

Behavioral and Psychological Changes Before and After Lock Down of COVID-19 Pandemic

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ABSTRACT

Introduction: COVID has been spreading aggressively all over the world that has made life of an individual difficult. The extremely infectious nature of the syndrome and its lethal outcomes led to changes in lifestyle for people all around the world, which forced the countries to move to lockdown state which in turn affected individual's life. This article focuses on the behavioral and psychological impact on life before and after the lockdown.

Methodology: This study was conducted for the period of one month, during which data was collected using a google survey form. A total of 467 responses were collected that were analyzed in percentage. The questionnaire was comprised of different sets of questions, like their belief in the virus's existence, sleep patterns, food, and diet intake, their social life Etc.

Results: After analyzing all the positive and negative impacts it is concluded that it has a 73% positive impact in terms of their social activities, use of social media, and hygiene practices. But it also imposes 70% of negative impacts on their life like junk eating, lack of sleep, fear of poverty, and financial issues.

Conclusion: It is concluded that COVID has both positive and negative impacts on the population.

Keywords: COVID-19, behavioral issues, psychological changes, pandemic

INTRODUCTION

According to the World Health Organization, worldwide spread of a new disease is called pandemic [1], which may result a lot of people to get affected and die. In past years' pandemics have been monitored many times and each of them like influenza, Severe Acute Respiratory Syndrome (SARS), Middle East Respiratory Syndrome (MERS) etc. adversely affected civilization sociologically, economically and psychologically [2].

These days the world is facing another pandemic i.e., novel coronavirus (COVID-19) pandemic which

influenced all aspects of life. The extremely infectious nature of the syndrome and its lethal outcomes led to changes in lifestyle for people all around the world [3]. The associated disease with the outbreak of coronavirus i.e. Severe Acute Respiratory Syndrome-Coronavirus-2 (SARS-CoV-2; Fig 1); started as pneumonia due to unknown reasons in December 2019 in Wuhan, China, and its rapid spread from Wuhan to the whole world has made it sixth public health emergency of international concern (PHEIC), as declared by World Health Organization (WHO) on 30th Jan 2020 and later WHO announced COVID-19 as *pandemic* on March 11, 2020 [4, 5].

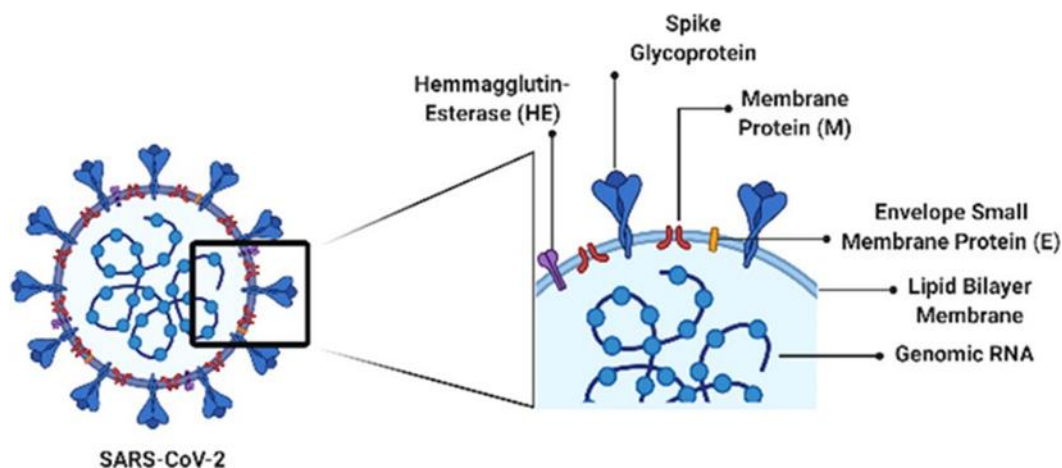


Figure 1. Representation of SARS-CoV-2 Viral Structure.

Globally, as of 13 Jan 2021, the number of positive COVID-19 cases has reached to 335, 423, 967, out of which 5,573,787 deaths have been declared by WHO [1].

Different surveys have revealed that COVID-19 pandemic has led many businesses to close, leading to disturbance of trade in most industries [6]. Due to social distancing and lock down people experienced perceived risk, mental and physical anxiety, Self-medication due to fear of visiting hospitals, fear of exposure to virus and destructive news on social media etc. While the patients with COVID-19 experienced loneliness, irritation, nervousness, depression and insomnia etc. which affected quality of life and social and occupational functioning of individuals negatively [7]. In addition to this the education also affect badly [8].

In Pakistan the 02 Cases were reported for COVID-19 infection in the city of Karachi on 26 February 2020 in the pilgrims who had visited Iran [9]. The Ministry of National Health Services, Regulation & Coordination (M/O NHSC), Government of Pakistan presented a National Action Plan (NAP) for safety actions at the Taftan border overpass area with Iran and whole country. However, at that time about 8000 pilgrims had reached back in different cities of Pakistan and pandemic spread in all over the country [10].

On 31 March 2020, a total of 2039 confirmed cases and 26 deaths were reported by Government of Pakistan which increased on daily basis and keeping in view the situation the government announced complete lockdown from 24 March to 9 May 2020. Except grocery shops and pharmacies, all educational institutes, restaurants, shopping malls, all

flights operation, and borders were closed until further orders [11].

Complete lock down had a strong impact on lifestyle of people of Pakistan also due to social distancing, closure of public places, strict hygiene practices, wearing face masks in public, and online activities instead of physical chores. Such changes led to psychological changes and stress-inducing factors such as self-quarantine or hospitalization, short-term unemployment, on-line office work, online schooling, lack of physical activity, no contact with other family members, friends, and colleagues, and upsetting about the loved ones and important others may be infected [3].

This survey is subjected to evaluate psychological and behavioral changes due to COVID-19 pandemic lock down in Pakistan population.

METHODOLOGY

The purpose of study was to observe mental and behavioral changes in the population due to lock down due covid-19 pandemic in Pakistan. Possible convenient method used to conduct study for the survey i.e., online questionnaire via google, keeping in view existence of Covid-19 and to avoid physical movement at public sectors, schools, offices and other population.

The questionnaire was comprised of total 31 questions prepared for individuals of age from 16 and above. All categories of possible occupations targeted to have the response from different mindsets and to conclude the results based on thinking of each individual. The data collected from few cities of Pakistan within one month i.e., from 23 October 2021

to 23 December 2022 and 467 individuals responded during this time.

The first 05 questions were to collect the data about respondent's gender, age, occupation etc. Rest of the parts of questionnaire were focused to check the reply of individuals for the following,

- Believe on disease,
- Changes in overall activities or habits,
- Effect on budget and damage to pocket during pandemic
- Impact on students and parents by shifting studies and exams via online classes
- Changes in routine by adopting any positive activity
- Changes in behavior towards use of health supplements via natural or medical resources
- Development of psychological fears due permanent existence of corona virus
- Changes in believes of population towards health workers

The collected data was analyzed with the help of graphs on excel sheet by using the calculation of received replies percentage for each question to evaluate the behavioral and psychological changes before and after lock down of covid-19 pandemic.

RESULTS

The sample collected via google form was of 467 individuals in which 65% responses were from females while 35% were from male. Professional/financial status of all individuals were also questioned as during pandemic many people lost their jobs due to complete lock down faced financial crises during the period. Individuals belonging to the different occupations participated to reply in which 43% are private/govt. sector employees, 8% are self-employed, 1% is of daily wagers and 48% are from other occupation. Educational level was also part of questions and according to received reply 36% were of higher education, 51% responses were from graduated, 10% from intermediate and 3% from individuals with secondary education, in which 44% participants are professionals, 42% are students, 1% are retired and 13% were homemakers. According to age, 45% were of the age group between 16 - 25, 34% between 26 - 35, 16% between 36 - 45, 4% between 46 - 55 and only 1% were between 56 and above.

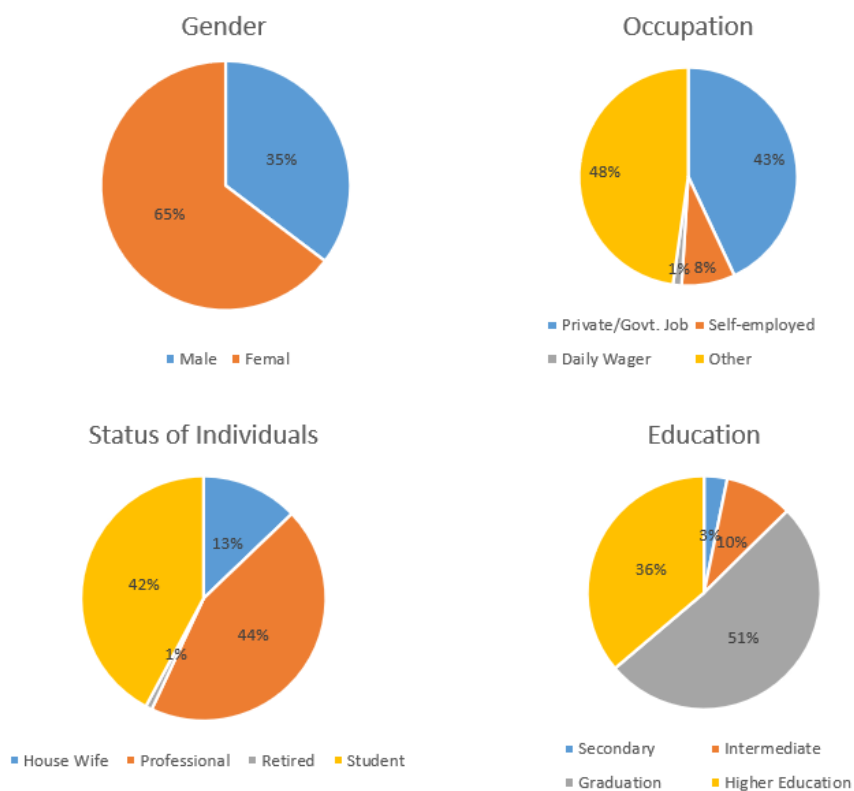


Figure 2. Demographics of Population.

Believe on COVID Virus.

First few questions of the form related to believe of population on existence of covid-19, and according to response, 90% of the people showed believe that virus exists and people are suffering from it. The good thing, which observed from the survey that only 38% of the families confirmed that they had covid-19 positive patients while 55% families did not, suffered from covid-19. Further to this majority confirmed that life was easy before covid-19 pandemic.

Changes in Behavior Towards Eating Habits

Some questions designed to observe changes in eating habits of the population, and according to response 61% of the people confirmed that they started taking more number of meals per day during and after pandemic lock down. The positive change in eating habits monitored when the percentage of people who have started taking hygienic meals was 76% and 74% of the population does not prefer to dine out due to exposure with corona and to come across with the unhygienic food.

Belief on Existence of Virus

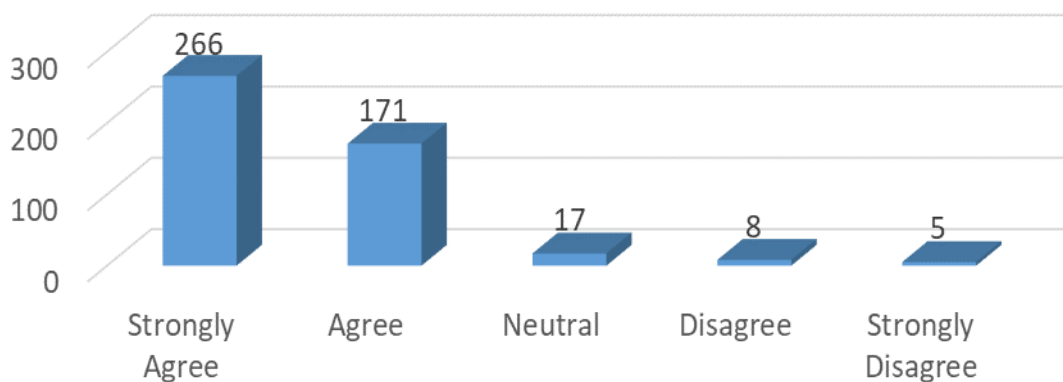


Figure 3. Belief of Population on Existence of Virus.

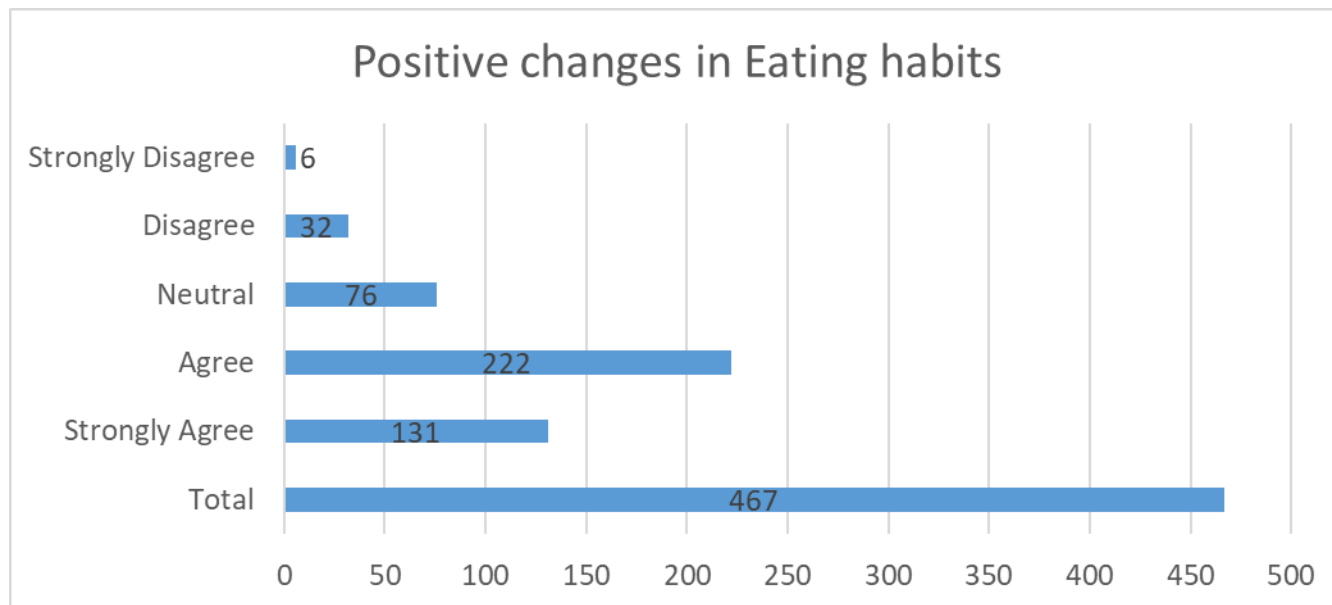


Figure 4. Positive Changes in Eating Habits due to COVID Pandemic.

Changes in behavior towards sleeping pattern

Data collected for questions on changes in sleeping habits showed that 67% population get their sleeping pattern disturbed due to no physical activity and which increase of online activities, watching TV and use of social media increased, and all this caused mental fatigue, depression or anxiety. 77% of the population endorsed that disturbed sleeping pattern affected badly the activities back to normal after pandemic.

Table 1. Changes in Regular Routine due to COVID Pandemic.

Changes in regular routine(%)	Yes	Maybe	No
Disturbed sleep pattern	67	17	16
Lack of Concentration in routine activity	78	13	9

Impact of Covid-19 Lock Down on Expenses.

The data showed response of 85% people having extra burden on expenses due to purchase of gadgets for online activities and additional groceries due to lock down. Due to closure of markets and all businesses many people lost their jobs and earning of many disturbed due to loss in business this was shown in the response against a question that 68% of population have fear of survival if this pandemic continues.

Table 2. Financial Impact due to Lock Down due to COVID Pandemic.

Financial burden and Suspensions(%)	Yes	Maybe	No
Increased Expenses	85	15	0.2
Fear of Future	65	23	12

Impact on life of education & students

The collected data for this behaviors study showed that 76% of the individuals agree that excessive use of social media and online studies had a bad impact on children under the age of 14 years. This result leads to 57% of the population opinion that online studies should not continue as practice. Majority of all age groups experienced no significance in studying online.

Use of medicines and natural remedies as immune boosters

During lock down it was observed that people start taking multivitamins and food supplements along with several kind of home remedies in order to keep immune system strong. We kept few questions related to this behavioral change also, and findings showed that 71% people started self-medication by intake of multivitamins, Iron and zinc supplements 69% of the individuals find home remedies and organic herbs useful as compared to medicines to boost immune system. In addition to this, a positive change in behavior was also calculated that, the knowledge about healthy foods and natural resources to develop good immunity was developed amongst 85% of the population.

Table 3. Impact on Diet and Nutrition Care due to COVID Pandemic.

Behaviors towards food(%)	Agree	Neutral	Disagree
Use of Supplements	63	23	13
Immune Booster Utilization	68	23	7
Gathering Information about Foods	85	10	3

Level of Depression and Anxiety due to Pandemic

Along with other behavioral changes the most important purpose of the study to evaluate the stress and anxiety of the population developed during pandemic. The questions designed for this study showed mixed responses, i.e. 60% individuals believed that it is scary to get sick as visit to hospital will result in exposure with corona virus, while 20% responded neutral and 17% disagree with the statement that it is scary to get sick during pandemic. Further to this 64% people suffered with stress and anxiety due to social distance with the friends and family relatives etc., while 21% stay neutral that distance might or might not create stress and anxiety. 66% of the individual responses believed that housewives suffered through more stress as compared to others as their work burden got doubled by having whole family at home during lock down, while 19% showed neutral response for increased stress for housewives.

The positive thinking was observed amongst 67% people due to they believe that life will get back to normal after pandemic. While 20% individuals are with doubts that life may or may not get back to normal.

Other Impacts

76% of the population developed positive activities by exercise, reciting Quran and holy books, reading educational books etc. while 69% of the population increased productive activities by using social media, i.e. online courses, online business and learning activities. 55% of the responses showed that they participated in household activities with their family members which was not possible in the normal routine of life before pandemic. Further to this 77% of responses showed that they adopt good hygiene practice due to pandemic.

Trust on Doctors and Paramedical Staff

51% of the responses showed that trust of people increased on doctors and para medical staff performance during pandemic while 55% of the population believe that social media created negative image of the medical service providers. 55% population believe that visiting doctors would be more effective than doing the treatment at home for any kind of disease.

DISCUSSION

According to the summary of percentages calculated from received results 61% of the population confirmed that meals per day increased during Pandemic and due to stay at home. It has been reported in a study conducted in Italy that there is increased intake of balanced diet during pandemic [12]. Complete lock down resulted in very bad impact on expenses of the population due to loss in business, loss of jobs, increased groceries for safe side, excessive purchase of extra electronic gadgets for online activities, and this is observed when 85% of the individuals indorsed increased in expenses. It's been suggested that there is increase in anxiety level of population due to uncertain conditions due to COVID [13].

67% individuals of the same group mentioned that sleeping pattern got disturbed and 60% people confirmed that returning to normal life was very disturbing and full of anxiety after lock down. As of adults the children behavior also gets affected in pandemic by excessive use of gadgets and online activities for studies and other network usage being at

home. This change was supported by response of 76% population confirming that children under 14 years of age get negative impact on their habits of studying and extracurricular activities during covid-19. A study conducted in Kenya suggested that there is increase screen time in students especially school going students and there should be some measures taken by parents and government [14].

The summary of responses received showed that 76% of people adopt good habits of eating to avoid junk food, dine out and unhygienic foods. 85% of the population confirmed that their knowledge about natural immune boosters and healthy food increased during pandemic and they added healthy food in their eateries. Positive dietary habits are reported during pandemic that will have positive effects on the long run [15]. Further to this 76% of the population adopted some good physical activities in the form of exercise, some adopted to recite holy books and some managed the time at home by learning good and healthy courses from social media. 77% of the population showed that they are more conscious about hygiene. It's been observed that during pandemic population shows positive behavior towards physical activity [16] now and are practicing good hygiene practices as necessary part of daily routine [17]. Along with these positive changes in behavior 51% of the people response showed that population is satisfied with the performance of doctors and paramedical staff and trust the way of treatment they provided to the population of Pakistan.

Numerous emotional, behavioral and physiological changes have negatively impacted on population that included anxiety, fear depression and at the same time there has been few positive impacts like less usage of junk food, more family time etc. [18].

CONCLUSION

From the above study it's been concluded that COVID-19 has both positive and negative impact on the lifestyle of an individual. Positive effects include good eating habit, more knowledge towards disease and their health, they have adapted daily physical activities that will have a great contribution in the long run. Among negative impacts the major issues is that, COVID-19 has increased anxiety and stress among population that needs to be addressed by government.

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