



A SURVEY TO ASSESS THE LIFESTYLE-RELATED BEHAVIOR IN POST COVID-19 PATIENTS

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Introduction

Coronavirus disease which also known as COVID-19 is a severe acute respiratory syndrome. Cause of the COVID-19 is SARS coronavirus 2 (Hena F. *et al*, 2020). It is related to the RNA viruses that can causes disease in humans and birds, the corona virus is the positive stranded RNA, appearance is of crown like, the nucleocapsid is of helical symmetry, a lipid bilayer makes up the covering (Roshni K. *et al*, 2020). This virus has about 26-32 kilobases in its genomic size, the RNA viruses are one of the biggest. The virus feature club-shaped spikes which protrude from the surface, which generate an appearance of the solar corona in electron micrographs that is derived from corona virus name (Roshni K. *et al*, 2020). This virus has diameters ranging from 80 to 120 nm on average, extreme size of this virus is known from 50-200nm in diameter (Hena F. *et al*, 2020). As on 5 October 2020, the cases in the world wide had surpassed 8.3 million, with over 140,000 deaths. India has experienced more than 102,600 fatalities in absolute terms. The WHO Emergency Committee declared a worldwide health emergency on January 30th, 2020 (Peijie Chen *et al*, 2020). The Italian government taken the action to restrict the mass gathering of the people or the public event on the entire country in March 2020. The Italy was 2nd most affected country in the entire world on the end of the March 2020 (Laura Di *et al*, 2020). The 1st patient of the COVID-19 was seen in the Thrissur town or Alappuzha and Kasaragod at this time the three medical students came from Wuhan (Krutika Kuppalli *et al*, 2021).

In December 2019 at the Huanan seafood market, it was apparently transmitting from animals to humans. This pandemic was rapidly spread from China to another nation, initially it spread to Wuhan city (Nader Salari *et al*, 2020). The technique used for testing is oropharygeal or nasopharyngeal swab, in the suspected patient by RT-PCR technique (Kenneth I. *et al*, 2020).

On the basis of sign and symptoms the base of illness, the COVID-19 is classified into five category, the incubation period of the COVID-19 is 2 to 14 days. The common symptoms of COVID-19 are respiratory illness, the fever and cough or fatigue are the common symptoms of the COVID-19. Fever is now the most prevalent symptom among COVID-19 patients, however not all of them had it. The fever is a warning indication that the illness is spreading, less common symptoms included diarrhea, myalgia and sore throats (Kenneth I. *et al*, 2020). On 23rd March, 2020 lockdown was announced in Kerala. Whole country on 25th March, 2020 got closed even the schools, child care centers and outdoor services, like park and playground were closed (McDowell P. *et al*, 2020). It also had on impact on health behaviors, the loss of job or financial issue due to the COVID-19, COVID-19 presents isolation due to the virus (Mark Shevlin *et al*, 2020). Due to the lockdown period people suffered from psychological, physical, political, social, economic, problems like: anxiety, depression and traumatic stress, mood disease, sleep disorders, obsessive-compulsive, interpersonal sensitivity, anger, paranoid ideation (McDowell P. *et al*, 2020).

Due to this pandemic the isolation can extend by the government, this can lead to stress or develop the overeating tendency (Archana K. *et al*, 2020). As well as during the isolation period housebound or facing disturbances in daily activity. Due to the change in the daily activity routine can change the sleep habit or sleeping quality. According to the research in this pandemic the people's diet pattern as well as life style activity changed (Archana K. *et al*, 2020). The pandemic has upset the financial economic and stress levels, when government work to open our economies, it is not to easy recover, like pre COVID-19 (McDowell P. *et al*, 2020). Psychological problems in a society affect everyone to a huge level, long time isolation can cause the mental disturbance (Mark Shevlin *et al*, 2020). The people's fear of the virus can lead to psychological disorder (Samantha K *et al*, 2020). In India, vaccination program starts on the 16th Jan 2021, the covaxine and covishield are the Indian authorized vaccine. The Russian Sputnik V vaccine was authorised for emergency use (Krutika Kuppalli *et al*, 2021).

For the treatment COVID-19 use drugs, such as

- Antiviral drugs, example : remdesivir
- Anti-SARS-CoV-2 monoclonal antibodies, example: bamlanivimab .
- Anti-inflammatory drugs, example: dexamethasone.
- Immunomodulators, example: baricitinib (Marco Cascella *et al*, 2021).

METHODOLOGY

STUDY DESIGN: A survey study

SAMPLE SIZE: A random collection of 72 post COVID-19 patient were taken from Hisar district.

SELECTION CRITERIA

Inclusion Criteria

1. COVID-19 patient were included
2. Subject who had completed their quarantine period
3. Subjects who had pulmonary conditions due to COVID-19 were included
4. Age between 30 to 60 years were included

Exclusion Criteria

1. Subjects who were not suffering from COVID-19
2. Subjects who had neurological, cardiac, and psychological conditions
3. Un-cooperated patients

PROTOCOL

In this study 72 post COVID-19 patients were included according to the inclusion and exclusion criteria with verbal and written consent, from all the subjects to fill the questionnaire. Data collection was done within 3 months. During that period lockdown happened due to the COVID-19 second wave so some subjects could not filled the questionnaire properly. Some subjects consumed time to filled the questionnaire so we called them and to understand the importance of questioner and explained the things properly. Then the data was collected.

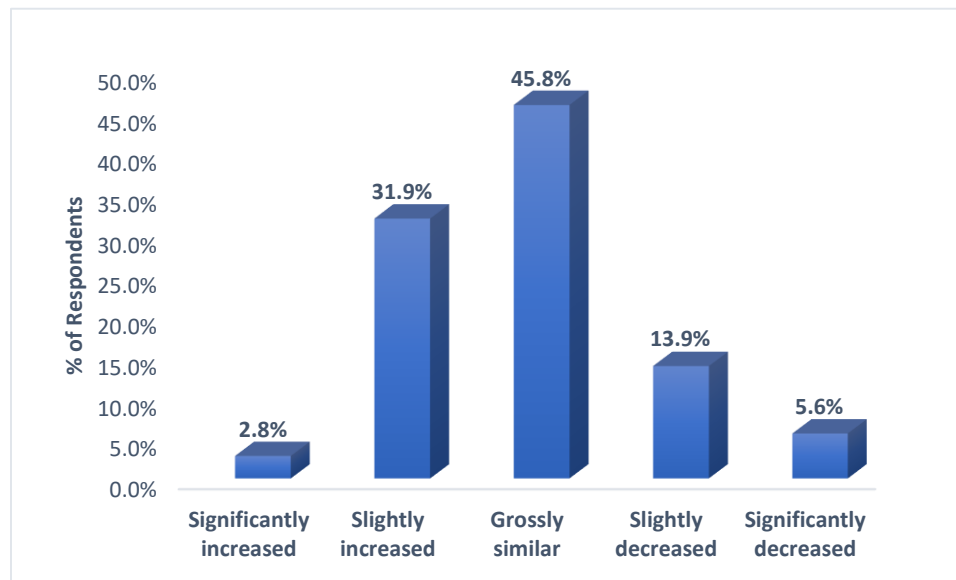
PROCEDURE:

This study was a survey study conducting in the Hisar, Haryana and conducted with 72 adult individuals. Data collection was done from the hospital, schools and home. Information about the subjects daily schedule and their availability was collected from the subjects. Descriptive data of the participant's age, medical history, daily schedule regarding eating behaviour, sleep patterns, financial status, dietary history will be obtained by interviewing the participants. Proper consent was taken to the patient about their condition. Firstly to explain the questionnaire to the patient so, participants properly fill the questionnaire.

Table No. 1.1 showing quantity of meals and snacks changed among COVID-19 patients.

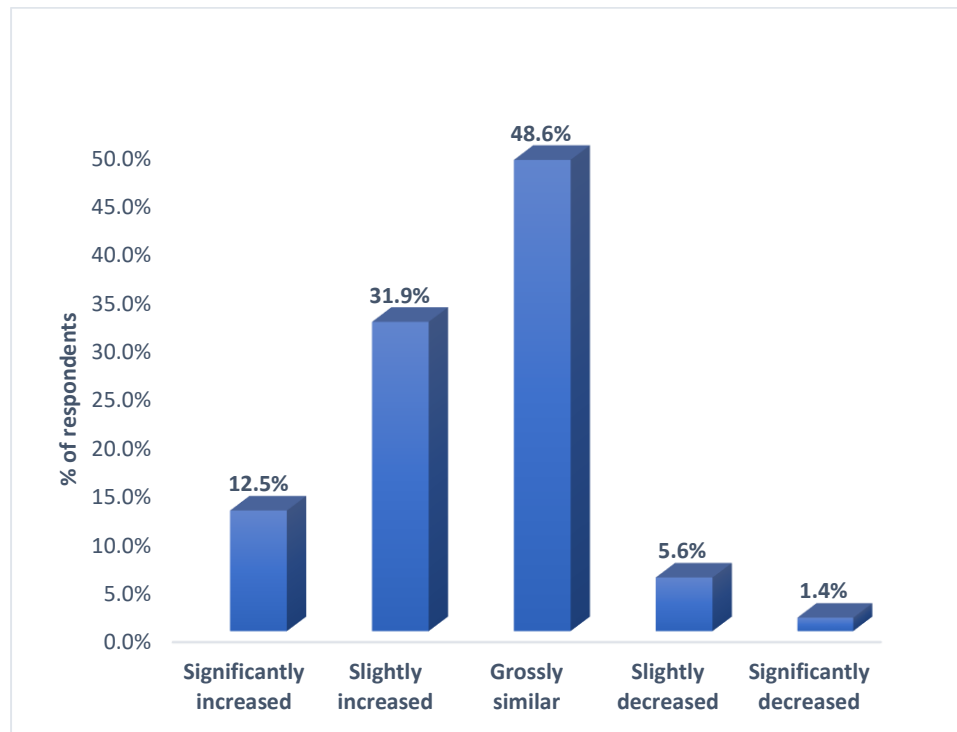
Post COVID pandemic, how has your quantity//portions of meals and snacks changed?									
		Significantly increased	Slightly increased	Grossly similar	Slightly decreased	Significantly decreased	Total	Chi-Square	p-value
Age	30-40	1(3%)	10(27%)	18(49%)	5(14%)	3(8%)	37(100%)	3.771	0.877
	41-50	1(5%)	8(36%)	10(45%)	2(9%)	1(5%)	22(100%)		
	51-60	0(0%)	5(38%)	5(38%)	3(23%)	0(0%)	13(100%)		
Gender	Male	0(0%)	11(29%)	18(47%)	8(21%)	1(3%)	38(100%)	6.715	0.152
	Female	2(6%)	12(35%)	15(44%)	2(6%)	3(9%)	34(100%)		
Occupation	A	0(0%)	3(60%)	1(20%)	1(20%)	0(0%)	5(100%)	12.972	0.371
	B	1(4%)	7(26%)	13(48%)	5(19%)	1(4%)	27(100%)		
	C	1(6%)	4(22%)	7(39%)	3(17%)	3(17%)	18(100%)		
	D	0(0%)	9(41%)	12(55%)	1(5%)	0(0%)	22(100%)		
	Total	2(3%)	23(32%)	33(46%)	10(14%)	4(6%)	72(100%)		

Table 1.1 reveal the distribution of the sample across response related to change in quantity of meals and snacks among COVID-19 patients. In the total sample, major proportion (48.6%) of patients with age 30 to 40 years had grossly similar meals and snacks followed by 45.5 percent patients with age between 41 to 50 years and 38.5 percent patients with age between 51 to 60 years, had no change in it. Majority of male (47.4%) and female (44.1%) COVID-19 patients had grossly similar meals and snacks. Most of COVID-19 patients who are working in government sector had slightly increment in quantity of meals and snacks, whereas 48.1% self-employed, 38.9% housewives and 54.5% private employees had no change in meals and snacks.

Graph 1.1: Bar graph showing the quantity of meals and snacks changed among COVID-19 patients**Table No. 1.2 showing change in taking fruits and vegetables among COVID-19 patients.**

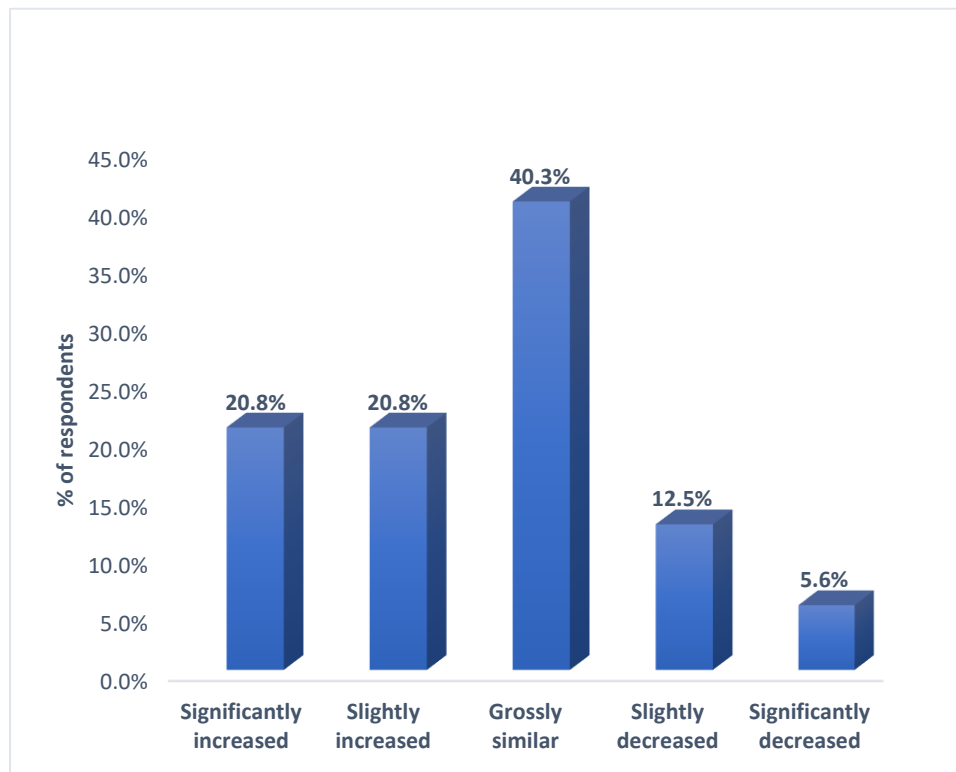
		Post COVID pandemic, how has your daily take of fruits and vegetables changed?							
		Significantly increased	Slightly increased	Grossly similar	Slightly decreased	Significantly decreased	Total	Chi-Square	p-value
Age	30-40	3(8%)	14(38%)	18(49%)	2(5%)	0(0%)	37(100%)	5.815	0.668
	41-50	3(14%)	7(32%)	10(45%)	1(5%)	1(5%)	22(100%)		
	51-60	3(23%)	2(15%)	7(54%)	1(8%)	0(0%)	13(100%)		
Gender	Male	5(13%)	15(39%)	17(45%)	1(3%)	0(0%)	38(100%)	4.060	0.398
	Female	4(12%)	8(24%)	18(53%)	3(9%)	1(3%)	34(100%)		
Occupation	A	0(0%)	1(20%)	4(80%)	0(0%)	0(0%)	5(100%)	8.696	0.729
	B	2(7%)	10(37%)	13(48%)	2(7%)	0(0%)	27(100%)		
	C	4(22%)	6(33%)	6(33%)	1(6%)	1(6%)	18(100%)		
	D	3(14%)	6(27%)	12(55%)	1(5%)	0(0%)	22(100%)		
	Total	9(13%)	23(32%)	35(49%)	4(6%)	1(1%)	72(100%)		

The distribution of the sample across response related to change in consumption of fruits and vegetables among COVID-19 patients presented in Table 5.4. Major proportion (48.6%) of patients with age 30 to 40 years had grossly similar consumption of fruits and vegetables, similarly 45.5 percent patients with age between 41 to 50 years had no change in it. Most of 53.8% patients with age between 51 to 60 years had grossly similar consumption of fruits and vegetables. Majority of male (44.7%) and female patients (52.9%) had grossly similar consumption of fruits and vegetables. Most of COVID-19 patients (80%) who are working in government sector had grossly similar consumption of fruits and vegetables, likewise majority 33.3% housewives, 48.1% self-employed and 54.5% private employees had no change in it.

Graph 1.2: Bar graph showing the change in taking fruits and vegetables among COVID-19 patients**Table No. 1.3 showing change in stress and anxiety levels among COVID-19 patients.**

Post COVID pandemic, how have your stress and anxiety levels changed?									
		Significantly increased	Slightly increased	Grossly similar	Slightly decreased	Significantly decreased	Total	Chi-Square	p-value
Age	30-40	7(19%)	9(24%)	15(41%)	5(14%)	1(3%)	37(100%)	4.633	0.796
	41-50	6(27%)	3(14%)	9(41%)	3(14%)	1(5%)	22(100%)		
	51-60	2(15%)	3(23%)	5(38%)	1(8%)	2(15%)	13(100%)		
Gender	Male	6(16%)	8(21%)	18(47%)	4(11%)	2(5%)	38(100%)	2.252	0.689
	Female	9(26%)	7(21%)	11(32%)	5(15%)	2(6%)	34(100%)		
Occupation	A	3(60%)	0(0%)	1(20%)	0(0%)	1(20%)	5(100%)	22.058	.037*
	B	3(11%)	4(15%)	15(56%)	5(19%)	0(0%)	27(100%)		
	C	7(39%)	4(22%)	4(22%)	1(6%)	2(11%)	18(100%)		
	D	2(9%)	7(32%)	9(41%)	3(14%)	1(5%)	22(100%)		
	Total	15(21%)	15(21%)	29(40%)	9(13%)	4(6%)	72(100%)		

The distribution of the sample across response related to change in stress and anxiety levels among COVID-19 patients presented in Table 5.20. Major proportion (40.5%) of patients with age 30 to 40 years had grossly similar stress and anxiety levels, similarly 40.9 percent patients with age between 41 to 50 years and 38.5% patients with age between 51 to 60 years had no change in it. Majority of male (47.4%) and female (32.4%) COVID-19 patients had grossly similar stress and anxiety levels. Most of COVID-19 patients (60%) who are working in government sector had significantly increment in stress and anxiety levels, likewise majority 38.9% housewives had significantly increment in it. But 55.6% self-employees and 40.9% private employees had grossly similar stress and anxiety levels. Chi- square value depicted occupation wise differences to be significant across change in stress and anxiety levels among COVID-19 patients.

Graph 1.3: Bar graph showing the change in stress and anxiety levels among COVID-19 patients

Discussion

Many studies have been done in post COVID-19 population to assess the life-style behaviour of the people in different countries. The purpose of present research was to found the life-style behaviour of the post COVID-19 people in Hisar. Juliana M. *et al*, 2020; conducted a study during the epidemic of the COVID-19, impact of the lockdown on human sleep quality and cognitive function, from this study they concluded that on lockdown weekdays, participants slept longer and later and had less social jetlag. During the lockdown, sleep timing was dramatically altered, with longer sleep durations, an obvious phase delay, and worse sleep quality. Higher levels of sadness and anxiety were linked to this. This study supports the present study because the present study also shows that the changes occurred in quality of sleep and change in stress and anxiety levels among COVID-19 patient.

Carrol Nicholas *et al*, 2020 conducted a study in this parents showed high level of tension, challenges of home, schooling, concern over contracting the COVID-19 virus, job loss, and food security. This study concluded that parents showed high levels of psychological disturbance concern over contracting the COVID-19 virus.

This study also confirms the current study's findings that COVID-19 has an impact on people's employment and unemployment. Changes in participation in cooking novel and traditional foods, as well as changes in sleeping hours, were found to be significantly by age among post COVID-19 people, gender differences were shown to be significant across changes in skipping one of the main meals. Whereas variations in occupation were found to be significant across changes in a balance diet, change in cooking new and traditional recipes.

Changes in immunity-boosting foods, learning good eating suggestions from the media, cardiovascular exercise, sitting and screen time, sleep quality, and stress and anxiety levels among post COVID-19 people have all been seen.

Age wise differences were found to be significant across change in participation in cooking new and traditional recipes as well as change in sleeping hours among COVID-19 patients. While gender wise differences were found to be significant across change in skipping one of main meals among COVID-19 patients. Whereas, occupation wise differences was found to be significant across change in balanced diet, change in involvement in cooking new/traditional recipes, change in immunity boosting foods, change in education of healthy eating tips, change in aerobic exercise, change in sitting and screen time, change in quality of sleep and change in stress and anxiety levels among COVID-19 patients.

CONCLUSION

Age wise differences was found to be significant across change in participation in cooking new and traditional recipes as well as change in sleeping hours among COVID-19 patients. While gender wise differences were found to be significant across change in skipping one of main meals among COVID-19 patients. Whereas, occupation wise differences was found to be significant across change in balanced diet, change in participation in cooking new and traditional recipes, change in immunity boosting foods, change in learning healthy eating tips from the media, change in aerobic exercise, change in sitting and screen time, change in quality of sleep and change in stress and anxiety levels among COVID-19 patients.

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