Effects of some biological factors on Coronavirus

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ABSTRACT

This research was been adopted to study the relationship between Covid and some necessary biological factors in human body and how these factors affected, This studying included three stages (Sever – Moderate – Mild) it was studied 20 patient for every stage and monitor the biological factors during infection and after infection.

Keywords: *Patient, Covid, Infection, Virus*

INTRODUCTION

Epidemiology The COVID-19 pandemic has exploded since cases were first reported in China in December 2019. As of October 18, 2021, more than 240 million cases of COVID-19—caused by SARS-CoV-2 infection— have been reported globally, including more than 4.9 million deaths.1 Individuals of all ages are at risk for SARS-CoV-2 infection and severe disease. However, the probability of serious COVID-19 disease is higher in people aged ≥60 years, those living in a nursing home or long-term care facility, and those with chronic medical conditions.

In an analysis of more than 1.3 million laboratory-confirmed cases of COVID-19 that were reported in the United States between January and May 2020, 14% of patients required hospitalization, 2% were admitted to the intensive care unit, and 5% died.2

The percentage of patients who died was 12 times higher among those with reported medical conditions (19.5%) than among those without medical conditions (1.6%), and the percentage of those who were hospitalized was six times higher among those with reported medical conditions (45.4%) than among those without medical conditions (7.6%). The mortality rate was highest in those aged >70 years, regardless of the presence of chronic medical conditions. Among those with available data on health conditions, 32% had cardiovascular disease, 30% had diabetes, and 18% had chronic lung disease. Other conditions that may lead to a high risk for severe COVID-19 include cancer, kidney disease, liver disease (especially in patients with cirrhosis), obesity, sickle cell disease, and other immunocompromising conditions. Transplant recipients and pregnant people are also at a higher risk of severe COVID-19. [1,2]

Aims of Research
Diagnosis the infection quickly.
Knowing the causes of injury.
Fighting infection.
Knowing the best test used to diagnose infection.
Recognize the severity of the injury and how to deal with it.

MATERIALS AND METHODS
Diagnostic Testing for SARS-CoV-2 Infection
Everyone who has symptoms that are consistent with COVID-19, as well as people with known high-risk exposures to SARS-CoV-2, should be tested for SARS-CoV-2 infection. Such testing should employ either a nucleic acid amplification test (NAAT) or an antigen test to detect SARS-CoV-2. Ideally, diagnostic testing should also be performed for people who are likely to be at repeated risk of exposure to SARS-CoV-2

Nucleic Acid Amplification
Infection Reverse transcriptase polymerase chain reaction (RT-PCR)-based diagnostic tests (which detect viral nucleic acids) are considered the gold standard for detecting current SARS-CoV-2 infection.that use RT-PCR rely on multiple targets to detect the virus[3]


Antigen Testing for SARS-CoV-2 Infection
Antigen-based diagnostic tests (which detect viral antigens) are less sensitive than RT-PCR-based tests, but they have similarly high specificity. Antigen tests perform best early in the course of symptomatic SARS-CoV-2 infection, when the viral load is thought to be highest. Advantages of antigen-based tests are their low cost and rapid turnaround time. [3]

Serologic or Antibody
Infection unlike NAATs and antigen tests for SARS-CoV-2 that detect the presence of the virus, serologic or antibody tests can detect recent or prior SARS-CoV-2 infection. Because it may take 21 days or longer after symptom onset for seroconversion to occur (i.e., the development of detectable immunoglobulin [Ig] M and/or IgG antibodies to SARS-CoV-2),21-26 the Panel does not recommend serologic testing as the sole basis for diagnosing acute SARS-CoV-2 infection (AIII). Because NAATs and antigen tests for SARS-CoV-2 occasionally yield false negative results, serologic tests have been used in some settings as an additional diagnostic test for patients who are strongly suspected to have SARS-CoV-2 infection. Using a serologic test in combination with a NAAT to detect IgG or total antibodies 3 to 4 weeks after symptom[4]
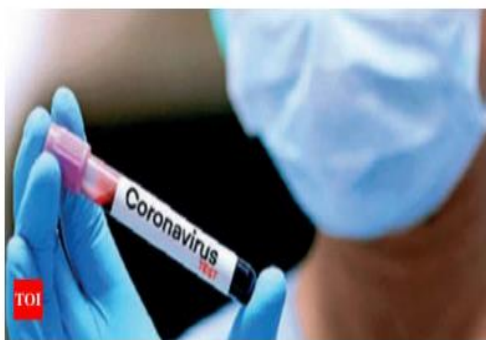
A- Rapid test

The COVID-19 IgG/IgM Rapid Test is a rapid chromatographic immunoassay for the qualitative detection of IgG and IgM antibodies to -2019nCoV, a new strain of coronavirus (nCoV), in whole blood, serum and plasma specimen Corona viruses are enveloped RNA viruses that are distributed broadly among humans, Coronavirus can be detected with 2-3 weeks after exposure.

IgG remains positive, but the antibody level drops overtime[5]
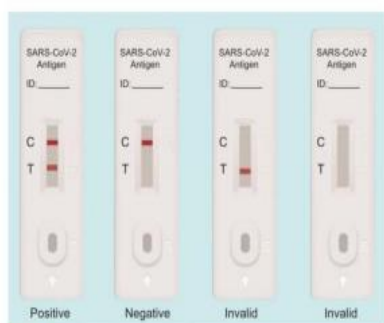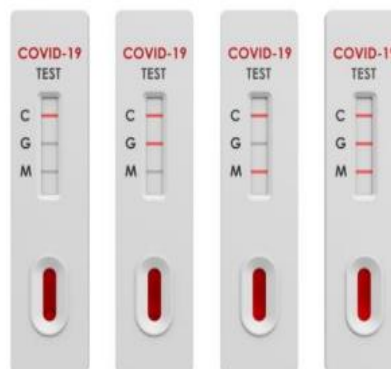
B-Immunoflorsecne assay
Elisa[6]

A highly sensitive immune biochemical technique in which the Ag – Ab complex is detected, where one of them is tagged with an enzyme, and when the non-color reagent is added, the enzyme gives a color reaction.

Some picture about ELISA work

Radiology[7-10]

Chest radiograph is usually the first radiological investigation. It may be normal in initial phases. It mostly reveals bilateral lung infiltrates and consolidation.

Chest CT, low dose non-contrast,may be helpful in making the diagnosis/follow-up and can also reveal presence of complications like ARDS and pleural effusions. No finding can completely rule in or rule out the possibility of COVI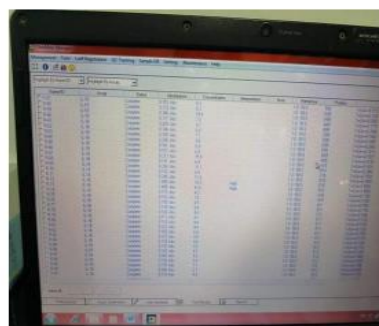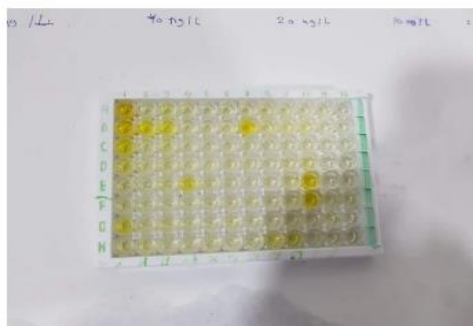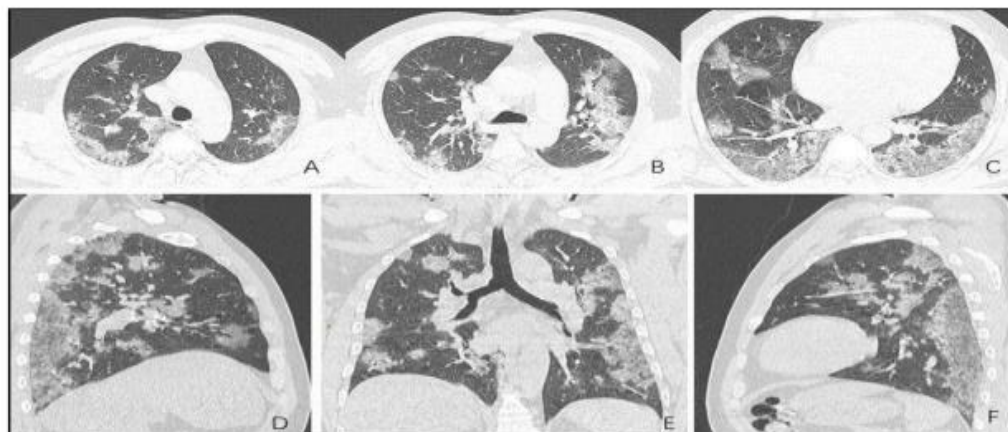D-19 pneumonia. Typical chest CT scans most commonly demonstrate ground-glass opacification with or without consolidative abnormalities, consistent with viral pneumonia[11,12].

The abnormalities tend to be bilateral, exhibit a peripheral distribution, and predominantly may involve the lower lobes (see CT images below). Uncommon findings include pleural effusion and/or thickening, and mediastinal lymphadenopathy. A "positive" chest CT for COVID-19 carries a sensitivity of 97 percent (using the RT-PCR tests as a reference standard) and specificity is around 25 percent as other etiologies may result in similar radiological findings. Timings of occurrence of radiological abnormalities may be variable; in some patients most severe abnormalities were detected approximately 10 days after symptom onset and in some with minimal respiratory symptoms and even prior to the detection of viral RNA from upper respiratory specimens and the CT findings can be categorized reflective of the disease stage. The provision of dedicated scanner and infection control protocols has to be followed.

Thoracic ultrasound (TUS)[13-17]

findings in COVID-19 arenon-specific and the role is not well established but it can still be used as a bedside modality without any radiations risk. It has the additional advantage of avoiding transportation of infectious, hypoxemic and hemodynamically unstable suspected or established COVID-19 patients for chest CT to radiology department. TUS findings may include thickening of the pleural line with pleural line irregularity, B lines in a variety of patterns including focal, multifocal, and confluent (interstitial edema), consolidations in a variety of patterns including multifocal small, non-translobar, and translobar with occasional air bronchograms (pneumonia/ARDS), appearance of A lines during recovery phase and sometimes pleural effusions.

Covid-19 Coronavirus / Symptoms

People with COVID-19 have had a wide range of symptoms reported – ranging from mild symptoms to severe illness. These symptoms may appear 2-14 days after exposure to the virus. Fever, Cough, Shortness of breath or difficulty breathing, Chills, Repeated shaking with chills, Muscle pain, Headache, Sore throat, New loss of taste or smell[18- 20].

2-8 Treatment[21]

Antiviral

1-Rmdesivir   2-Olumiant   3-favipiravir

4-merimepodib   5-lopinavir   6-Ritonavir

Antibacterial

1- Azithromycin   2-Ceftriaxone   3-Levofloxacin

4-Cefezdein   5-Augmentain …… etc

Analgesic pain

1- Paracetomol   2- Realxon

Other:-

1- vitamin D   2- Vitamin C   3- Zinc

4- Plasma transport   5- Dexamethasone   6- Clexane 2000,4000,6000,8000 I.U

Results: The results in table 1 indicates that sever stage during infection of corona virus

TABLE 1: Sever stage during infection of Corona virus

Taste	Diarrhea	Headache	Smell	O₂	Temperature	FBS	ESR	Ferritin	CRP	LDH	D-dimer	IgG	IgM	Sex	Age	No
Y	N	Y	Y	91	38.5	95	77	550	48	756	1800	3.3	15.3	M	33	1
N	N	Y	N	90	38.4	87	45	685	48	768	2105	2.7	17.8	M	36	2
Y	N	Y	Y	81	38.2	112	78	890	96	860	2423	4.8	22.8	F	44	3
N	N	N	N	87	37.5	157	67	652	24	647	1890	1.5	17.4	M	58	4
N	Y	Y	N	89	37.8	215	55	756	24	754	2014	7.8	19.3	F	65	5
Y	Y	Y	Y	78	38.6	117	144	874	96	870	2487	4.2	22.1	F	47	6
Y	Y	Y	Y	76	38.7	99	110	867	96	986	2786	2.8	28.5	F	45	7
Y	N	N	Y	85	38.4	187	85	480	48	751	1200	1.9	16.9	M	57	8
N	N	N	N	84	37.9	135	67	394	48	684	1578	2.7	18.7	F	53	9
N	N	Y	N	88	38.0	246	58	456	48	573	1754	2.9	19.3	M	61	10
Y	Y	Y	Y	78	38.7	276	135	652	96	1054	2641	4.6	22.5	M	47	11
Y	Y	Y	Y	75	38.6	268	147	754	96	1239	2937	5.7	26.8	M	75	12
Y	Y	Y	Y	76	38.6	315	145	784	96	1268	2718	5.4	27.1	F	46	13
Y	N	Y	Y	84	38.2	248	134	650	96	845	1834	3.2	19.8	F	57	14
N	N	N	N	82	37.6	195	64	494	48	542	1120	1.8	17.5	F	64	15
N	N	N	N	86	37.9	173	38	397	24	754	1375	2.7	18.9	F	35	16
N	N	N	N	81	37.4	186	31	394	12	640	987	2.5	15.9	M	48	17
N	N	N	N	82	37.6	168	35	574	24	754	1463	4.4	17.3	M	28	18
N	Y	N	N	86	37.9	176	64	475	24	687	1275	3.4	19.2	F	64	19
Y	Y	Y	y	76	38.6	349	115	867	96	987	2460	5.4	24.3	M	57	20

In table 2 the results indicates that sever stage after infection of corona virus

TABLE 2: Sever stage after infection of Corona virus

Taste	Diarrhea	Headache	Smell	O₂	Temperature	FBS	ESR	Ferritin	CRP	LDH	D-dimer	IgG	IgM	Sex	Age	No
Y	N	N	N	93	37.5	92	65	320	24	450	1050	8.2	6.2	M	33	1
N	N	N	N	92	37.4	90	35	340	24	475	1354	7.2	5.4	M	36	2
Y	N	Y	N	88	37.2	104	70	540	48	645	1254	8.2	11.8	F	44	3
N	N	N	N	92	37.2	104	57	354	12	542	950	3.3	9.6	M	58	4
N	N	N	N	91	37.1	175	47	440	24	405	1276	9.8	12.8	F	65	5
Y	Y	Y	Y	82	37.2	107	110	451	48	754	1247	7.3	13.5	F	47	6
Y	Y	Y	Y	83	37.4	96	95	658	48	554	1475	5.2	11.8	F	45	7
Y	N	N	N	91	37.5	147	74	320	48	387	880	3.6	8.3	M	57	8
N	N	N	N	90	37.0	107	57	247	12	451	764	5.0	7.6	F	53	9
N	N	N	N	95	37.2	205	52	354	24	327	973	5.4	9.4	M	61	10
Y	Y	Y	Y	84	37.5	187	94	214	24	845	1754	8.4	15.3	M	47	11
Y	Y	Y	Y	86	37.2	176	110	354	48	984	1897	9.4	14.5	M	75	12
Y	Y	Y	Y	82	37.5	270	105	457	24	897	1785	8.3	17.2	F	46	13
Y	N	Y	N	88	37.2	204	87	467	48	475	1421	8.2	11.3	F	57	14
N	N	N	N	89	37.1	110	45	324	12	405	687	5.2	9.5	F	64	15
N	N	N	N	92	37.2	100	28	254	6	325	745	6.2	7.8	F	35	16
N	N	N	N	87	37.1	97	24	245	-	415	601	5.4	10.2	M	48	17
N	N	N	N	92	37.0	123	25	224	-	364	755	12.3	8.8	M	28	18
N	Y	N	N	92	37.2	104	45	320	6	395	740	6.8	11.2	F	64	19
Y	Y	Y	y	83	37.2	320	97	475	24	483	1467	12.3	17.5	M	57	20

The results in table 3 indicates that moderate stage during infection of corona virus

TABLE 3: Moderate stage during infection of Corona virus

Taste	Diarrhea	Headache	Smell	O₂	Temperature	FBS	ESR	Ferritin	CRP	LDH	D-dimer	IgG	IgM	Sex	Age	No
Y	N	N	Y	94	37.5	87	45	327	12	450	640	2.3	11.2	F	44	1
Y	N	Y	Y	92	37.6	117	24	450	24	354	710	3.3	14.3	F	54	2
N	Y	N	N	96	37.1	150	11	401	12	389	520	3.5	9.8	M	67	3
N	N	N	N	97	37.2	98	6	280	-	290	450	1.9	7.9	M	48	4
N	Y	Y	N	97	37.6	105	8	157	-	320	355	2.4	7.8	M	65	5
Y	N	Y	Y	97	38.0	128	35	389	24	547	640	4.2	12.3	F	54	6
Y	N	Y	Y	88	37.9	140	46	485	24	563	754	4.3	14.2	F	53	7
Y	Y	Y	Y	92	37.5	136	34	347	6	352	560	2.5	11.2	M	65	8
N	N	N	N	94	37.2	116	15	142	-	423	647	3.1	9.8	M	47	9
Y	Y	N	Y	95	37.4	97	17	55	-	360	504	2.2	8.1	M	72	10
Y	N	N	Y	95	37.2	87	8	28	-	230	448	2.1	7.6	M	57	11
Y	Y	N	Y	87	37.4	98	16	57	12	520	650	3.2	9.8	F	65	12
Y	N	N	Y	99	37.0	94	5	36	-	320	254	3.2	11.5	F	33	13
Y	N	Y	Y	93	37.6	84	28	168	24	335	624	3.5	12.8	M	38	14
N	Y	Y	N	90	37.5	89	26	52	12	354	579	2.1	8.4	F	49	15
Y	Y	Y	Y	86	38.1	86	57	247	48	435	680	3.4	14.2	M	58	16
N	Y	N	N	98	37.2	103	46	153	-	257	384	1.9	6.8	M	65	17
N	N	N	N	97	37.1	108	35	29	-	345	462	2.5	7.8	F	58	18
Y	Y	Y	Y	87	37.2	142	46	18	-	315	489	1.3	9.8	F	66	19
Y	N	Y	Y	98	37.5	142	36	35	-	368	594	3.4	12.5	f	47	20

And in table 4 the results indicates that moderate stage after infection of corona virus

TABLE 4: Moderate stage after infection of Corona virus

Taste	Diarrhea	Headache	Smell	O₂	Temperature	FBS	ESR	Ferritin	CRP	LDH	D-dimer	IgG	IgM	Sex	Age	No
N	N	N	N	96	37.2	90	40	215	-	220	348	4.5	8.2	F	44	1
N	N	N	N	95	37.1	105	21	325	12	214	452	6.5	7.3	F	54	2
N	N	N	N	98	37.1	100	13	354	-	217	350	7.2	5.4	M	67	3
N	N	N	N	97	37.2	99	7	124	-	205	670	4.4	5.4	M	48	4
N	Y	Y	N	98	37.1	108	7	142	-	301	258	6.3	4.8	M	65	5
Y	N	N	Y	98	37.2	98	30	240	12	408	510	8.2	8.3	F	54	6
N	N	N	N	92	37.1	115	41	321	12	380	489	9.2	9.4	F	53	7
N	N	N	N	95	37.2	119	28	258	-	287	258	5.2	7.7	M	65	8
N	N	N	N	98	37.2	104	12	120	-	375	354	7.2	6.6	M	47	9
Y	Y	N	Y	99	37.3	90	11	35	-	258	254	4.8	7.0	M	72	10
N	N	N	N	99	37.3	97	9	25	-	214	325	5.7	5.4	M	57	11
N	N	N	N	94	37.2	93	14	46	-	476	157	7.6	6.8	F	65	12
N	N	N	N	99	37.0	97	6	27	-	308	110	9.5	9.3	F	33	13
N	N	Y	N	97	37.3	90	25	140	-	360	348	5.0	7.6	M	38	14
N	N	Y	N	94	37.1	92	21	42	-	258	259	7.3	5.2	F	49	15
Y	Y	N	Y	94	38.0	88	51	188	12	375	325	11.2	9.2	M	58	16
N	N	N	N	98	37.0	98	40	105	-	242	125	7.9	4.2	M	65	17
N	N	N	N	99	37.1	101	28	24	-	318	214	6.4	3.8	F	58	18
Y	Y	Y	Y	97	37.3	127	38	19	-	258	249	4.2	5.1	F	66	19
N	N	N	N	99	37.2	131	27	25	-	267	364	9.8	8.5	f	47	20

The results in table 5 indicates that mild stage before infection of corona virus

TABLE 5: Mild stage before infection of Corona virus

Taste	Diarrhea	Headache	Smell	O2	Temperature	FBS	ESR	Ferritin	CRP	LDH	D-dimer	IgG	IgM	Sex	Age	No
N	Y	N	N	95	37.1	89	22	210	12	315	220	0.9	6.4	F	45	1
N	N	Y	N	98	37.5	110	10	142	6	210	305	1.2	4.8	M	24	2
N	N	N	N	99	37.2	98	6	133	-	260	150	1.3	2.6	M	26	3
Y	N	N	Y	97	37.0	102	17	88	6	360	450	0.8	3.8	F	45	4
Y	N	Y	Y	94	37.9	142	33	315	6	416	570	2.1	4.5	M	67	5
Y	Y	Y	Y	88	37.5	138	45	176	12	462	650	1.9	2.5	F	65	6
Y	Y	Y	Y	87	37.5	134	34	238	24	476	567	2.2	5.1	F	58	7
N	N	Y	N	99	37.8	88	5	46	-	267	215	1.3	3.8	F	19	8
N	N	N	N	99	37.1	82	9	26	-	245	189	0.8	2.9	M	25	9
N	N	Y	N	98	37.6	158	54	75	12	463	641	0.7	1.6	M	56	10
N	N	N	N	99	37.1	106	42	307	-	515	560	2.3	4.3	F	48	11
N	N	Y	N	99	37.5	114	36	40	-	248	412	0.8	1.5	F	46	12
Y	N	Y	Y	97	37.6	175	64	139	12	237	476	2.4	4.4	M	53	13
N	Y	N	N	99	37.4	107	28	76	24	368	381	2.1	3.5	F	51	14
N	N	N	N	99	37.2	100	21	52	-	281	267	1.6	4.3	M	43	15
N	N	Y	N	99	37.6	95	34	28	-	389	245	2.1	3.8	M	35	16
N	N	N	N	99	37.5	86	21	47	-	465	137	1.6	5.8	F	38	17
N	N	Y	N	99	37.9	89	18	79	-	311	84	0.7	2.4	F	29	18
N	N	N	N	99	37.5	95	8	43	-	248	64	0.8	3.6	F	22	19
N	N	N	N	99	37.0	97	14	64	-	264	43	1.1	2.7	F	24	20

In table 6 the results indicates that mild stage after infection of corona virus

TABLE 6: Mild stage before infection of Corona virus

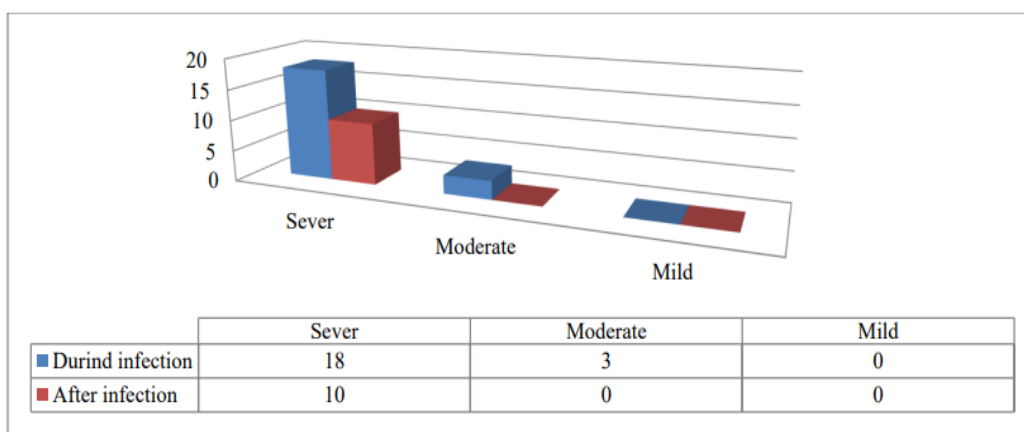| Taste	Diarrhea	Headache	Smell	O2	Temperature	FBS	ESR	Ferritin	CRP	LDH	D-dimer	IgG	IgM	Sex	Age	No
N	N	N	N	98	37.0	99	21	158	6	321	201	1.2	2.2	F	45	1
N	N	N	N	99	37.0	89	8	124	-	240	147	2.2	2.1	M	24	2
N	N	N	N	99	37.3	101	6	145	-	214	125	2.3	1.3	M	26	3
N	N	N	N	99	37.2	95	15	68	-	214	378	0.9	1.9	F	45	4
N	N	N	N	95	37.3	105	45	301	-	254	520	3.5	2.1	M	67	5
Y	N	Y	Y	95	37.2	125	42	125	-	324	564	3.3	0.8	F	65	6
N	Y	Y	N	95	37.5	114	36	254	12	378	485	2.9	2.5	F	58	7
N	N	Y	N	99	37.2	95	9	46	-	285	201	2.3	1.2	F	19	8
N	N	N	N	99	37.2	78	12	35	-	218	135	1.5	0.9	M	25	9
N	N	Y	N	98	37.1	136	53	67	-	362	561	1.5	0.8	M	56	10
N	N	N	N	99	37.2	98	41	290	-	421	478	3.5	2.4	F	48	11
N	N	Y	N	99	37.1	94	38	45	-	254	324	2.5	1.0	F	46	12
Y	N	N	N	98	37.3	130	60	154	-	278	324	3.6	2.3	M	53	13
N	N	N	N	99	37.4	98	25	76	24	236	254	2.9	2.1	F	51	14
N	N	N	N	99	37.2	87	19	48	-	245	247	2.5	2.9	M	43	15
N	N	N	N	98	37.0	110	19	36	-	364	214	4.3	1.1	M	35	16
N	N	N	N	99	37.4	105	14	44	-	436	145	3.5	2.3	F	38	17
N	N	Y	N	97	37.1	95	16	87	-	321	88	0.9	2.0	F	29	18
N	N	N	N	99	37.2	79	5	68	-	278	57	1.2	1.6	F	22	19
N	N	N	N	99	37.0	110	2	52	-	242	49	1.6	1.1	F	24	20

Table 7 shows the standard values of some immuuo logical test

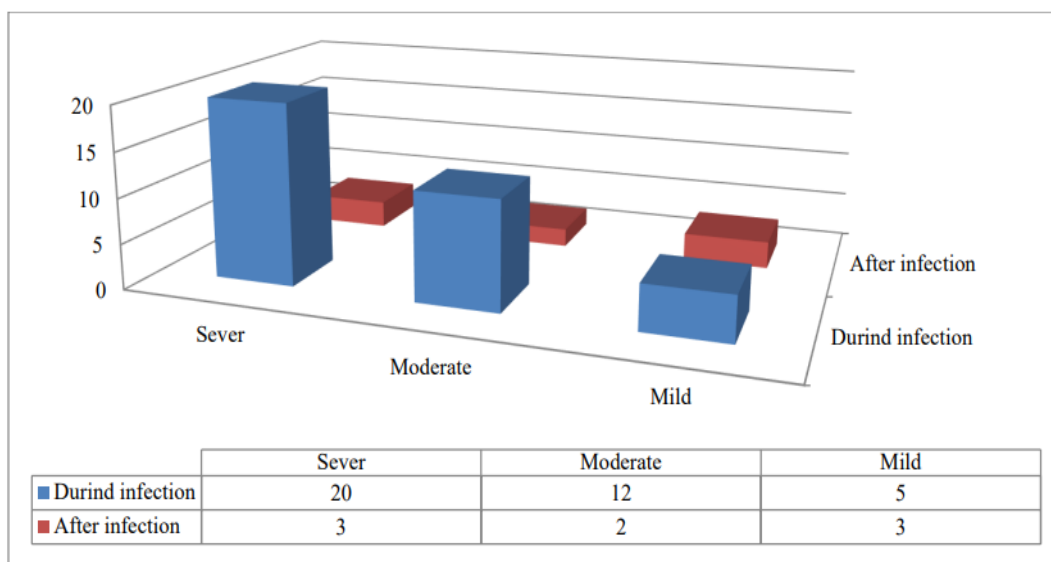**TABLE 7:** standard values of some immuuo logical test

TEST	Standard Values	TEST	Standard Values
IgG	Up to 1.1 I.U/L	S.Ferritin	Male 30-300 ng/ul Female 15-200 ng/ul
IgM	Up to 1.1 I.U/L	FBS	75-115 Mg/dl
D-dimer	Up to 500 Mg/dl	O2	More than 95
LDH	(200-400) I.U/L	ESR	Male 1-15 mm/h Female 1-20 mm/h
CRP	Up to 6.0 I.U/L	Temperature	37 C0

The following figures show the statistical analysis of the results of the tests that were obtained

*All figures refer to Corona virus in three level comprise (Mild, Moderate , Sever)

	Sever	Moderate	Mild
■ Durind infection	18	3	0
■ After infection	10	0	0

FIG. 1: Oxygen

	Sever	Moderate	Mild
■ Durind infection	20	12	5
■ After infection	3	2	3

FIG. 2: D-dimer

	Sever	Moderate	Mild
■ Durind infection	20	6	6
■ After infection	15	2	2
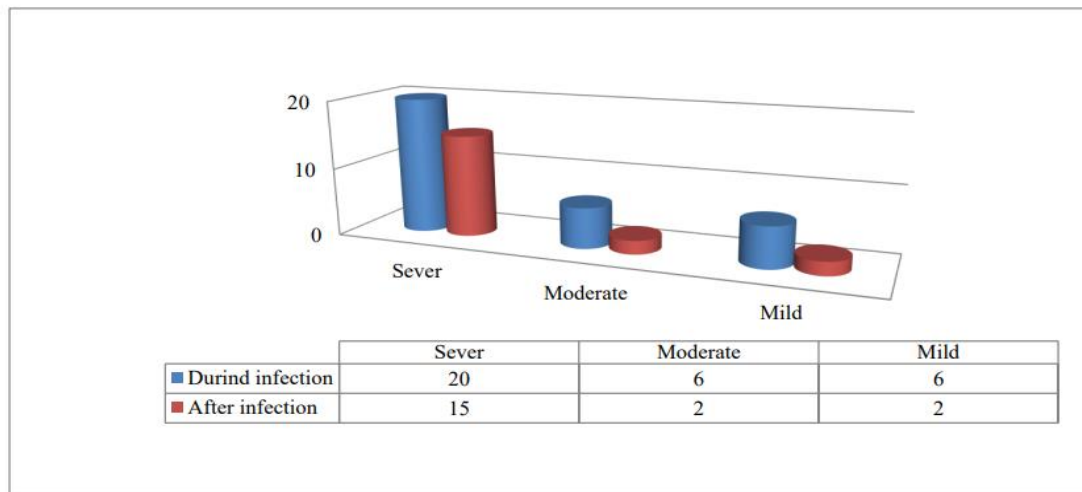
FIG. 3: Lactate Dehydrogenase

	Sever	Moderate	Mild
■ After infection	18	4	3
■ Durind infection	20	10	9

FIG. 4: CRP

	Sever	Moderate	Mild
■ Durind infection	20	6	3
■ After infection	17	5	2

FIG. 5: Ferritin

	Sever	Moderate	Mild
■ Durind infection	17	7	4
■ After infection	9	3	3

FIG. 6: Fast blood sugar

	Sever	Moderate	Mild
■ Durind infection	20	13	13
■ After infection	20	12	3
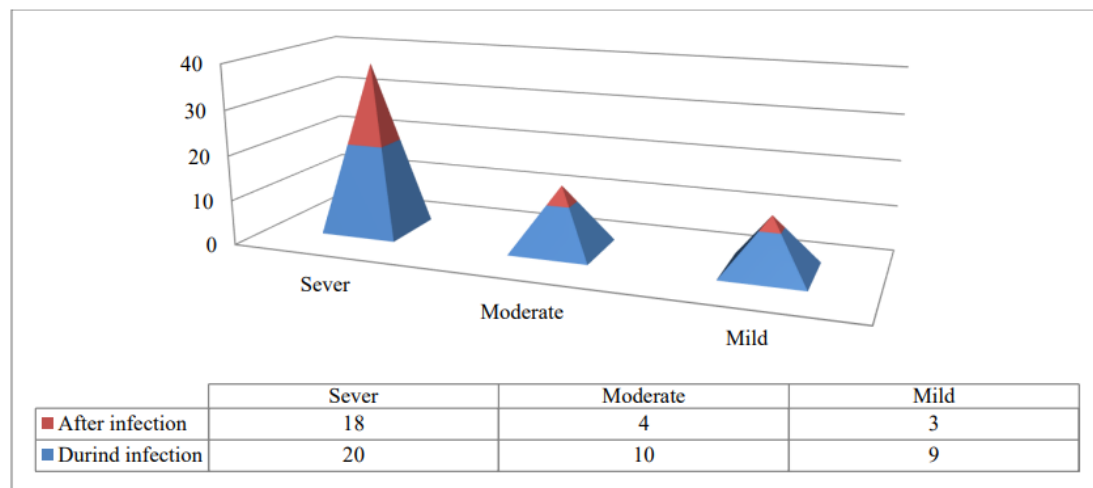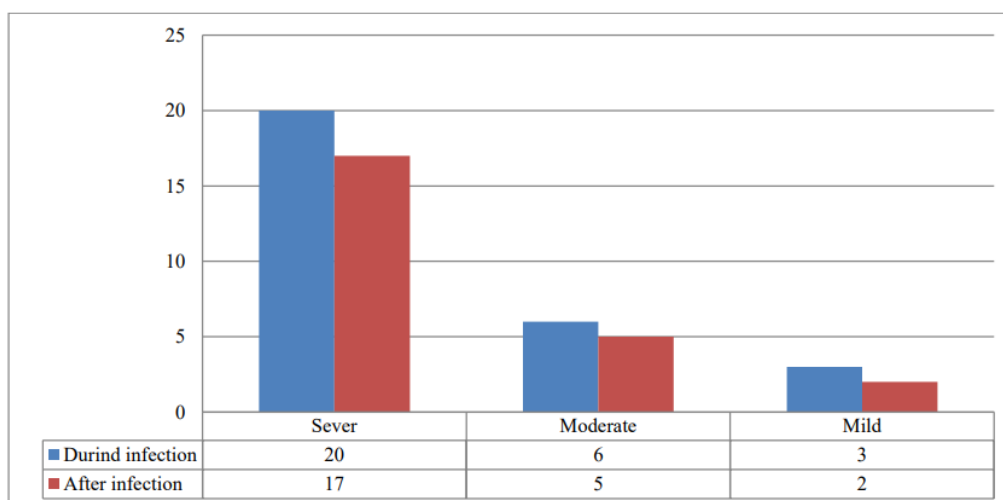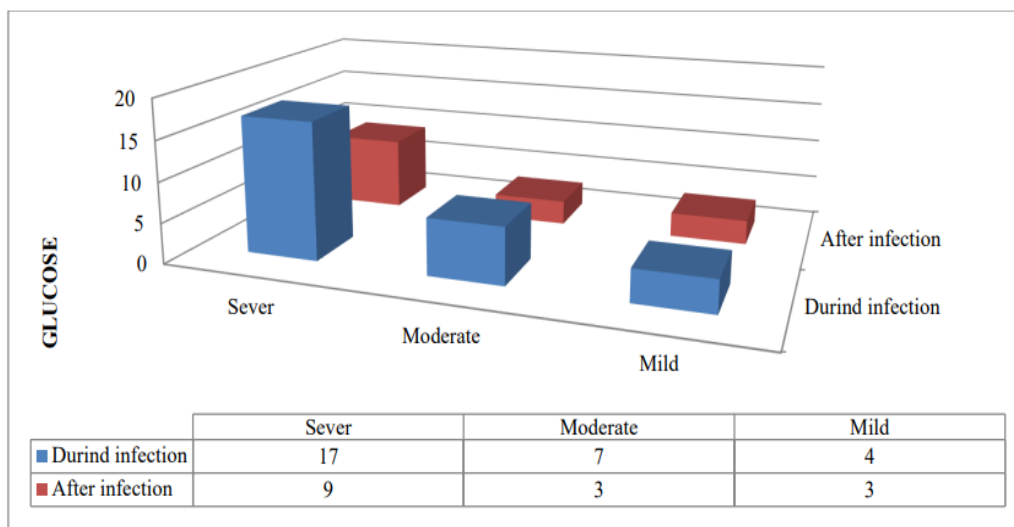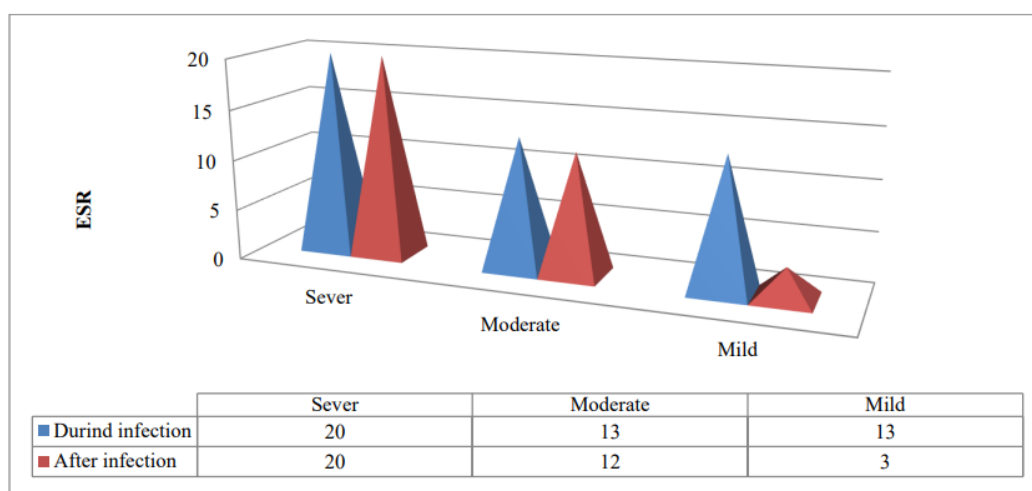
FIG. 7: Erythrocyte Sedimentation Rate

	Sever	Moderate	Mild
■ After infection	8	4	6
■ Durind infection	12	10	10
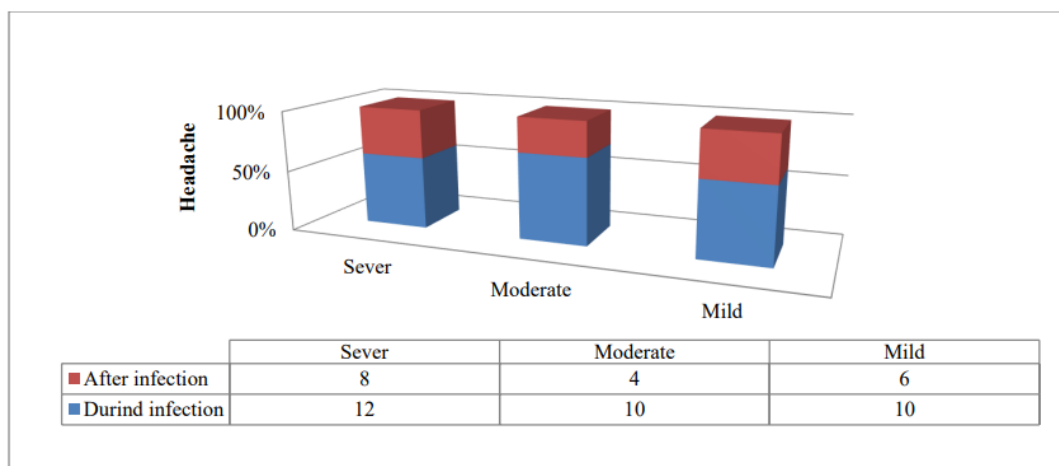
FIG. 8: Headache

FIG. 9: Diarrhea

	Sever	Moderate	Mild
Durind infection	8	9	4
After infection	7	4	1

FIG. 10: Smell & Taste

	Sever	Moderate	Mild
Durind infection	10	13	5
After infection	6	4	1
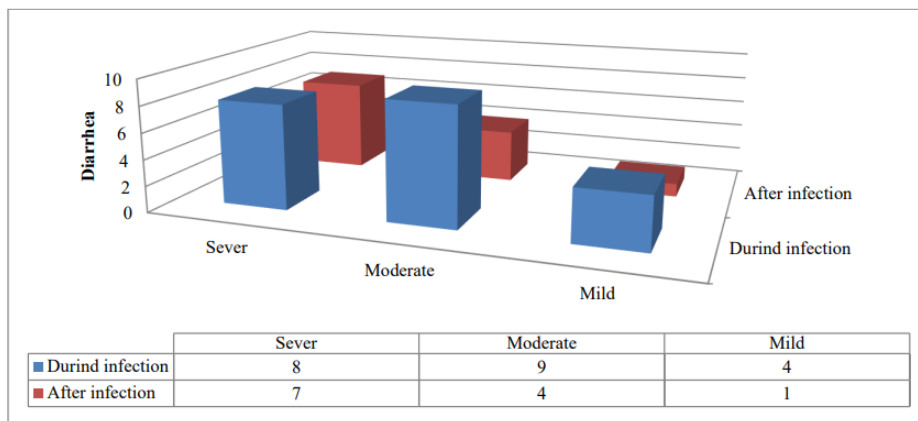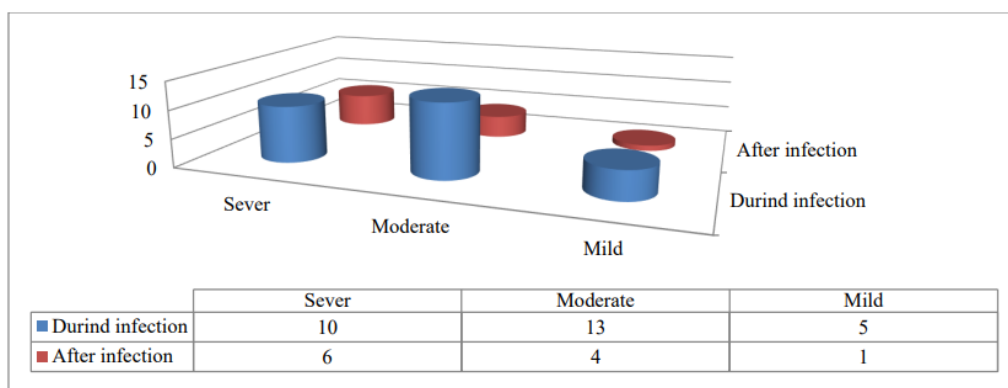
Management of confirmed COVID-19 patients

Severity of Illness	General Management	Drugs*
Asymptomatic Cases	Strict home isolation for a minimum of 14 days. if develops any symptoms ask to report on helpline. Repeat PCR on day-14 and If it is negative, discontinue isolation.	Not needed.
Mild Disease	Strict home isolation or if not available then in any health care facility with isolation facilities. Should be placed in a single room. Contact and droplet precautions should be instituted.	Use paracetamol for fever and avoid ibuprofen or NSAIDs.
Moderate Disease	Should be admitted in hospital and placed in a single room. Contact and droplet precautions should be instituted. Use paracetamol for fever and avoid ibuprofen or NSAIDs. Hydrate the patient preferably oral or IV fluid if required. Check oxygen saturation and if below 92% should administer oxygen via nasal cannula or face mask.	Use paracetamol for fever and avoid Ibuprofen or NSAIDs. Start Hydroxychloroquine**loading dose 400 mg BD then 200 mg TDS for 10 days OR Chloroquine 500mg for 10 days.

| Severe Disease | Admit the patient preferably in ICU with airborne isolation and strict PPE precautions.
Hydrate the patient preferably IV according to need and hemodynamic status of patient.
Oxygen administration via face mask to keep oxygen saturation > 92%.
If unable to maintain saturation, then can try Non Invasive ventilation (NIV) cautiously.
Regular assessment for need of endotracheal intubation and mechanical ventilation as delay in intubation is associated with unfavorable outcomes.
If mechanical ventilation is needed, use ARDS NET protocol for ventilatory management.
Consider prone positioning and ECMO (If available) for refractory hypoxemia. | Use paracetamol for fever and avoid ibuprofen or NSAIDs.
Avoid systemic steroids.This can be used only if patient is in septic shock requiring vasopressors (conditional recommendation) hydrocortisone 100 mg IV 8 hourly. Give empiric antimicrobials to treat suspected pathogens according to local settings Start Hydroxychloroquine** loading dose 400 mg BD then 200 mg TDS for 10-14 days OR
Chloroquine 500mg BD x 10-14 days If patient is not improving or in ARDS, use one or more of the following agents if available with ID consultation:
Tab Lopinavir/Ritonavir
400/100mg BID 14 days
IV Remdesivir: loading dose 200 mg followed by 100 mg once daily for 10 days
IV Tocilizumab 4-8mg/kg. [22] |

*It has been clarified that there are currently no registered medicines for the treatment of COVID-19, because no treatment results from therapeutic research have been published. Based on currently available data, the options presented are for patients admitted with COVID-19 due to moderate and severe disease symptoms.

**Combination of Hydroxychloroquine (HCQ) and Azithromycin HCQ 200 mg TDS and Azithromycin 500 mg loading dose and 250 mg once daily for 4 days was used in one small study in moderate cases with favorable results. So far not enough data is available to recommend this combination therapy. Caution should be taken as this combination therapy can cause prolonged QT interval and Torsade de Pontes. Baseline and daily repeat ECG is recommended whenever this combination is used.17

***Hydroxychloroquine (HCQ) Prophylaxis: In some countries like India, HCQ is being recommended for prophylaxis in health care workers involved in care of suspected/confirmed cases of COVID-19 (400 mg BD on day 1 followed by 400 mg once weekly for 7 weeks). There is no proven benefit/data available at this moment and most of the authorities are not recommending this prophylaxis.[22]

DISCUSSION

In this Study Corona Virus and Severity injury were used in diagnosis and treatment.

The best diagnostic method was found and IgM, D-Dimer and CRP were obtained, which are very important factors to monitor the condition and its progression.

In addition to finding the appropriate treatment for the patient's condition, he who has an O2 of 80-90% needs an oxygen bottle while a patient who has an O2 of 60-80% needs O2 and CPAP while a patient who has an O2 less than 50% needs a ventilator, As well as continuous and intensive monitoring.

(This discussion according to the theory of author and some probabilities of doctors jurisdiction in Iraq)

In the event that symptoms persist, a blood culture should be performed due to the presence of bacteria such as Pseudomonas, Salmonella, Shigella, and Streptococcus, which are available in 80% of these cases.

The most important thing that can be done is social distancing and wearing a mask and gloves. As well as reviewing the relevant authorities (doctors, specialized centers) as soon as possible in order to reduce the risk of infection and threat

to it at the lowest cost and in the least possible time.

The severity of infection increase in immune compromised patients, the elderly, pregnant and cancer patients.

Therefore, the necessary precautions must be taken before the viral can infect itself. Public awareness and appropriate health measures are the best way to eliminate or reduce infection.

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