

OBSERVATIONAL STUDY COVID-19

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Abstract

The high and rapid spread of the disease caused by the COVID-19 virus has led to the use and application of various measures to counter it (Wilder-Smith, et al., 2020). It has also led to the use of very many therapeutic agents whose efficiency has not been fully demonstrated, or it has been demonstrated, but the clear results are not yet been found. This study's objective was to analyze and check if the preventive measures employed by the affected people due to the virus were effective. The paper is about the observational study on a cohort of 802 individuals from a company in the United Arab Emirates. As from the primary outcomes, there was the study of using the various preventive measures in the first few days of application. The results were monitored and compared amongst the different people who had used different preventive measures. The paper focuses on monitoring the effects of the use of various home remedies in countering the COVID-19 virus. We shall also look at whether individuals who live with diabetes and blood pressure are at high risk of contracting the COVID-19 disease or not (Altena et al., 2020).

Keywords

COVID-19, Observational, Pandemic

Introduction

In December 2019, the outbreak of a pandemic which was fully associated with the coronavirus was reported in Wuhan, China, with mainly respiratory manifestations (Lai, et al., 2020). The level at which the virus had spread made W.H.O (World Health Organization) to declare it a pandemic on March 12, 2020. The world becomes at a standstill, as many societies panicked due to the pandemic. However, the mortality rate in those affected seemed to have been estimated due to undiagnosed of those who had symptoms of the disease (Alahdal, et al., 2020). The spread and the extent of the virus made many research institutions in terms of medical research about the disease and come up with an effective treatment. This paper aims to focus on the observational study about the effect of the virus, how to counter it, and the reactions of the individuals having it. More so, we shall basically have an interpretation of the outcomes of various measures that were administered.

The study was carried out on 802 individuals in different age groups from one company. Using different age groups was to identify the age group in which individuals may be at high risk of contracting the disease. We also focused on the positions of the individuals who were tested, that is, whether they were in white-collar or blue-collar. This was mainly to check those at high risk of contracting and spreading the virus in terms of interactions. The terms, rules, and regulations were passed to everyone in the area of study. The process of understanding the rules and conditions necessary for the prevention of the spread of the virus depends on the level of understanding of an individual. This led to us having to record the level of education of each individual during the study. The most national that we carried out the study was from India, Pakistan, Nepal, and Bangladesh residing in the United Arab Emirates.

The virus testing results were mainly of two outcomes; that is, when a person tests positive, it implies that one has contracted the disease. In contrast, negative implies that one has no disease, and therefore precautions should be taken as far and good health is concerned (Chen, et al., 2020). Those who had the virus were to be quarantined for fourteen days to undergo medication and be tested after the fourteen days (Liu, et al., 2020). For those tested, there was telecommunication counseling given to them, especially those who had tested positive (Hazarika, et al., 2020). The tests were conducted by ministry of health in the United Arab Emirates at private and government institutions. The results were recorded from the 802 individuals from a company, and the data recorded in the form of a spreadsheet. The tests were carried out at different times for the individuals that had contracted the disease. Retests were also conducted and recorded to see the difference in outcomes at various times.

METHOD

Participants

This observational study was carried out on a cohort of 802 individuals from one company in United Arab Emirates. The observational study was carried out on 802 male individuals. The cohort was monitored throughout the whole study for the satisfaction of the intended purpose. From the 802 individuals, we had 169 individuals between the ages of 18 and 30 who participated in the testing activity. Between the ages of 31 and 50, we had 549 individuals tested. More so, between the ages of 51 and above, we had 84 individuals who participated in the testing activity. All the individuals who participated in the entire process were observed at various periods of time

to record the results. Testing was done for the period between April 2020 and August 2020. Wherein April' 2020, 407 individuals tested, May 2020, 188 individuals tested; June 2020, 175 individuals tested; July'2020, 26 individual tested and Aug'2020, 6 individuals tested.

Materials

Various materials were used in the collection of the data from the cohort of 802 individuals from one company. The measurements were essential in that they were used to deduce whether one can contract the disease or not (Sun, et al., 2019). Since we basically used observation, we came across various individuals who had the specifically mentioned symptoms of the disease that is headache, fever, sore throat, breathing problems, and others. We had spreadsheets for the collection and recording of data from each individual.

Procedure

Through the observational study period, we engaged in various processes for the collection of data from the 802 individuals of one company. This was done in different locations in the entire United Arab Emirates that is Abu Dhabi, Dubai, Fujairah, Asab, Hameem, Ruwais and Suweihan. We conducted the whole observation at different time periods during the testing activity to capture and record the data for every tested individual. Individuals who were tested were observed at different time periods of the testing and retesting for those found positive. We recorded our data on excel spreadsheets since it is the tool that can hold a huge amount of data at once.

Statistical Analysis

The data recorded on the spreadsheet is categorical data with a few variables having numerical data that is age and call duration (Qu, et al., 2018). We analyzed the cohort of 802 individuals as below. The following is the descriptive statistic for the ages of the individuals. The analysis was carried out in Excel statistical tool, and we generated all the illustrations for the data. We presented and interpreted the data as well (KOCAKOÇ, et al., 2016).

AGE	
Mean	37.45512
Standard Error	0.31318

Median	36
Mode	32
Standard Deviation	8.808092
Sample Variance	77.58248
Kurtosis	-0.13292
Skewness	0.544633
Range	47
Minimum	18
Maximum	65
Sum	29627
Count	791
Confidence Level (95.0%)	0.614763

From the descriptive statistics above, we observed that the average mean of age for the total individuals who undergone the testing process was 37.46 years. Most people who were tested were individuals who had 32 years of age. The individuals with the highest number of years who were tested had 65 years while the lowest was 18 years

CALL DURATION	
Mean	49.95006
Standard Error	1.265237
Median	20
Mode	20
Standard Deviation	35.80866
Sample Variance	1282.26
Kurtosis	-1.45815
Skewness	0.539958
Range	105
Minimum	20
Maximum	125

Sum	40010
Count	801
Confidence Level (95.0%)	2.483576

From the descriptive statistics above, we observed that the maximum duration of time was 125. Most time that was used for many individuals was 20, while the average time used was 49.

The analysis of the whole data, we used an alpha value of 0.05 was used since it so the one that we considered to be very significant (Trafimow et al., 2018).

RESULTS

For the descriptive statistics, we carried out for the two variables that are the individual ages and the call duration. We found out that the oldest people tested in the whole process had 65 years while the youngest people had 18 years. The average number of years for the whole population was 37 years. Most people who were tested had 32 years of age. On the other hand, we also had statistics of the call durations recorded throughout the entire observational study with the highest value being 125 minutes and the lowest being 20 minutes. The average time for calling was 49.

For the total number of tested individuals, we have got the statistics for the outcomes where those who tested negative are 558 compared to the number of those who tested positive are 244. This can be viewed from the chart below, where the section with orange color represents positive tests, while grey color represents negative test results.

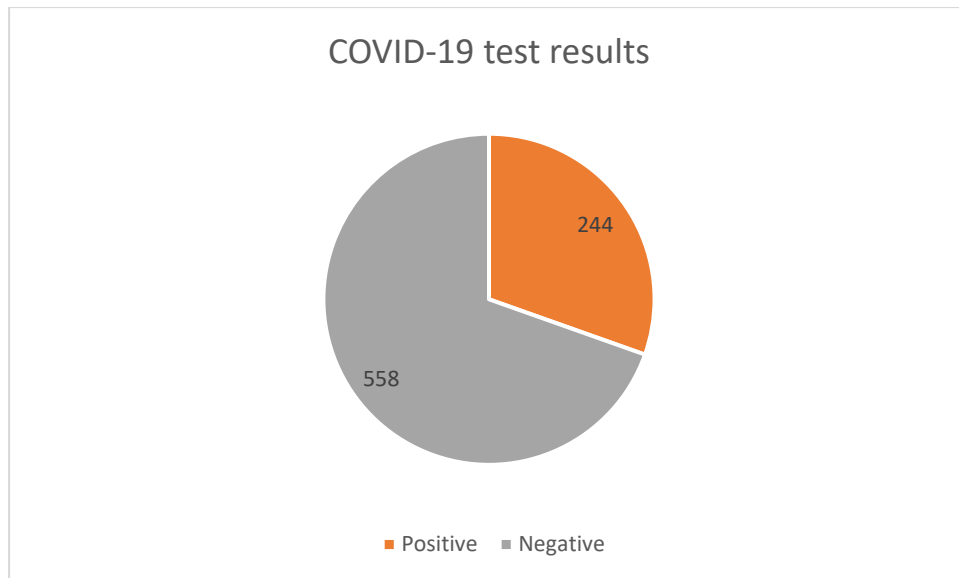


Figure 1

Out of all the individuals who were tested, 20 hospitalized. Therefore, we can say that the remedies used in the treatment and curbing of the virus were useful to some extent. Also, 224 in the isolation center as per the data that was recorded and 106 people quarantined due to close contact with positive tested people.

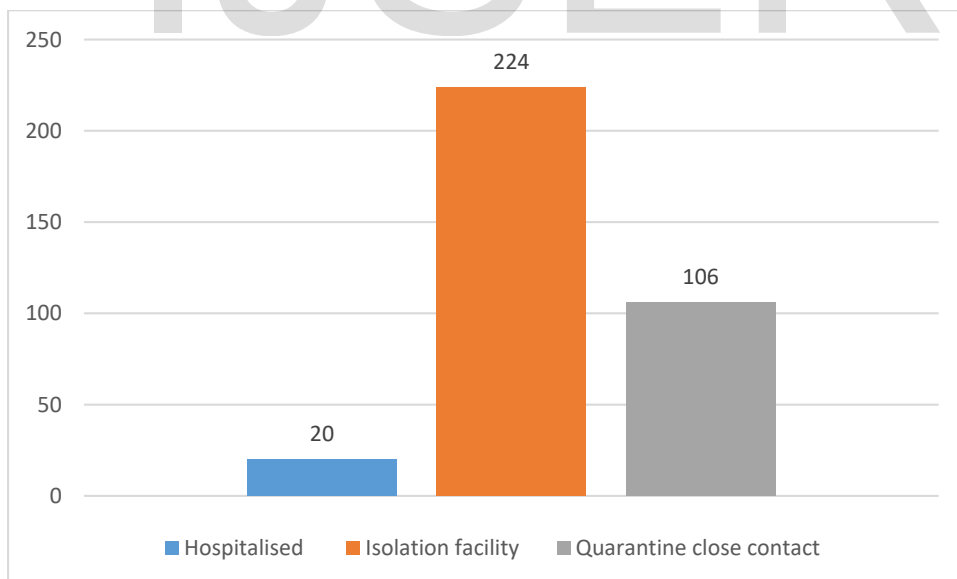


Figure 2

The above graph illustrates the number of those in hospital, Isolation facility and quarantine due to close contact with positive tested people. That is, shows the individuals who were in hospital. The second shows the individuals who were not in isolation facility. And the last quarantined individuals due to close contact with positive tested individuals.

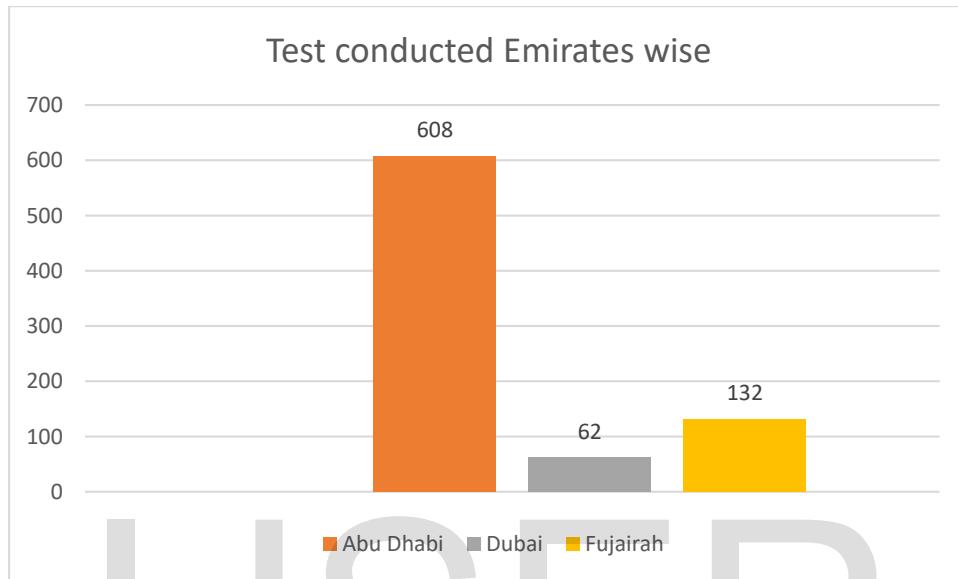


Figure 3 Location graph

The graph above shows the statistics of the number of individuals per the locations that testing was conducted throughout the whole study. The location which had the highest population being tested was Abu Dhabi represented by the first bar. In contrast, Fujairah and Dubai locations had the lowest number of individuals involved in the testing process.

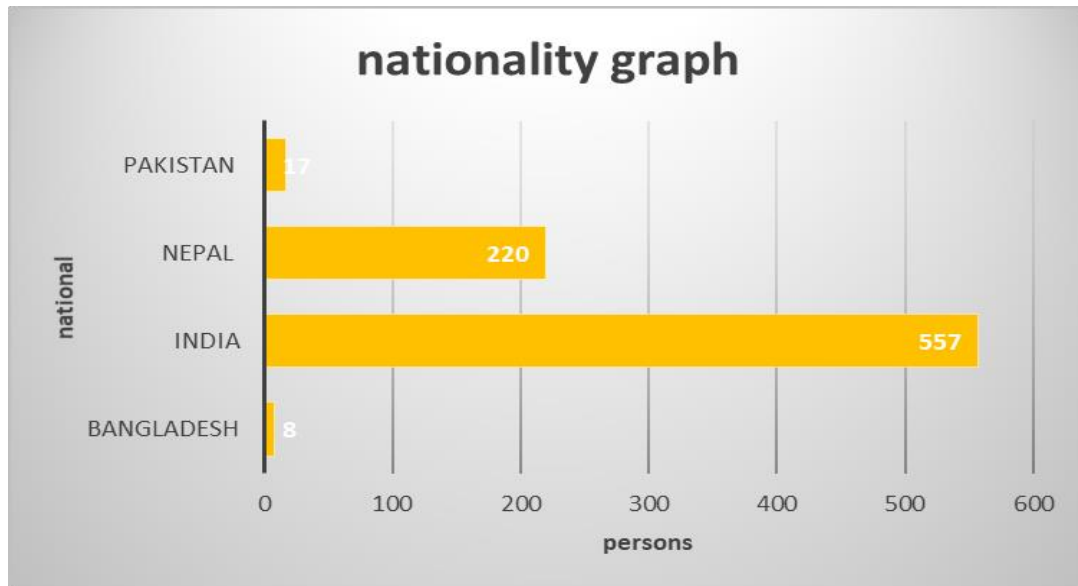


Figure 4 Statistics as per the nations in UAE

The graph above clearly illustrates how the number of people tested for the COVID-19 disease varied between the four nationalities residing in United Arab Emirates. India can be observed as the leading in a number of the population who underwent the test, followed by Nepal; this is because India is one of the countries with the world's highest population. Bangladesh and Pakistan recorded the lowest number of tests throughout the entire period of testing.

Place where the COVID-19 test took place.

The tests were conducted by Ministry of Health (MOH) under various agencies and private sector hospitals and generated the results. As observed in the chart below, the organization that recorded the highest number of the test was MOH, followed by private hospitals.

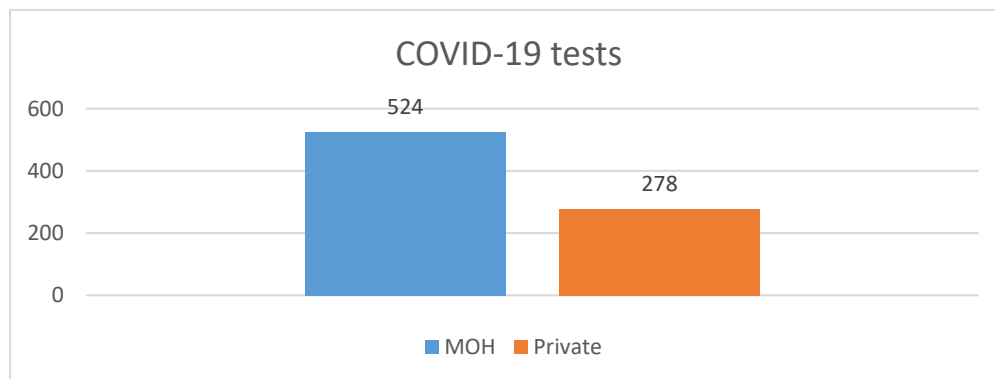


Figure 5 Place where the COVID-19 test took place

As per the graph below, we have various ways to make changes in eating and lifestyle. As observed on the graph, people who changed their mode of eating were 323, which was the highest number from the sample of 802 individuals. People who changed at all times were 45 while those who changed for most of the time were 15, which was the lowest number. Some never changed the mode of eating and lifestyle at all-time represented by the last bar. They are equivalent to 85 individuals.

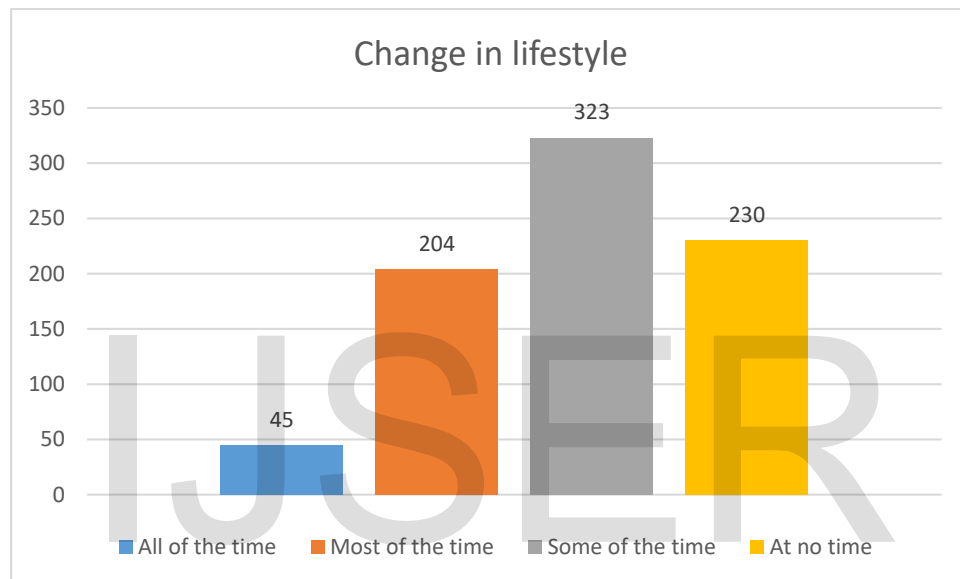


Figure 6 Change in Lifestyle graph

We also have another variable, which is the use of lukewarm water; as per the graph below, we have 441 individuals who made the use of lukewarm water at all times, which are 251 used for most of the while 110 individuals used it for some time.

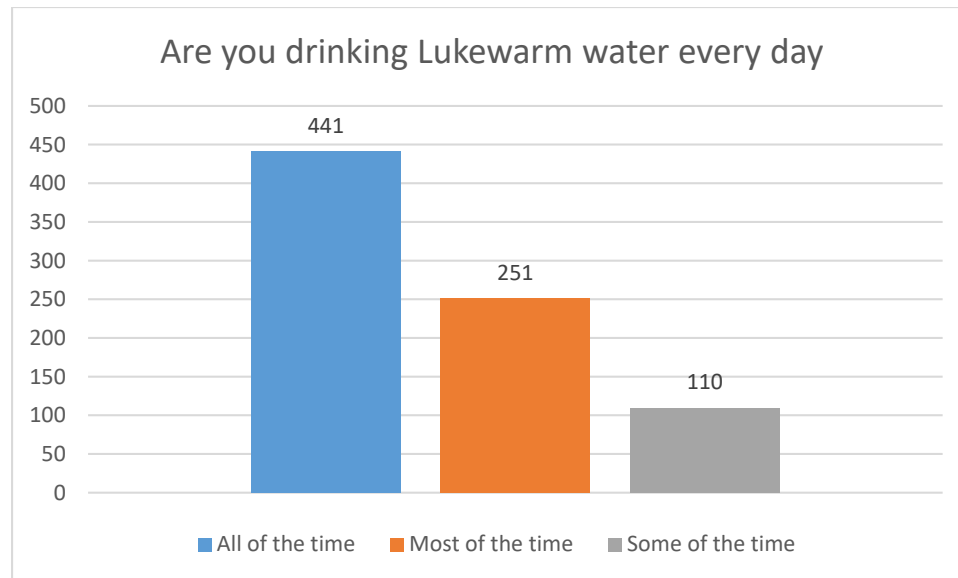


Figure 7 Use of Lukewarm Water

1. The graph below shows the number of those who had diabetes and those who had no diabetes. As per the graph, the number of individuals with no diabetes is 770, represented by the longest bar, while those who had it been 32.

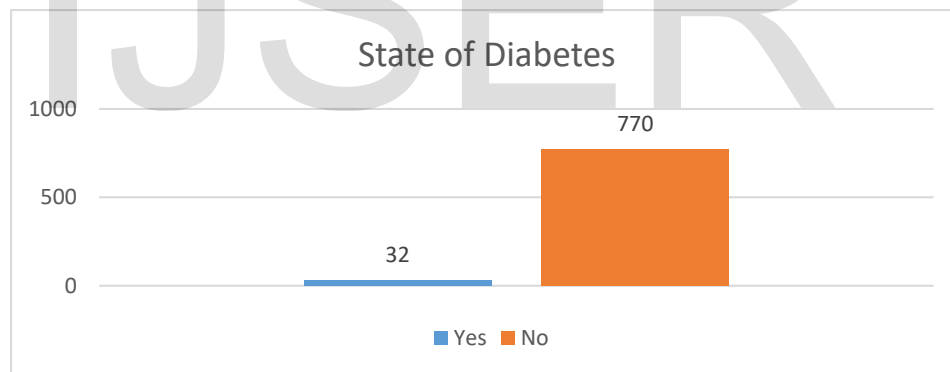


Figure 8 State of Diabetes

The graph below represents the statistics of individuals with blood pressure and those with no blood pressure. 764 individuals had no blood pressure, while 38 individuals were found to be having blood pressure.

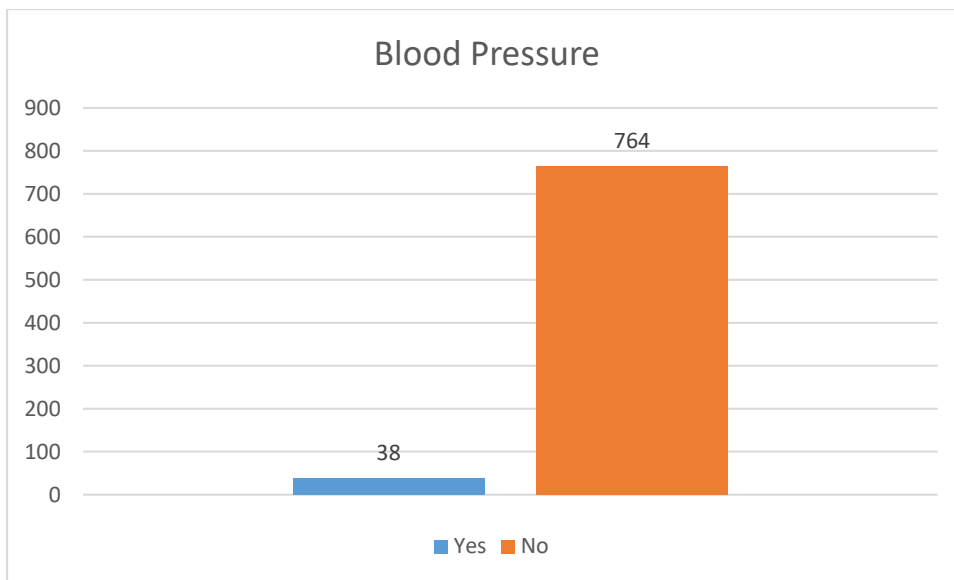


Figure 9 Blood Pressure

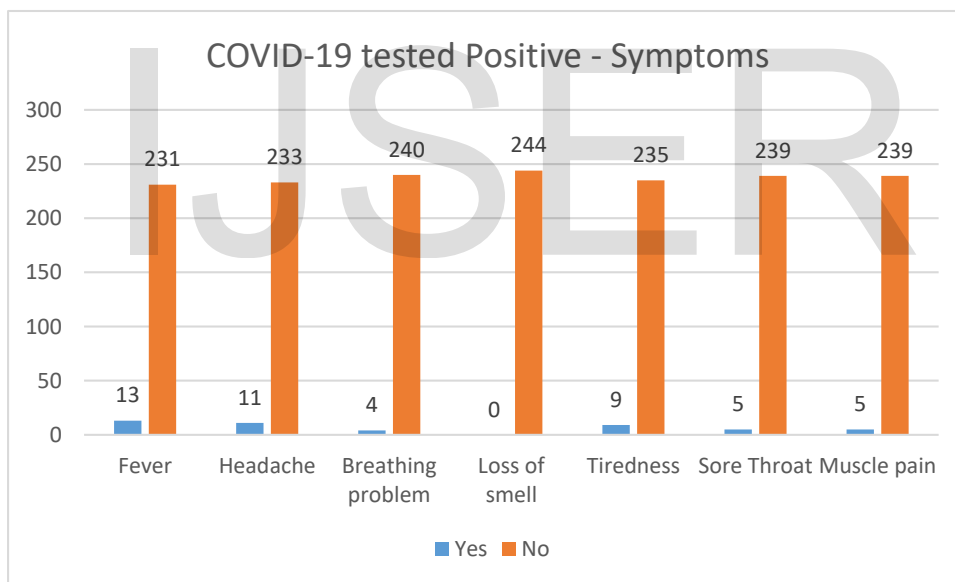


Figure 10

For state of fever, tests were carried out on the 244, COVID-19 tested positive individuals. As from the graph above it was found that those who had no fever were 231 individuals while those who had fever were 13 individuals. For the breathing difficulty symptom, the graph shows out of the 244 individuals, 240 individuals had no breathing difficulties as represented by the longest bar while 4 individuals had breathing difficulties as observed from the shorter bar. The graph above

represents a symptom of smell where no one had problem in the smelling out of the 244 individuals. The graph above represents the state of tiredness. As it is clearly observed, the longest bar represents those who signs of tiredness they were 235. The shortest bar represents those that had tiredness as a symptom they were 9.

We had so many variables in the data, but we basically focused on the main variables to get full information out of it.

DISCUSSION

From the observational study, we carried out, the analysis involved a cohort of 802 individuals from one particular company. The tests were carried out successfully, and the results were generated. The main aim was to find out how to counter the spread of the COVID-19 virus. As we noted in the introduction section, the findings of the study, we shall basically analyze them and expound on them fully. The treatment measures that were used to counter the virus's effect as we stated we should analyze how effective they were. For the disease case, we focused on main issues like how to counter it and the people who were at a high risk of contracting it. That is what was the effect of COVID-19 on diabetes and blood pressure. In this case, some questions were asked during the study. This was all about the precautions to be taken to prevent the spread of the virus (Perveen, et al., 2020).

We have the number of people who avoided the touching of eyes, nose, and mouth with unwashed hands from the data. We have 47 people who avoided touching for some time, 297 avoided most of the time, while 458 individuals avoided at all times. As per the data, we have individuals made changes in the lifestyle and eating habits program during the COVID-19 period. This was due to the changes in the supply of goods and services in the UAE and the entire world. We have got 45 individuals who changed at all times while those who never changed were 230. 204 of the total number of individuals changed most of the time, while 323 changed for some time. We also noted the use of lukewarm water. The individuals should have used lukewarm water since the virus was said it does not survive in warm temperatures. From the data collected, we had 441 individuals who used the lukewarm water at all times. 251 individuals used lukewarm water most of the time, while 110 used for some of the time. Also, we have people who made changes in their physical activities during the entire period of COVID-19 (Rundle, et al., 2020). Out of the total of 802 individuals 94 noticed changes at all times, while those who never changed were 400. And 92 of

the total number of individuals changed most of the time, while 216 changed for some time. We have got data for those that felt calm and relaxed during the COVID-19 restrictions. Individuals who felt calm & relaxed at all times 129, while those who were never calm & relaxed 128. Also 279 of the total number of individuals felt calm & relaxed most of the time, while 266 felt for some time. We have got data for those that felt changes in sleep during the COVID-19 restrictions. Out of the total of 802 individuals 63 felt at all the times, while those who never felt were 182. And 236 of the total number of individuals felt changes in sleep most of the time, while 321 felt for some time. We have got data for those that felt lonely during the COVID-19 restrictions. Out of the total of 802 individuals 172 felt lonely at all times, while those who never felt lonely were 165. And 205 of the total number of individuals felt lonely most of the time, while 260 felt for some time.

As per the measures that were provided by the company, various precautions were given to all the employees of the company to make sure that they were safe from contracting the disease. This includes the provision of electric kettles, which was for warming water for drinking and washing hands. The use of lukewarm water is to make sure that the virus does not survive anymore. There was the provision of lemon, ginger, orange and cloves to boost the immunity in employees (Edridge, et al., 2020). The virus attacks people with weak immune systems in their bodies; thus, boosting the immune system makes the virus not very effective.

There were some teachings provided by the company to the employees to make sure that they are safe in curbing the spread of the virus. This includes; yoga, self-strategies, wellbeing, benefits of gratitude, and meditation (Caly, et al., 2020). This was to enhance them to know how they will carry themselves during the pandemic. How one protects and carries him/herself was paramount since safety starts with oneself. Therefore, it was essential for the employees to get some directions and teaching about the spread of the virus and how to counter it personally (Hwang, et al., 2020).

The employees received many benefits from the company for protection against the disease. They were assigned a counsellor to talk to them and provide telecommunication counseling and personal support during the entire period of the pandemic. They were given pocket cards with very many precautions concerning the COVID-19 pandemic (Maurya, et al., 2020). This included the dos and the don'ts during the pandemic period. Also, to ensure that the employees were safe, they were given special chartered flights to their respective destinations by the company.

Since the employees were working at high risks of the virus, they had to be paid salaries with minimal deductions. Telephone recharge cards and emergency medicines were also made available to employees at their respective accommodations during isolation and quarantine period (Acter, et al., 2020). This was to enhance them to make efficient communication about their current states of COVID-19. More so, proper signage was put in the vehicles and office to maintain proper distancing. This was to prevent close body contacts between the employees for the contraction of the disease.

Daily morning fever check and briefings organized to reminding about the precautions to be taken to ensure that all employees' state is noted before they interact with other people or their colleagues in the company (Müller, et al., 2020).

To add to the precautions that were to be followed, masks and sanitizers were given to employees, and 3 layered cotton masks prepared in the own facility of the company for the employees. This enhanced the clearing of the germs that may have contained the virus on their hands. Mask was for covering the mouthparts and nose to prevent the virus's inhaling or exhaling (Sii, et al., 2020).

Limitations of the study

For the study that we carried out, we had some limitations and difficulties that we went through for it to be successful. First and far, most of the data we recorded for the testing activity was not very much accurate as it is needed. This can lead to selection bias or survival bias (Smit, et al., 2020). The solution to this is to ensure that the collected data is accurate for good enough decision making.

We also had issues like confusing cause and effect, which were brought up by the study colleagues. The ignorance of what was recommended things for the use in the study. The perfect things to be used should be highly recommended in the study to generate clear outcomes (Rossi, et al., 2020).

We also experienced the problem of the inability to research things that have not happened. In every research, there must be new things that may come through during the study. Before one realizes that there are new things, the time needed for it could not be there since the study's time might be very minimal. This may limit the researcher to obtain various facts and collection of data as well. (Smith, et al., 2018).

Conclusion

In conclusion, this multinational, observational, real-world study of patients with COVID-19 found that the studies that were carried out on the sample of 802 individuals suggested that both diabetes and blood pressure did not significantly have a serious impact on the COVID-19 patients but negatively affected their clinical course (Hussain, et al., 2020). This was important as it helps clinicians maintain and manage COVID-19 patients with diabetes and blood pressure. But for instance, future examinations should focus more on whether COVID-19 impacts people living with diabetes and blood pressure are at higher risk or not (Barone, et al., 2020). These findings suggest that these drug regimens should not be used outside of clinical trials, and urgent confirmation from randomized clinical trials is needed.

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