The Relationship between Blood groups, Lifestyle and infection with Covid-19 in Nineveh Governorate-Iraq

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Abstract

This study has been done upon (296) recovered Covid-19 patients, 189 (63.9%) males and 107 (36.1%) females. The study found that blood group O was the most vulnerable to infection with a percentage (59.8%), followed by group (A) (35.8%), AB (2.4%) and finally group B (2%). The study also showed that (71.6%) of the infected people consume citrus fruits only once a week, (61.1%) do not consume fish, (86.1%) are used to shaking hands and approaching others when meeting others, (95.3%) do not expose their bodies to direct sunlight, and (90.2%) do not wear masks and gloves outside the home.**Material and method** : questionnaire was used with direct interview ,required data obtained from medical reports then a statistical analysis was performed.**Results**: Most patients from age groups (25-40) years , blood group B is the least vulnerable to infection , most people are accustomed to rapprochement and closeness . Patients were usually expose their bodies to sun light as a natural source of Vitamin D .**Conclusion** :main cause of covid -19 spread is closeness , blood group B is the least vulnerable to infection , healthy nutrition and cleanness are very necessary to prevent covid-19 spread.

Keywords:Covid -19 ,life style , main blood groups , good nutrition .

Introduction

Global health has recently emerged a problem called Covid-19, which began in the marine product's market in Wuhan city in southern China, and then it spreads to various parts of the world, and was declared a global epidemic by the World Health Organization (WHO). Data were extracted to study clinical characteristics aimed at diagnosing and treating and prevent the spread of this disease. The disease can be treated with known anti-virus drugs and work to improve immune function. It is necessary to know the symptoms and isolate suspected cases from others [1]. The cause of this disease is a lethal type of the corona group, which has become a health problem and a great challenge in society, and so far the best way to avoid this disease is prevention only, but it is known that Zinc preparation has direct and indirect effects on the properties of viruses as it improves the functions of defense cells, which maintains a good immune system in the human body [2]. The immune systems are responsible for protecting the body against foreign factors that may lead to a defect in the activities of normal cells. Viruses are among the most important foreign bodies entering the human body and lead to the immune system producing antibodies to them. Several studies try to find an approach between SARS-COV2 treatment by shedding light on the mechanism of action of treatments and developing appropriate vaccines [3].

There are still many unanswered questions about Covid-19, including the factors responsible for the transmission of the virus across different species of living, its true origin, the critical point in the transformation and transmission of the Virus, and the pathogenicity it causes, as there is a need to know the role of the ADE mechanism in Covid-19 to develop the best immune plan for treating and controlling Covid-19 [4]. A study conducted in Basra Governorate - Iraq showed that the average age of people infected with Covid-19 is 45 years, and there is no difference in the nature of symptoms between males and females. The number of infections in all Iraqi governorates had reached 1279 cases until April 10, 2020; the highest injuries were recorded in Baghdad and the lowest in Salah al-Din Governorate [5]. Through the Chinese experience, one of the studies found that wearing masks and social distancing is the best way to prevent Covid-19, as there

were 309 cities that did not record any infection until April 2020, and researchers need more time to find the appropriate safe treatment that protects society [6]. Social distancing not only slows the spread of SARS among healthy young people and adults but also works to prevent the spread of Covid-19 through the nose as a means of transmission of the virus and this may be the key to conducting clinical trials against Covid-19 [7].

Due to the absence of a vaccine, social distancing was one of the primary means to prevent the spread of Covid-19, which is the mutated case of SARS. A study conducted on societies that use mobile phones in communications documented that they were less affected than societies that still converge and ignore prevention measures [8]. Certainly, good nutrition is an indicator of health, and in the beginning, food should contain Vitamins C, D, E, Zinc, Omega-3 fats, and Selenium, as the effect of these factors on Covid-19 was noted as well as their positive role in increasing immunity, and industrial preparations of these ingredients can be used with the aim of reducing complications from Covid-19 [9]. Vitamin D is necessary for the integrity of the skeleton and the strength of the bones, but recent studies have also proven its role in preventing Covid-19 and reducing the risk in the case of moderate infections, and studies have been conducted to find out the effect of high doses of D3 product on relieving symptoms in people with Covid-19. Studies have been proven that the lack of exposure of the body to sunlight was a major reason for the lack of this Vitamin [10].Vitamin D3 has good preventive effects to prevent respiratory diseases, and it has indicated more infections in people who have low levels of it, and some studies have found a relationship between levels of this Vitamin and a reduction in the incidence of Covid-19 [11].

Lack of immunity in people makes them more vulnerable to infection with Covid-19, and foods containing vegetables play a vital role in raising immunity. Many Vitamins such as C, D, and E have been found to improve immunity, as Vitamin D increases resistance to cell walls and protect the cytoplasm and so the consumption of fruits and vegetables It plays a pivotal role in preventing this epidemic [12]. Vitamin C has recently become one of the most appropriate treatments as it works as a powerful antioxidant and helps protect against cell damage caused by many types of microorganisms, and this is what made it effective against SARS and other viral infections, Several results of various clinical studies showed that giving Vitamin C orally reduces the incidence of SARS, and giving it intravenously is also beneficial against viral infections, and specialists believe that the treatment of Covid-19 should include Vitamin C as prevention and treatment in normal cases, but in the Covid-19 case, giving a high dose intravenously would be the best option [13].In a study conducted in Wuhan – China on Covid-19 patients to find a possible relationship between blood groups and infection rate, it was found that the blood groups most susceptible to infection were group A and the least infections were in patients of group O, while another study confirmed that the rates of infections according to blood groups were group A is the most and least of group AB [14, 15]. Elderly patients often have chronic diseases conditions and show distinct symptoms when infected with Covid-19, as they must be taken care of more than young infected people in terms of observation, nursing care and comprehensive treatment [16]. There is no doubt that the treatment used against SARS will have the largest therapeutic effect against Covid-19 and there are hundreds of studies targeting dual action against Viruses on the one hand and against acute infections and complications on the other hand, including new factors in the study phase, and the current treatment used against rheumatism maybe the appropriate treatment for Covid-19 [17].

The Methodology

The participants of this study were 296 Covid-19 recoveries after confirming the medical reports that prove their infection with the epidemic, they answered the questionnaire which was prepared for the purpose of this study, then a statistical analysis of the data and the results were extracted.

Results

The study conducted on (296) patients recovering from Covid-19. Their ages ranged between (10 - more than 60) years, and those over the age of 60 were the least vulnerable to this epidemic by (3.4%). While the age group (26-40) is the most common category in terms of the number of infected amounting to (105)

infected out of a total of 296 (35.5%). Table No. (1), shows the details of the age groups with gender. The results showed that 172 (58.1%) of the infected had no more than primary schooling.

Regarding blood groups, the least affected group was group B with only (2%), while patients from group O made up the largest percentage (59.8%) followed by group A (35.8%), then the AB group (2.4%) as shown in Table No. (2).

Table No. (3) Shows the way of transmitting the Virus to the infected people as the proportion of (48.3%) contact constituted (51.7%) of the infected did not know the exact cause of the infection. The type of quarantine that the infected in the hospital were subjected to (11) infected (3.7%), while 285 of them (96.3%) were home quarantined, and the quarantine period ranged between 7-30 days, as shown in Table No. (4).

The results of the study also showed that the number of those who consume citrus fruits continuously of the infected was (77) which represents (26%) and those who consume them spaced at times was seven which represents (2.4%), while consumers of leafy vegetables continuously numbered 260, which represents (87.7%). Regarding fish consumption, the number of people accustomed to consuming it continuously was 100 (33.8%), and the number of consumers of fresh onions on a daily basis was 70 (23.7%). See Table No. (5).

The results of the study also showed that 14 of the participants (4.7%) exposed their bodies to sunlight regularly and 104 (35.1%) practiced daily walking. See Table No. (6).

Regarding personal behavior and social habits, the study showed that 255 of the participants (86.1%) were accustomed to shaking hands and approaching when meeting, and 267 participants (90.2%) did not wear masks and gloves continuously when leaving the house. See Table No. (7).

The duration of the patients' treatment, according to the current study, ranged between 2-25 days, and the number of patients treated with plasma was only (1) (0.3%) and the rest of the infected were treated with antibiotics. See Table No. (8).

Table (1) Age Groups

Age Groups	Male	Female	Total	%
10-15	29	17	46	15.5
16-25	40	23	63	21.3
26-40	65	40	105	35.5
41-60	47	25	72	24.3
More than 60	8	2	10	3.4
Total	189(63.9%)	107(36.1%)	296	100

Table (2) Blood Groups

Blood group	Frequency	%
O	177	59.8
A	106	35.8
AB	7	2.4
B	6	2
Total	296	100

Table (3) Cause of Infection

Cause of infection	Frequency	%
Palpation	143	48.3
They do not know	153	51.7
Total	296	100

Table (4) Type of Quarantine

Type of Quarantine	Frequency	%	The duration of the quarantine
Hospital	11	3.7	12-24
Household	285	96.3	7-30
Total	296	100	-

Table (5) Type of Food

Type of Food	At separate times		once a week		more than once a week		Total
	Frequency	%	Frequency	%	Frequency	%	
Citrus fruits	77	26	212	71.6	7	2.4	296
Leafy greens	260	87.8	15	5.1	21	7.1	296
Fish	100	33.8	181	61.1	15	5.1	296
Onions	70	23.7	204	68.9	22	7.4	296

Table (6) Exposing the Body to Sunlight and Exercising

Activity	Frequently		Separated times		Total
	Frequency	%	Frequency	%	
Exposing the body to sunlight	14	4.7	282	95.3	296
Doing exercise	104	35.1	192	64.9	296

Table (7) Personal Behavior

Personal Behaviour	Yes		No		Total
	Frequency	%	Frequency	%	
Shake hands and get close	255	86.1	41	13.9	296
Wearing a mask	29	9.8	267	90.2	296

Table (8) Type of Treatment

Type of treatment	Frequency	%	Treatment duration
Antibiotic	295	99.7	
Plasma	1	0.3	2-25 days
Total	296	100	

Discussion

The study showed that the age group (40-26 years) is the most affected. The reason may be due to the fact that the youth group is often not committed to social distancing and accustomed to gatherings and closeness, and this is the main reason for the infection's spread. While the age group (more than 60 years) was the least group susceptible to infection. We believe that the reason for this is health awareness and adherence to health prevention measures as well as the completion of their immune system and the availability of most antiviral drugs as a result of the rapid identification of foreign bodies and the production of antibodies in the plasma of healthy people of this category. Where the infection they have is the simple type and this does not apply to the elderly who have chronic diseases, where the infection is more serious to them and comprehensive health measures such as treatment and health care must be used for them [18].

The study showed that (58.1%) of the infected people do not have more academic achievement more than the primary school certificate as evidence of poor health awareness and lack of attention to guidelines, and this may be a major reason for the rapid spread of infection among this group's members. The study also shows that blood type B is the least vulnerable to infection. We believe that the Anti-a present in this variety has an effect on virus resistance, or the most likely is the IgG immunoprotein associated with the antagonist is the most effective in preventing infection as supported by another similar study [19].

Although a large percentage of the infected consume vegetables as a source of vitamin C, we believe that this is not sufficient to provide the body with the full need of this vitamin, especially in the case of epidemics in the community, as well as the individuals' unaware of the amount of the vitamin present in each type of vegetables and the actual quantities that they need daily. The element of Zinc is very important in protecting the respiratory system in particular from infections and it is antiviral as well. It is noticeable in our study that (33.8%) of the infected people consume fish continuously, therefore, the symptoms that appeared on them were simple and there were no complications, which confirms the effectiveness of Zinc against infections. Other studies confirmed this [20, 21].

The study confirmed that a large percentage of those infected do not expose their bodies to sunlight regularly for at least 15 minutes to obtain vitamin D, which is very important in strengthening the immune system and resisting Covid-19. We believe that social traditions, especially for females, are the reason to avoid exposing the body to sunlight as an important natural source of vitamin D [22].

Also the study indicates that (86.1%) of the infected were accustomed to shaking hands and approaching each other when meeting with not wearing masks and gloves, and this is the most influential reason for the rapid spread of infection, as stated in a similar study [23].

Conclusions

The most Exposed to infection age groups are (40-26) years, blood type B is the least vulnerable to the epidemic with an infection rate of (2%). Most of the infected people are accustomed to rapprochement, gatherings, and non-compliance with sanitary precautions, as well as not exposing their bodies to sunlight regularly as a natural source of vitamin D. Also, consuming fruits and vegetables without a diet limits the amount of vitamins necessary for the immune system to function.

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