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Assess and Know Post Covid Amnesia in Iraq

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Abstract: This study aims to assess and know Post Covid Amnesia and cognitive functioning were evaluated in patients aged 50-70 years. a cross-sectional study was conducted in Kirkuk General Hospital, Kirkuk, Iraq, where 150 patients with Co19 were collected. the necessary and required analyzes were conducted on them to know the effect of Covid 19 on memory the results showed a relatively high rate of cognitive impairment after 7.6 months of infection with "Corona." Cognitive deficits were more common, as one out of every four patients recorded them, while the difficulty of storing new memories ranked second as the most recorded effects among patients, followed by problems in reviewing memory.the study found that participants performed well on most tasks but were significantly worse at recalling personal memories for up to six months after recovery. They also showed a decrease in the ability to maintain attention over time for up to nine months.

Keywords: Covid Amnesia, cognitive functioning, Anxiety disorders.

INTRODUCTION

The coronavirus can damage brain structures and cause sleep problems and anxiety disorders, as in previous studies [Adhikari, N.K. *et al*., 2011; Arabi, Y.M. *et al*., 2015; Arbour, N. *et al*., 2000]. According to the expert, entering the nervous system through the olfactory receptors, the virus can directly destroy the structures of the brain: the limbic system, the hypothalamus, the cerebellum, the respiratory center, and others [Arentz, M. *et al*., 2020; Bartsch, T. *et al*., 2010].

According to the World Health Organization (WHO), post-COVID syndrome appears in very diverse forms, which are observed with a long course of the disease. Among them: confusion, cognitive impairment, general fatigue [Bohmwald, K. *et al*., 2018; Dahm, T. *et al*., 2016; Bohmwald, K. *et al*., 2019].

Previous study added that COVID-19 is a long-term source of stress. It leads to a decrease in mood and increased anxiety, which reduces memory and other cognitive functions [Bohmwald, K. *et al*., 2018; Dahm, T. *et al*., 2016; Bohmwald, K. *et al*., 2019; Desforges, M. *et al*., 2014].

Previous studies have shown that cognitive problems, learning problems, cognition, and memory are a direct result of brain damage. They go away after a few months, just as the sense of smell improves because both cause nerve damage [Du, L. *et al*., 2003; Fazzini, E. *et al*., 1992; Filatov, A. *et al*., 2020].

However, sometimes waiting for improvements, on the contrary, can only make things worse [Gandhi, S. *et al*., 2020]; This is especially true for elderly people who have contracted the coronavirus [Gold, A.E. *et al*., 2005; Grande, X. *et al*., 2019].

"The memory loss afterwards could be the beginning of another process, like Alzheimer's disease or another problem associated with aging memory loss. Sometimes you can attribute that to post-COVID-19 disorders [Gu, J. *et al*., 2005; Han, S. *et al*., 2015].

Memory is often defined as the ability to receive and retain life's experiences. Without this, there is no possibility of further development of the individual. Missing any period of time is seen as a tragedy, and if it happens regularly, the nervous system is in danger [Hopkins, R.O. *et al*., 2005; Hopkins, R.O. *et al*., 1999]. In severe illness, a person loses not only strength but also the body's natural defenses, which means that many internal organs become weak, and this primarily concerns the cardiovascular system. Once the brain's blood supply becomes insufficient, hypoxia (oxygen starvation) occurs, which damages cells [Hopkins, R.O. *et al*., 2006; Hosseini, S. *et al*., 2018]. This is one of the reasons for observing memory loss after the Corona virus; what needs to be done for recovery must be determined individually, depending on the severity of the lesion and the ability of the body to regenerate [Jacomy, H. *et al*., 2006; Jeong, H. *et al*., 2016; Kim, H. C. *et al*., 2018].

MATERIAL AND METHOD

Patient Sample

A cross-sectional study was conducted in Kirkuk General Hospital, Kirkuk, Iraq, where 150 patients with Co 19 were collected.

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The necessary and required analyzes were conducted on them to know the effect of Covid 19 on memory

Study Design

A cross-sectional study was conducted, and the electronic registry in the hospital was used, where data and demographic information were obtained for 150 patients, 90 male patients, and 60 female patients.

The average age of the patients ranged between 50 and 70 years, and patients under 50 years old were excluded.

The demographic information of patients withdrawn from the hospital was (age, body mass index, presence of comorbidities in addition to the site of COVID-19 care).

Neuroimaging studies (computed tomography, magnetic resonance imaging - magnetic resonance imaging) necessary for suspicion of a brain tumor, normotensive hydrocephalus, degenerative brain damage, and blood vessels were also assigned since memory impairment is often the only indication of these diseases in the early stages. MRI of the brain is indicated for all patients with memory disorders.

Identification of direct cognitive impairment using special techniques that stimulate attention at the memorization stage. A number of tests were used to assess the Prevalence of Cognitive Impairment After COVID-19 Infection.

Study Period

After obtaining the required and necessary approvals from the competent committees to provide the powers, where This study lasted two years for the purpose of cognitive and cognitive assessment in patients with Co19, and the duration of the study was from 9-2-2020 to 10-3-2022.

AIM OF STUDY

This study aims to assess and know Post Covid Amnesia and the cognitive and cognitive functioning were evaluated in patients aged 50-70 years.

RESULTS

Table 1- Characteristics of Patients Who Had COVID-19

P	Male	Female	P-value
Age (mean±SD)	61.4±5.5	62.3±6.1	0.01
Gender (count) N (%)	90(60)	60(40)	0.05
BMI			
18.5 to <25	10(11.11)	7(11.6)	0.89
25.0 to <30	37(41.11)	29(48.3)	0.67
30.0 or higher	33(36.66)	9(15)	0.002
BMI of 30 to < 35	10(11.11)	5(8.3)	0.034
Comorbidities			
Diabetes	40(44.4)	18(30)	0.001
Hypertension	30(33.3)	10(11.11)	0.001
CVD	10(11.11)	12(20)	0.88
Asthma	10(11.11)	10(11.11)	0.000
Site of COVID-19 care			
home	10(11.11)	5(8.3)	0.03
Hospital	60(66.6)	43(71.6)	0.005
Emergency department	20(22.22)	12(20)	0.0045

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Table 2: Subgroup outcomes result of patient

P	Male	Female	P value
Severity			
Mid	40	22	0.001
Moderate	30	20	0.066
Severe	20	8	0.089
Isolation period			
< 3 weeks	60	39	0.001
≥ 3 weeks	30	11	0.0067
Follow up			
>6month	60	40	0.055
<6month	30	10	0.002

Table 3: Outcomes results related on memory After COVID-19 Infection according to Site of COVID-19 care

P	Home N=10	Response (10 score) MEAN SD	Hospital 60	Response (10 score) MEAN SD	ED 20 P	Response (10 score) 20 P
Working memory	2	7	20	5.3±1.1	2	5.1±0.5
Processing speed	1	7	5	6.1±0.9	2	4.9±0.7
sensory memory	1	7	10	4.9±0.99	2	5.1±0.2
short term memory	1	7.7	8	5.2±0.7	2	4.4±0.4
long-term memory	1	7.9	4	5.6±0.8	3	4.6±0.7
Executive functioning	1	8.1	5	4.8±0.88	2	4.9±0.4
Memory encoding	1	8.2	3	5.8±1.1	2	4.8±0.7
Memory recall	1	7.9	3	6.6±0.8	3	5.2±0.3
Memory recognition	1	8.1	2	6.2±0.7	2	5.4±0.5

Table 4: P-value results of a study of results related on memory After COVID-19 Infection according Site of COVID-19 care in home with hospital

Parameter	T test	P value
Working memory	1.1-0.9	0.01
Processing speed	0.2-0.8	0.65
sensory memory	0.8-2	0.001
short term memory	0.8-1.6	0.045
long-term memory	0.5-1.6	0.04
Executive functioning	1.1-2.4	0.0022
Memory encoding	1.2-2.2	0.001
Memory recall	1.0-1.8	0.001
Memory recognition	0.6-1.3	0.077

DISCUSSION

One hundred fifty patients were collected from a hospital, and an electronic registry was used to analyze the information and demographic data of the patients. The statistical analysis program IBM SPSS soft 22 and Microsoft Excel 2013 were used to analyze the results statistically.

The patients were divided into two groups: males, 90 patients, females, 60 patients.

The ages of male patients were 61.4 ± 5.5 and females 62.3 ± 6.1, and a higher rate of obesity was observed for male patients than for females, where the percentage of body mass index was 36.6% for 33 patients with (a BMI of 30 or higher, as for females 15. %).

He added that cognitive impairment depends on genetic predisposition. No specific set of genes has been identified that indicates a predisposition to mental illness."

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At the same time, memory lapses and poor perception of reality can be caused by direct brain damage, "SARS-CoV-2 in the blood spreads throughout the body, and with weakened immunity, it also enters the brain, causing cell death.

SARS-CoV-2 is able to attack astrocytes, which are the most numerous cells in the central nervous system (CNS). This leads to damage to the cerebral cortex - even atrophy of its individual areas.

Other common memory difficulties revealed by the new data included impairment in sensory memory as well as impairment in long-term and short-term memory.

The effects were seen even in people who were not hospitalized with COVID-19, and further study is needed to determine whether the effect can be partially reversed and if it is long-term.

The study found that participants performed well on most tasks but were significantly worse at recalling personal memories for up to six months after recovery. They also showed a decrease in the ability to maintain interest over time for up to nine months.

Although the COVID-19 survivors did not feel any other symptoms at the time of the test, they did show a deterioration in attention and memory. Our findings reveal that patients can experience some chronic cognitive consequences for months.

In other studies similar to ours, the differences between the Covid group and the non-Covid group in terms of many of the specific measures of cognitive ability looked at in this study were striking, particularly with regard to delayed memory tasks and the ability to perform tasks accurately when fatigued.

Previously, studies have shown that after acute COVID-19 infection, some people continue to experience cognitive symptoms such as difficulty concentrating, forgetfulness, and fatigue, which are referred to as "prolonged COVID-19 symptoms". However, little is known about whether mild COVID-19 infection affects cognitive performance as well.

CONCLUSION

At least 30% of hospitalized COVID-19 patients have been found to suffer from complications such as confusion and memory loss.

We conclude from this study that patients with the Coronavirus 19 may suffer from cognitive impairment even after seven months of recovery. This is not limited to the elderly; It even includes young people.

According to other studies, up to 24% of those who have recovered from the virus suffer from some form of cognitive difficulties, including problems with memory and concentration.

RECOMMENDATION

Eat a healthy diet that includes lots of fruits and vegetables.
Get enough sleep.
Avoid smoking.

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