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Blood groups and COVID-19 infection in Babylon province

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Abstract

Background: In the first time for COVID infections pandemic, the research centers around world make several topics to understanding how this virus was infections and spreading, also other few reports which conducted about connotation amid COVID 19 infection and types of blood.

Methods: This work was including data from 1355 persons for one year (from march 2023-to march 2024), from different places in Iraqi Babylon province, which has COVID-19 infection in early different times, and this information collected by specific questionnaire to make connection between blood groups and probability of COVID-19 infection.

Results: The results were showed highly percent from men (76%) and 24% from women, that has early infection, also study was included 82% of urban and 18% rural persons from different ages (26-86 years old), in the statistics study revealed rise percent of COVID infection 40 % in blood group O+, 24% A+, 14% AB+, 7% O-, 6% AB-, 5% A-, 2% B+ and 2% for B-.

Conclusion: this study was concluded in Babylon province was highly percent of COVID-19 infection for people has O+ blood group and low percent for persons has B blood groups.

Keywords: Blood Groups; ABO; COVID-19; Rh

1. Introduction

COVID-19 has developed the maximum widespread illness in the past years. It has diseased about sixty-six million people universal. It was explained as a vastly infectious disease. The scientific features diverged dependent on sternness of the disease. A great fraction of public with coviid-19 has slight signs and moral prediction may have donated (1). COVID-19 be able to either continue without symptoms or grow to modest and serious appearances, like dyspneea, hypoxiia, severe respiratory suffering syndrome, and multi-organ miscarriage (2).

Nevertheless, given the unwell information in pathogenicity of Coviid-19 and the changeability in medical performance and outcomes, there has been exploration for other natural indicators that could expect the exposure to sudden acute respiratory syndrome coiv-2 infection and the danger of huge products (3). The ABO. blood types, which includes diverse mono-sugar epitopes at the external area of RBC, like epithelium in the respiratory system and gut (4).

For occurrence, relations among the ABO blood types and the danger or harshness of contagions have designated for the social Immunodeficiiency virus (HIiV) (5). antigens for blood group can impact poisons straight, temporary as receptor or co-receptor for microbes and poisons; or ramblingly, through the antiblood group antibody, that can be provoked by eenveloped viruses and bacteria transmitted by blood group-like antigens (6). a means of reports has been investigative a conceivable connotation between blood types and respiratory infection, with incompatible conclusions,

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some reports detected the ABO blood types as an inducing reason for infection (7). Usually, blood groups have been related to higher risk respiratory impurity, and O blood group, to lesser risk. It is notable that a like relationship was initial labelled for COVID infection, in whiich O blood type was harmfully associated with infection amid a group of healthy personnel (8), and these links and their possible inferences continue without good understanding; some fundamental apparatuses have been theorized like a defensive result of the antibodies for blood (9).

1.1. Aim of study

This study was aimed to survey about correlation between COVID-19 infection and blood groups in different places of Babylon province.

1.2. Data collections

The information of study was collected during one year, from 1355 persons that infected by COVID-19 in early different times from different places in Iraqi Babylon province, and this information collected by specific questionnaire contain age, blood groups, BMI and life places, to make connection between blood groups and probability of COVID-19 infection.

2. Results and discussion

In the beginning of discussion, we must be appeared the results in Iraqi Babylon province and don't attachment with any other results around the world, at first demographic data in plane 1revealed the percentage of COVID infection with gender, highly percent of infection appeared in men compare women, that may refer to activities of male in several places that help to spread in infection facilities, also which may have attached with hard work of men lead to decrease immunity response, recently study concluded both genders have the same incidence, men with COVID-19 are more at danger for poorer products and decease, liberated of period (1).

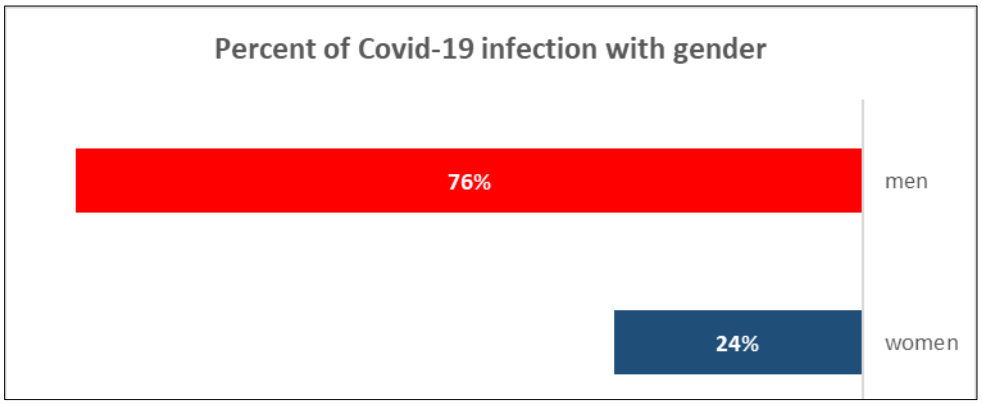

Figure 1 COVID 19 infection percent depend on gender

The pathogenesis with sex-biased is not completed understand, but it could because several factors. The alteration in system of immunity function between men and women could be a vital element. women are known to show a healthy immune reaction to pathogen which could benefit them to improved control viral capacity and clearance compared with men. Since many immune genes are current on chromosome X, genetic structures could also give to COVID-19 cruelty. Other changes counting steroid hormone and sex organs could also play a critical part in pathogenesis (10)

The infection of COVID-19 different between rural and urban that revealed in our results figure 2, highly percent of infection in urban compare with rural, that may be refer to long distance of towns upon cities or because small numbers of persons in the villages compare large cities, also that may have attached with life style in these different places that facilities immune system, clinical study concluded the physicians and publiic health strategy creators must adapt interference plans to suit local needs. Publiic health rules must income into version of specific strategies county-level to each type of civic (city or village) (11). After assembly publiic health plans, the local management must be alert of, and reflect, the alterations in coviid-19 feast between urban and rurral zones, which drive permit more actual disease control. With swelling rate duties in rurral areas, peoples must be made conscious of their amplified danger of taint so they take individual actions to defend themsselves, Hospiitals essential continue to obtain central funding, as they are vital to consiidering patiients in country areas (12).

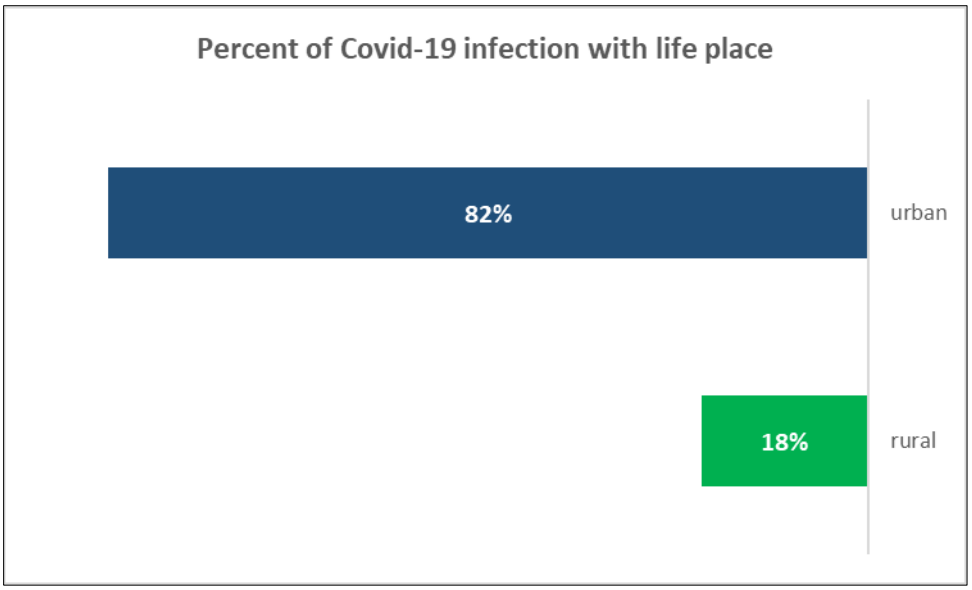

Figure 2 COVID 19 infection percent depend on life place

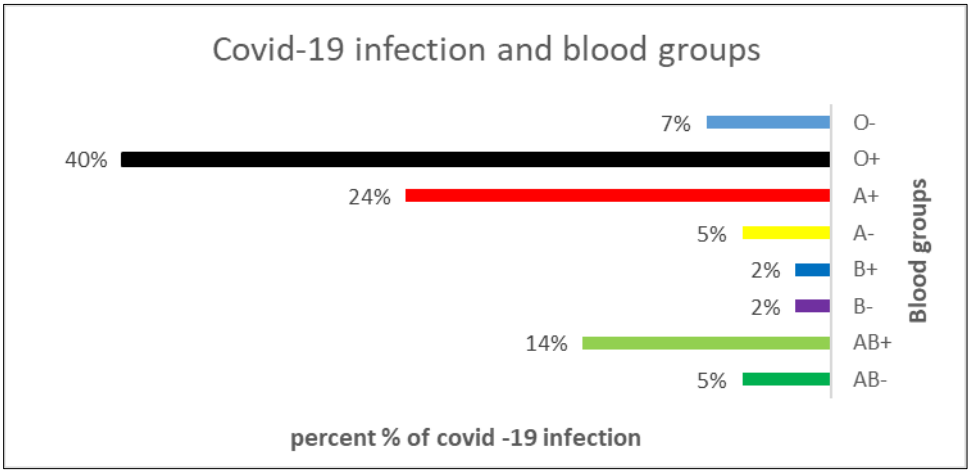

Figure 3 COVID-19 infections percent in different blood groups

The results showed in figure 3 highly percent of infection in blood groups O+ that may be refer to plasma of this group contain two types of antibodies and reacts to several antigen of virus or other, that disagreement with other studies concluded blood type O has a minor likelihood of emerging severe respiratory system infection than other (13). Actual slight investigation has been directed to discovery association among type of blood and deathly people by coviid-19 patient (14). Though, there is enlarged notice in the association amid blood type, and the danger of iinfection. Everybody decides that people change in one to other, but it is unusual for persons to be bright to expect whetheer individual blood kinds, additional or less probable to convention an infection when showing to diseases (15).

Our results also revealed A+ and AB+ blood groups have high percent of infection compare with other, which may be refer to the existence of antigen; so, the higher risk of respirotarry infection CoiV-2 contagion in persons with blood type A and AB could be due to the role of antigen A in the required of respiratory system infections to its angiotensin receptors (11). Besides, the suggestion among the types of blood system and the incidence of firm communicable diseases can also be precious by the occurrence of hemagglutiinins (15).

Also the results showed moderate percent of infection appeared in blood groups A, AB and O all these are minus in Rh groups, recently research reported about association between rh and COVID infection that was concluded highly percent of COVID infection in minus Rh blood group compare with plus charge in Rh groups (16), which may because person of

minus Rh have different immune response, or these attached with genetic affection in all suggestion these text in still of studying (13).

Other recent study suggests that disapprovingly ill patients with COVID-19 and negative Rh blood group may practice longer hospital visits, primary credit of these persons, built on their blood type or Rh, may be vital in realizing quick actions to control the poison, avert hitches, and diminish the monetary influence on the healthcare structure (14).

But blood groups B+ and B- appeared very low percent of COVID-19 infection, which may be refer to normal antibodies in plasma of these blood groups, and new research about this subject was concluded discovery high-risk assemblies for simple infection and death are central to succeed the present pandemic disease, the persons with an advanced peril of plain infection being immunized previous or checked more carefully and preserved past. Collected, these results propose that the blood group may interaction with weakness to SARS-CoV-2 infection and scientific sequence of COVID-19; though, the device is exposed to conjectures (12). The restraint of this study was the minor sample size, and additional studies with a big unit for numerous people are essential to confirm this proposal.

3. Conclusion

1-attachment between Rh (+, -) and COVID-19 infection 2-blood group O- has highly percent of infection 3-men are more affected by COVID-19 4-persons that places in urban have more infections by COVID-19.

Recommendations

1-repeated this study by using large number from persons 2-study the genetic effect of COVID infection depend on blood types 3-make statistical analysis for wide COVID-19 in Babylon province by comprehensive study for all infections.

Disclosure of conflict of interest

The authors assert no conflict for interest.

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