health supplements during the pandemic. Respondents consumed health supplements like protein powders, probiotic (14.3%), multivitamins (7%), Ayurvedic supplements like Chavanprash (6%) and 30 % people did not consume any of the mentioned supplements. Most of the respondents started consuming health supplements on doctor's suggestions. They are consuming these supplements for more than 2 months and less than 6 months now. About 45.2% of the respondents believed that consumption of health supplements avoid dietary deficiencies, 46.4% believed it improves immunity, 35.5% believed that it prevents diseases and 21.5% respondents believed that the health supplements can give them protection against COVID 19.

## DISCUSSION

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The findings showed that during the pandemic the food habits, sleep pattern and lifestyle of the respondents had changed considerably. Respondents have started to become health conscious. They have started to exercise regularly and started consuming health supplements. The respondents were more inclined towards traditional methods like including Yoga, meditation and walking in the exercise and consuming Ayurvedic health supplements. Most of the respondents relied on the doctor's suggestions while consuming the health supplements. Respondents believed that the health supplements avoid dietary deficiencies, increases immunity and protect them from acquiring diseases including COVID 19.

## IMPLICATIONS

This paper has implications for both corporate as well as academic fields. Such in-depth studies could help the industries and middlemen involved in manufacturing and selling health supplements to devise target - oriented strategies. It is important to understand how the global pandemic has brought about various changes in the lifestyle of the people. Further in-depth studies could help understand it better.

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