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A Local Study of Long-term Consequences of non-hospitalized COVID-19 Patients at Al-Razi Specialized Medical Center, Iraqi Red Crescent Branch, Baghdad, Iraqi

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Abstract

This study was limited only to a group of non-hospitalized patients who were recovering after mild or moderate infection from COVID-19, as it was shown that these patients were suffering from nervous and psychological disorders that needed medical supervision and care. Other viral diseases, such as infectious mononucleosis, measles, and hepatitis B, also have rare long-term consequences. COVID-19's long-term consequences remain unclear (as are many aspects of the acute disease). Survivors of severe acute respiratory syndrome (SARS) have been shown to suffer long-term repercussions [1, 2].

Aims: The objective of this short questionnaire research was to see how often persistent signs and symptoms are for non-hospitalized COVID-19 infected people.

Methods: From January 19 to February 1, 2021, a short questionnaire research was conducted at Al-Razi Specialized Medical Center, Iraqi Red Crescent Branch, Baghdad, Iraq. 79 samples of both genders concerning the post-covid-19 disorders were randomly collected, excluding the patients admitted to the hospital due to acute and chronic states; the infectious state owing to other viral or bacterial causes; and also, all the results which were diagnosed as negative via the RT-PCR test, through the rapid tabulating and statistically processing. This study noted that there were some significant signs and symptoms in the mild and moderate cases of COVID-19 patients after full recovery from the disease that should be focused on. Al-Razi Specialized Medical Center (ARSMC) in Baghdad, Iraq's capital, approved and submitted this questionnaire.

The results: From this limited study, the results showed a high-frequency percentage of males, 18–34 years of age, with a high educational degree; the ABO group was A+; the illness period was more than 3 months with mild disease conditions; for those who were recovered after the viral disease, there were no signs and symptoms or with hair loss and insomnia as a high-frequency percentage.

Conclusion: These findings confirmed that several of the post-COVID-19 signs and symptoms referred to a variety of new medical diagnoses, including new neurological disorders, were diagnosed more commonly among those with a history of COVID-19 infection than those without the infection.

Keywords: Long-Term Consequences, Non-Hospitalized COVID-19 Patients at Al-Razi Specialized Medical Center, Baghdad City

1. Introduction

The 2019 COVID-19, caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), has by Nov 2021 affected more than 230 million people worldwide and has been associated with 4.8 million deaths, leading to a global health and financial crisis. [3], it was first discovered in Wuhan City, Hubei Province, China, as a result of an outbreak of respiratory diseases caused by this virus [4]. The WHO was the first to know about this on December 31, 2019. From Jan. 30, 2020, the WHO designated the COVID-19 outbreak a worldwide health emergency [5, 6]. On February 24, 2019, the Iraqi Ministry of Health confirmed the first case of COVID-19 [7, 8].

The onslaught of the COVID-19 pandemic in Iraq and around the world was relentless. For many, recovery from the acute phase of the SARS-CoV-2 infection, the coronavirus that causes COVID-19, may be gruelling with a debilitating second act. After an acute illness of COVID-19, patients may have a slew of physical, psychological, and neurocognitive (e.g., tiredness, breathlessness, difficulty breathing, coughing), and also emotional disturbances (stress, sadness, post-traumatic stress disorder) that might persist for weeks or months [9-16]. Most of those signs classified as COVID-19 post-acute squeal (PASC) might be caused by a variety of factors. Fever, cough, weariness, and hyposmia were the most prevalent symptoms in a meta-analysis of 24,410 COVID-19 patients [17]. However, not everyone infected develops symptoms [18, 19]. Beyond the first phase of the

COVID-19 pandemic, several observational studies, patient groups, and long-term symptoms such as decreased respiratory capacity [20], tiredness, and hyposmia [21, 22] have been reported in clinical studies. As a consequence of rising awareness of persistent symptoms in COVID-19 patients, the term "long COVID," which has yet to be defined, was created [23, 24]. The National Institute of Health and Care Excellence (NICE) recently published a first draft guideline on the COVID-19's long-term consequences, which advises to use the phrase "ongoing symptomatic COVID-19" for problems lasting 4 to 12 weeks. After the acute onset and "post-COVID-19-syndrome" for signs and symptoms lasting extra than 12 weeks. The majority of COVID-19 symptom studies enlisted volunteers from hospitalized patients or outpatient clinics, specialist units, or support groups coping with COVID-19's effects [17, 21-26]. Symptoms, signs, or abnormal clinical parameters persisting two or more weeks after COVID-19 onset that do not return to a healthy baseline can potentially be considered long-term effects of the disease [27]. Although such alterations are mainly reported in severe and critical disease survivors, the lasting effects also occur in individuals with mild infections who did not require hospitalization [28].

2. Materials and methods

79 samples of both genders were registered at Al-Razi Specialized Medical Center (ARSMC), Baghdad, on January 19–February 21, 2021, which were moderate instances of COVID-19 infection and the SARS-CoV-2 diagnosis was confirmed by polymerase chain reaction (PCR). The patient group for this questionnaire was confined to individuals who were non-hospitalized. To increase the confidence that a patient in our cohort would likely seek care within ARSMC in the post-COVID era, we further narrowed the study population to patients who had two diagnosis records in our electronic data repositories since 2010. We also excluded patients who had a diagnosis code referring to COVID-19 but had a negative RT-PCR test in the ARSMC records due to our inability to approximate the infection date. The use of clinical data in this study was approved by the Al-Razi Specialized Medical Center (ARSMC).

Statistical analysis

Version (23) of the Statistical Package for Social Sciences (SPSS) was used for data input and data processing. The data has been grouped and tabulated. Frequency data was analyzed using a chi-square independence test. A p-value of ≤ 0.05 was found to be significant.

3. Results

The results are shown in Table 1, the frequency percentage distribution of categorical variables, and all of these variables were highly statistically significant ($P < 0.01$), with the high-frequency percentage for males, it was 50.6%. About 69.6% of those are married. The total family members consisted of 4 to 6 members (43%). Most participants were government employees, with a frequency of 44.3%. Most of them had a daily income of 16.7 dollars, representing 41.8 percent of the total. A bachelor's degree is the education status of the individuals who engaged in this study, which accounted for 51.9% of the total. Most patients were not smokers (70.9 percent). According to the findings, 72.2 per cent of all participants were committed to prevention, and the majority of them (82.2 percent) did not believe in the government's preventative efforts.

Table 1: Demographic distribution of the categorical variables (n = 79)

Gender distribution	**Count**	**Percentage**	**Chi-Square for Goodness of Fit P-Value**
Female	39.0	49.4	
*Male	40.0	50.6	Chi^2 value = 0.013 P-Value = 0.91 (P-Value > 0.05) df = 1
Age group/ Year	**Count**	**Percentage**	**P-Value**
*18- 34	41.0	51.9	Chi^2 value = 40.04 P-Value < 0.00001** df = 3
35- 54	21.0	26.6	
55- 65	15.0	19.0	
> 65	2.0	2.5	
Social status	**Count**	**Percentage**	**P-Value**
*Married	55.0	69.6	Chi^2 value = 48.03 P-Value < 0.00001** df = 2
Single	16.0	20.3	
Other	8.0	10.1	
Family members	**Count**	**Percentage**	**P-Value**
≤ 3	16.0	20.3	Chi^2 value = 6.56 P-Value = 0.04* df = 2
*4-6	34.0	43.0	
> 6	29.0	36.7	
Working status	**Count**	**Percentage**	**P-Value**
*Government employee	35.0	44.3	Chi^2 value = 46.4 P-Value < 0.00001** df = 4
Private sector employee	5.0	6.3	
Wage earner	5.0	6.3	
Retired	25.0	31.6	
Unemployed	9.0	11.4	
Daily income/ dollar	**Count**	**Percentage**	**P-Value**
< 6.7	23.0	29.1	Chi^2 value = 2.5 P-Value = 0.3 (P-Value > 0.05) df = 2
6.7-16.7	23.0	29.1	
*> 16.7	33.0	41.8	
Educational level	**Count**	**Percentage**	**P-Value**
Higher certificate	14.0	17.7	Chi^2 value = 54.6 P-Value < 0.00001**
*Bachelor's certificate	41.0	51.9	

Prep certificate	12.0	15.2	df = 4
Primary certificate	9.0	11.4	
Illiterate	3.0	3.8	
Cigarette smoker	**Count**	**Percentage**	**P-Value**
Yes	23.0	29.1	Chi^2 value = 13.8 P-Value = 0.0002** df = 1
*No	56.0	70.9	
Citizens' commitment to prevention	**Count**	**Percentage**	**P-Value**
Yes	22.0	27.8	Chi^2 value = 15.5 P-Value = 0.00008** df = 1
*No	57.0	72.2	
Confidence in the government's preventive measures	**Count**	**Percentage**	**P-Value**
Yes	14.0	17.7	Chi^2 value = 32.9 P-Value < 0.00001** df = 1
*No	65.0	82.3	
Total	79	100.0	**. P-Value is significant at the 0.01 level (2-tailed). *. P-Value is significant at the 0.05 level (2-tailed). df is the Degrees of freedom

Table 1: represents the frequency percentage distribution of categorical variables. These findings were highly statistically significant (P < 0.01) except for the high-frequency percentage of males, which was 50.6%. About (51.9%) of those aged 18–34 years old who were married made up 69.6% of the total. The total family members consisted of 4-6 members (43.0%), and the recurrence proportion for those in government jobs was 44.3%, with a daily income of more than 16 dollars accounting for 41.81%. The most prominent educational level in this study was a bachelor's degree, with a frequency of 51.9%. With a frequency of 72.2%, the majority of the participants in this study were non-smokers. A high portion of the total participating patients did not believe in governmental preventive measures, which accounted for 82.3%.

Table 2: Frequency distribution data concerning the health state (n = 79)

Health issues	**Count**	**Percentage**	**Chi-Square for Goodness of Fit P-Value**
Yes	26.0	32.9	Chi^2 value = 9.2 P-Value = 0.002* df = 1
No	*53.0	67.1	
ABO Blood group	**Count**	**Percentage**	**P-Value**
*A+	25.0	31.6	Chi^2 value = 61.1 P-Value < 0.00001** df = 7
B+	14.0	17.7	
AB+	12.0	15.2	
O+	20.0	25.3	
A-	2.0	2.5	
B-	1.0	1.3	
AB-	2.0	2.5	
O-	3.0	3.8	
Illness period	**Count**	**Percentage**	**P-Value**
< 1 month	20.0	25.3	Chi^2 value = 18.3 P-Value = 0.0001** df = 2
1-3 month	15.0	19.0	
*> 3 month	44.0	55.7	
Symptoms of illness	**Count**	**Percentage**	**P-Value**
*Mild	36.0	45.6	Chi^2 value = 17.2 P-Value = 0.0002 ** df = 2
Moderate	34.0	43.0	
Severe	9.0	11.4	
Treatment period	**Count**	**Percentage**	**P-Value**
*< 7 days	33.0	41.8	Chi^2 value = 8.7 P-Value = 0.013* df = 2
7-14 days	32.0	40.5	
> 14 days	14.0	17.7	
Total	79	100.0	**. P-Value is significant at the 0.01 level (2-tailed). *. P-Value is significant at the 0.05 level (2-tailed). df is the Degrees of freedom

The proportion of people in good health is shown in Table 2. Furthermore, there were extremely statistically significant results (P < 0.01) because the mean of continuous variables with a total count was 79 samples. The mean participants during this study were without past medical history or chronic diseases with a high percentage frequency (67.1%). With a frequency of 31.6 percent, the most common ABO blood group was A+. The majority of the patients who were enrolled in this study, more than 3 months of post-COVID-19 infection complications afflicted 55.7% of the participants. The majority of them, 45.6%, experienced mild symptoms during the illness. Furthermore, the highest percentage of patients (41.8%) were given a treatment that lasted less than seven days.

Table 3: Frequency distribution data concerning the signs and symptoms after recovery (n = 79)

Following-Recovery Symptoms and Signs	Count	Percentage	Chi-Square for Goodness of Fit P-Value
*Hair loss	11.0	13.9	Chi^2 value = 27.0 P-Value = 0.008** df = 12
Shortness of breath	5.1	6.5	
Cough	4.0	5.0	
Arthralgia	6.2	7.8	
Headaches	3.4	4.3	
Palpitation	6.2	7.8	
*Insomnia	11.3	14.3	
Nausea	1.7	2.1	
Fatigue	4.5	5.7	
Anxiety	5.6	7.1	
Loss of interest	5.1	6.4	
Weak sense of smell and taste	1.4	1.8	
*No symptoms	13.5	17.1	
Total	79	100.0	**. P-Value is significant at the 0.01 level (2-tailed). *. P-Value is significant at the 0.05 level (2-tailed). df is the Degrees of freedom

The frequency and percentage distribution of several post-COVID-19 signs and symptoms are shown in Table 3. At P < 0.01 or P < 0.05, all of the findings were statistically significant.

The highest frequency of patients was free of symptoms post COVID-19 infection (17.1%). Patients with insomnia made up more than 14% of the total, while those with hair loss made up 13.9%. Shortness of breath, cough, arthralgia, headaches, palpitations, nausea, fatigue, anxiety, loss of interest, and a weak sense of smell and taste were reported by (6.5, 5.0, 7.8, 4.3, 7.8, 2.1, 5.7, 7.1, 6.4, and 1.8) percent of the patients, respectively.

4. Discussion

A retrospective cohort study of patients post-infected with COVID-19 was once performed at the Alrazi Specialized Medical Center, a department of the Iraqi Red Crescent Society, Baghdad, Iraq. Seventy-nine sufferers visited the centre from 19 January to 21 February 2021 for follow-up and sessions with doctors regarding post-COVID-19 infection complications. At P < 0.01 or P < 0.5, all of the findings were statistically significant, which included the post-COVID-19 infection signs and symptoms illustrated in table 3: These findings are consistent with preceding research concentrating on the loss of hair, shortness of breath, and cough [29-31]. On the other hand, insomnia, anxiety, and depression have been observed to fit with previous research concerning the signs of depression [32]. Such findings led to preceding research about the chronic post-Covid-19 infections of headache, arthralgia, and fatigue [33]. This study also demonstrates that nausea, as well as a weakened sense of smell and taste, correlates with preceding research on the loss of odour and assessments of a non-stop feeling of nausea [34]. Finally, the highest percentage of individuals had been without symptoms; they visited the centre solely for a routine check. Those consequences are consistent with preceding research on post-COVID-19 syndrome patients except for complications [35].

5. Conclusions

Several major indications and symptoms were discovered in post-COVID-19 infected individuals who had a mild illness and required medical attention in this study:

- 13.9% of individuals experience hair loss.
- 14.3% of individuals have insomnia.
- Arthralgia is a disorder that affects 7.8% of individuals.
- Palpitation is common, with a prevalence of 7.8%.
- Anxiety affects 7.1% of people.
- There is a loss of interest with a frequency of 6.4%.

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