



RESEARCH ARTICLE

Post Corona Virus Disease-19 Symptoms after recovery of Patients in Erbil City

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ABSTRACT

The samples include patients who were recovered from acute COVID-19 with several symptoms. After discharging from Erbil hospitals still there were blame from some symptoms more than one month. Researcher aimed to find out the most common symptoms which are found in the first three months after discharging from hospitals.

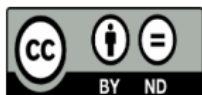
Methods:

The study conducted on a descriptive cross-sectional study with a non-probability samples of 268 patients on post COVID-19 symptoms after recovery of patients in Erbil City Hospitals which specialized to manage infected person with corona virus disease. The data of this study was collected between February 2021 to July 2021.

Results: the results of 268 patients shows that the most samples were within age group (33-47) and was 44.4% which was more than other age group. The study found that female more than male. The most common patients were had Bachelor degree and more. Some of samples had all symptoms. Fatigue is the only symptom which found in the majority of patients. Most of the symptoms were found in the first month. Few symptoms show significant, highly significant and very highly significant relationship with some demographic characteristics, while other symptoms were show a non-significant relationship.

Conclusion: Female mostly got the disease, fatigue was the most common symptoms which found in the patients with COVID-19, then body ache and headache coming consequently. The majority of the COVID-19 symptoms occur in the first month, after this month symptoms gradually reduced in the second and third months.

Keywords: COVID-19, Symptoms, Patients, Erbil.



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INTRODUCTION

Corona virus disease 19 is a pandemic viral disease with catastrophic global impact, its more contagious than normal influenza like that cluster outbreaks occur frequently. COVID-19 patients have symptoms similar to other common disease (1). COVID-19 is highly contagious virus that mainly

attacks the lungs. It is transmitted through droplets created from sneezing and coughing from those infected, the virus enters the body via the nose, mouth and eyes. The coronavirus can directly infect a wide variety of cells in the body and trigger an overactive immune response which also causes damage throughout the body (2&3).

Most patients feel a mild and brief disease with COVID-19, but some are felt struggling with symptoms include fatigue, chest pain, and breathlessness for months. The focus has been on saving lives during the pandemic, but there is now a growing recognition that patients are facing long term consequences of a COVID infection (4). Patients advocacy groups, many members of which identify themselves as long haulers, have helped contribute to the recognition of post-acute COVID-19, characterized by persistent symptoms and delayed or long term complications beyond 4 months from the onset of symptoms (5).

The most frequent symptoms of Corona Virus Disease 19 at the onset are cough, fever, asthenia, myalgia, altered smell and shortness of breathing (5&6).

Extreme fatigue, nausea, chest tightness, severe headache, brain fog, and limb pain are among the recurring symptoms described by sufferers of COVID-19 for weeks and even months, after their diagnosis (6&7).

Many people who report continuing symptoms are older or have underlying health conditions, the same factors that put patient at risk for a more serious case of COVID-19, like heart disease, or lung disease. The more chronic conditions a person had, the

more likely they were to say they were not fully recovered (8).

A patient who has recovered from a severe Covid-19 infection rings a bell in a sign of victory as they leave hospital. But experts say people can continue to experience persistent symptoms two months after testing negative (9). This disease is typically characterized by acute symptoms of fever, cough, and shortness of breathing. Most of patients recover completely within 2 weeks of first symptoms, but recovery may take 3 to 6 weeks in severe cases.(10)

Objectives of the study:

1- To find out the major post COVID-19 symptoms after recovery of patients within first three months.

2- To describe the relation between post COVID-19 symptoms and some demographic characteristics of patients.

Methods and Patients:

A descriptive cross sectional study conducted on post COVID-19 symptoms after recovery of patients in Erbil City.

Samples:

The samples of the study included patients who recurred and discharged from hospitals in Erbil City which specialized to corona virus infections.

Setting and Duration of the study:

The study conducted in Erbil City at patient's home who recovered from disease and started on February, 2021 to July, 2021.

Sampling:

A non-probability convenience sample of patients with post covid-19 symptoms.

Sample inclusion criteria:

All patients who willing and have ability to participate the study.

Sample exclusion criteria:

Who reject to participate the study and very tired.

Ethical consideration:

The proposal of the study will submit to the research scientific committee of nursing college to get approval prior to beginning the study.

Results:

Table 1: Demographic characteristics of 268 patients

Demographic Characteristics		F	%
Age Group/year	18-32	115	42.9
	33-47	119	44.4
	48-62	30	11.2
	63-77	4	1.5
Gender	Male	129	48.1
	Female	139	51.9
Level of education	Illiterate	0	0
	Primary school	4	1.5
	Secondary school	8	3
	Bachelor and more	256	95.5
Total		268	100

Table 1 show that age group (33-47) was the major group, female more than male and the most common of the study sample were had bachelor and more degree.

Table 2: Show post corona virus-19 symptoms of 268 patients

Post Covid-19 Symptoms	Yes		No		Total	
	F	%	F	%	F	%
Have chest pain	92	34.3	176	65.7	268	100
Have diarrhea	63	23.5	205	76.5	268	100
Have headache	150	56	118	44	268	100
Have cough	111	41.4	157	58.6	268	100
Have sweating	144	53.7	124	46.3	268	100
Felt loose of smell	136	50.7	132	49.3	268	100
Felt fatigue	196	73.1	72	26.9	268	100
Felt shortness of breathing	106	39.6	162	60.4	268	100
Have insomnia	93	34.7	175	65.3	268	100
Have sore throats	112	41.8	156	58.2	268	100
Have Body aches	173	64.6	95	35.4	268	100
Have Anxiety	115	42.9	153	57.1	268	100
Have Heart palpitation	71	26.5	197	73.5	268	100

This table show us that most of the sample were had no chest pain, diarrhea, cough, shortness of breathing, anxiety and palpitation. While other symptoms found such as headache, sweating, loose of smell, fatigue and body ache on the patients.

Table 3:Post corona virus-19 symptoms through months

Months of Post Covid-19 Symptoms	Not Applicable		First Month		Second Month		Third Month		Total	
	F	%	F	%	F	%	F	%	F	%
Have chest pain	179	66.8	76	28.4	10	3.7	3	1.1	268	100
Have diarrhea	207	77.2	49	18.3	10	3.7	2	0.7	268	100
Have headache	127	47.4	124	46.3	11	4.1	6	2.2	268	100
Have cough	165	61.6	87	32.5	10	3.7	6	2.2	268	100
Have sweating	132	49.3	121	45.1	13	4.9	2	0.7	268	100

Felt loose of smell	141	52.6	120	44.8	3	1.1	4	1.5	268	100
Felt fatigue	82	30.6	155	57.8	19	7.1	12	4.5	268	100
Felt shortness of breathing	159	59.3	93	34.7	9	3.4	7	2.6	268	100
Have insomnia	174	64.9	83	31	4	1.5	7	2.6	268	100
Have sore throats	152	56.7	88	32.8	14	5.2	14	5.2	268	100
Have Body aches	100	37.3	139	51.9	17	6.3	12	4.5	268	100
Have Anxiety	157	58.6	89	33.2	16	6	6	2.2	268	100
Have Heart palpitation	194	72.4	56	20.9	10	3.7	8	3	268	100

Table 3 show that 66.8% were had no chest pain at all, but 28% were had chest pain in the first month while 3.7% and 1.1% in the second and third months. Regarding diarrhea 77.2% were had no diarrhea, but 18.3% were had this symptom in the first month and less in the other months. About headache, 47.4% were had no headache, but 46.3% , 4.1% and 2.2% were had headache in the first, second and third months consequently. Most of them 61.6% were had no cough, while 32.5%, 3.7% and 2.2% were has cough in the first, second and third months. Nearly half of the sample had sweating. Also 45.1%, 4.9% and 0,7% were had sweating during the first, second and third months consequently.

Table 4 Relationship between age groups and post corona viru-19 symptoms of 268 patients

Post Covid-19 Symptoms		Age Group/years								P-value
		18-32		33-47		48-62		63-77		Chi-square
		F	%	F	%	F	%	F	%	Test
Have chest pain	Yes	45	48.9	39	42.4	6	6.5	2	2.2	0.212
	No	70	39.8	80	45.5	24	13.6	2	1.1	NS
Have diarrhea	Yes	29	46	28	44.4	5	7.9	1	1.6	0.808
	No	86	42	91	44.4	25	12.2	3	1.5	NS
Have headache	Yes	70	46.7	69	46	11	7.3	0	0	0.012
	No	45	38.1	50	42.4	19	16.1	4	3.4	S
Have cough	Yes	53	47.7	44	39.6	14	12.6	0	0	0.160
	No	62	39.5	75	47.8	16	10.2	4	2.5	NS
Have sweating	Yes	59	41	71	49.3	13	9	1	0.7	0.204
	No	56	45.2	48	38.7	17	13.7	3	2.4	NS
Felt loose of	Yes	61	44.9	61	44.9	13	9.6	1	0.7	0.577

smell	No	54	40.9	58	43.9	17	12.9	3	2.3	NS
Felt fatigue	Yes	88	44.9	81	41.3	23	11.7	4	2	0.274
	No	27	37.5	38	52.8	7	9.7	0	0	NS
Felt shortness of breathing	Yes	55	51.9	40	37.7	8	7.5	3	2.8	0.026
	No	60	37	79	48.8	22	13.6	1	0.6	S
Have insomnia	Yes	47	50.5	38	40.9	6	6.5	2	2.2	0.132
	No	68	38.9	81	46.3	24	13.7	2	1.1	NS
Have sore throats	Yes	54	48.2	47	42	11	9.8	0	0	0.194
	No	61	39.1	72	46.2	19	12.2	4	2.6	NS
Have Body aches	Yes	70	40.5	74	42.8	25	14.5	4	2.3	0.049
	No	45	47.4	45	47.4	5	5.3	0	0	S
Have Anxiety	Yes	69	60	35	30.4	9	7.8	2	1.7	0.001
	No	46	30.1	84	54.9	21	13.7	2	1.3	VHS
Have Heart palpitation	Yes	37	52.1	29	40.8	4	5.6	1	1.4	0.183
	No	78	39.6	90	45.7	26	13.2	3	1.5	NS

This table show that there was a significant relationship in symptoms have headache, felt shortness of breathing and have body ache. Also there was a highly significant relationship in only item have anxiety, while the rest symptoms were show non-significant relationship.

Table 5 Relationship between gender and post corona virus-19 symptoms of 268 patients

Post Covid-19 Symptoms	Gender								P-value Chi-square Test
	Male				Female				
	Yes		No		Yes		No		
	F	%	F	%	F	%	F	%	
Have chest pain	37	28.7	92	71.3	55	39.6	84	60.4	0.061 S
Have diarrhea	23	17.8	106	82.2	40	28.8	99	71.2	0.035 S
Have headache	70	54.3	59	45.7	80	57.6	59	42.4	0.588 NS
Have cough	53	41.1	76	58.9	58	41.7	81	58.3	0.915 NS
Have sweating	73	56.6	56	43.4	71	51.1	68	48.9	0.366 NS
Felt loose of smell	68	52.7	61	47.3	68	48.9	71	51.1	0.535 NS

Felt fatigue	89	69	40	31	107	77	32	23	0.141 NS
Felt shortness of breathing	47	36.4	82	63.6	59	42.4	80	57.6	0.315 NS
Have insomnia	34	26.4	95	73.6	59	42.4	80	57.6	0.006 HS
Have sore throats	45	34.9	84	65.1	67	48.2	72	51.8	0.027 S
Have Body aches	92	71.3	37	28.7	81	58.3	58	41.7	0.026 S
Have Anxiety	39	30.2	90	69.8	76	54.7	63	45.3	0.001 VHS
Have Heart palpitation	27	20.9	102	79.1	44	31.7	95	68.3	0.047 S

Table 5 show that there was a significant relationship in items have diarrhea, have sore throats, have body ache and heart palpitation. And also there was a highly significant relationship in item have insomnia and very highly significant in item have anxiety. While other items were show non-significant relationship.

Table 6 Relationship between level of education and post corona virus-19 symptoms of 268 patients

Post Covid-19 Symptoms	Level of education												P-value Chi-square Test
	Primary school				Secondary school				Bachelor and more				
	Yes		No		Yes		No		Yes		No		
	F	%	F	%	F	%	F	%	F	%	F	%	
Have chest pain	2	50	2	50	2	25	6	75	88	34.4	168	65.6	0.689 NS
Have diarrhea	2	50	2	50	2	25	6	75	59	23	197	77	0.449 NS
Have headache	0	0	4	100	4	50	4	50	146	57	110	43	0.070 NS
Have cough	2	50	2	50	2	25	6	75	107	41.8	149	58.2	0.599 NS
Have sweating	2	50	2	50	4	50	4	50	138	53.9	118	46.1	0.965 NS
Feel loose of smell	2	50	2	50	5	5	3	37.5	129	50.4	127	49.6	0.796 NS
Feel fatigue	4	100	0	0	5	62.5	3	37.5	187	73	69	27	0.381 NS
feel shortness of breathing	4	100	0	0	2	25	6	75	100	39.1	156	60.9	0.033 S
Have insomnia	2	50	2	50	4	50	4	50	87	34	169	66	0.523 NS
Have sore throats	2	50	2	50	2	25	6	75	108	42.2	148	57.8	0.590 NS

Have Body aches	4	100	0	0	4	50	4	50	165	64.5	91	35.5	0.230 NS
Have Anxiety	4	100	0	0	5	62.5	3	37.5	106	41.4	150	58.6	0.033 S
Have Heart palpitation	1	25	3	75	2	25	6	75	68	26.6	188	73.4	0.993 NS

This table show us that there was a significant relationship in items felt shortness of breathing and have anxiety. While the rest symptoms were show non-significant relationship

Discussion:

This study found that patients who had recovered from COVID-19, which involving 268 patients, the symptoms of COVID-19 in table 1, were show the most common within age group (33-47), while most of them were female and they had bachelor degree or more. Journal PLOS Medicine found that long COVID-19 symptoms were more common in women (11).

Regarding table 2, show that most of the samples were had no chest pain, no diarrhea, no cough, no shortness of breathing, no anxiety and no heart palpitation. But some symptoms were found among samples such as headache, sweating, loose of smell, fatigue and body ache. A study show that most common lingering symptoms were shortness of breathing, fatigue and sleep disorders, also reported loss of taste and smell, anxiety and chest pain (12). According to the WHO, the most common symptoms of COVID-19 are fever, cough, fatigue, loss of taste and smell, while less common symptoms reported by WHO include sore throat, headache, body ache, diarrhea (13).

About symptoms which found in the first three months of post COVID-19 symptoms after recovery patients in table 3, the majority of the study sample were had no chest pain, but 28.4% of them were had chest pain in the first month and the level of pain reduced in the second and third months. Also the majority of the samples were had no diarrhea, while 18.3% of the study samples were had diarrhea in the first month and this symptom reduced in the second and third months. Less than half of them had no headache, while near of half of the study samples were had headache in the first month and this symptom less occur in the second and third months.

Most of them were had no cough, but more than quarter of the study samples were had cough in the first month, and less occur in the second and third months. Other symptoms such as sweating, loss of smells, shortness of breathing, insomnia, sore throats, anxiety and

heart palpitation were had not occur. While most of them were had sweating, loss of smells, shortness of breathing, insomnia, sore throats, anxiety and heart palpitation in the first month and less occur in the other months. A study found in acute COVID-19, symptoms up to 4 weeks to more than 8 weeks such as fatigue, dyspnea, chest pain, and cough (14). Another study found that fatigue (12%), cough (10%), sore throat (9%) and headache (9%) were the most frequently reported symptoms (15). Regarding fatigue and body aches more than half of them were had these two symptoms in the first month, but less occur in the second and third months. A study shows some symptoms in the first days of the time onset of the disease which found that 53.1% had fatigue, 43.4% had dyspnea, and 21.7% had chest pain.(16). Another study shows the symptoms during follow-up in the first three months after discharges in the hospitals, 20% of patients had fever, 60% of sample complained of cough, 62% of patients had chest pain and palpitation, 60% of samples complained of fatigue and 26% of them had diarrhea (17).

Regarding relationship between age group and post COVID-19 in table4, show that there was very highly significant relationship in item have anxiety and show significant relationship in items have headache, felt shortness of breathing, have body ache. While other items were show non-significant relationship among symptoms and samples age groups. A study reported that the most common symptoms were dyspnea followed by cough and loss of taste among 32% of patients who reported symptoms during the first and second days of 488 patients after hospitalization from COVID-19.(18). Furthermore, table 5 show the relationship between gender and COVID-19 symptoms, researcher found that there was very highly significant relationship between gender and item have anxiety and show highly significant in item have insomnia. Also show the significant relationship in items have chest pain, diarrhea, sore throats, body ache and heart palpitation,

while the results show that there was non-significant relationship among the rest items of COVID-19 symptoms and gender. About level of education table 6 show significant relationship in items felt shortness of breathing and have anxiety. While show non-significant relationship in rest items. To support this result a study found that there were non-significant relationship among COVID-19 symptoms such as fever, cough, sore throat, body ache, headache, while showed a significant relationship with symptom such as diarrhea (19).

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