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Prevention and Personal Protection Against COVID 19 for Iranian Humanity

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K E Y W O R D S COVID-19 Prevention PRISMA checklist Protection

A B S T R A C T

This work aimed at discussing the most important measures preventing and protecting individuals against the COVID-19. Found with keywords in the first 2118 articles. After reviewing the title, abstract, and text of the research study, three researchers were excluded from the study due to their duplication or exclusion criteria. Finally, 10 articles were selected. The selection of articles was based on PRISMA Checklist. The main findings of this study included symptom accuracy, hand hygiene, distance from each other, mask application, no nasal touch, eyes and mouth. The most important thing about this disease is prevention and protection. Keeping this in mind can prevent the transfer of COVID-19. Preventive issues are important to all people. The results of this review paper showed that in 75% of the articles, educating other family members is mentioned as one of the most important factors in preventing coronavirus.

GRAPHICAL ABSTRACT

Prevention and Personal Protection Against COVID-19 for Iranian Humanity



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Introduction

Until the middle of the twentieth century, scientists and researchers sought to discover unknown viruses. In 1965, a researcher at the University of Chicago tested people with the common cold and discovered a new virus called 229E. The researchers found that the virus was similar to the virus found in chickens with bronchitis in the 1930s. Another coronavirus, OC43, was discovered by researchers in 1967. The term "coronavirus" was chosen in 1968 based on a study of the virus because the OC43 virus had a crowned surface. Coronaviruses such as 229E and OC43 were not the focus of attention until the SARS virus broke out in 2003, but since then researchers have focused on identifying coronaviruses. Two other coronaviruses, NL63 and HKU1, were discovered during the outbreak of SARS [1]. Although coronaviruses have attracted the attention of many researchers and scientists, it is not yet clear exactly why the three viruses that cause SARS, Mercy and 2019 coronavirus disease (Covid-19), causing more severe symptoms and even death in many people, but at the same time, the other four human coronaviruses are now much milder. It is noteworthy that bats are the source of the spread of these viruses. Due to the fact that coronaviruses are large and complex and change the genetic structure, it is very difficult to study them, which confuses researchers [2].

The COVID-19 pandemic that began in Wuhan, China, has infected more than 6.7 million people and killed more than 390,000 people worldwide. Fatalities and morbidities are growing globally day by day due to greater transmissibility and infectiousness, asymptomatic infection, and the lack of appropriate treatment options and vaccines. Despite the physical health impact, stress and anxiety have been generated by the COVID-19 pandemic, resulting in an increased risk of mental illnesses in both infected and normal individuals. Corona is an infectious agent that is part of the family of viruses [1]. COVID-19 is a new form of the Corona virus [2,3]. COVID-19 causes disease both in humans and animals [4]. In extreme cases, it causes SARS and MARS, both of which can be fatal [5]. The disease was first reported in Wuhan, China [6]. At present (29 December 2020) Globally in the past week, over 4 million new COVID-19 cases and 72 000 new deaths were reported. This brings the cumulative numbers to over 79 million reported cases and over 1.7 million deaths globally since the start of the pandemic [7]. In Iran, there are also more than 1.2 million people with COVID-19, and the number of people who have died is more than 55,000 [8]. The most common symptoms include fever, dry cough and tiredness [9]. Other symptoms may include cavities, runny nose, aching body, nasal congestion, sore throat and sneezing [10]. Among these symptoms, people should note fever, cough and difficulty breathing [11]. If they see these symptoms, go to the nearest hospital or medical center [12]. COVIDfactor is transmitted mostly through 19 respiratory droplets [13]. Given the growing trend of this disease in Iran daily, this article aims to review the most important measures to prevent and protect individuals against COVID-19.

Chinese medical officials found a possible source as they tried to find the source of the new coronavirus: The food market in Wuhan, China, out of the first 41 patients, 27 were in the market. Of course, this evidence was not conclusive, but the Chinese authorities quickly shut down the market. They have already seen a similar phenomenon in a place exactly like this market. It was in 2002 that a virus from the coronavirus family emerged in a similar market. At that time, health officials were trying to find out the cause of the outbreak of the disease called SARS. The virus also appeared in the southern part of mainland China and then spread throughout the country, killing itself months later. The virus gradually infected 29 countries and killed 774 people. Eighteen years later, the virus has killed millions of people in at least 180 countries as of this writing. Many of the viruses that make humans sick come from animals. Some of the viruses that cause the flu come from birds and pigs, the HIV virus that causes AIDS comes from chimpanzees, and bats may have been the source of the deadly Ebola virus. There is evidence that SARS-COV-2, or coronavirus-19, was transmitted to a pangolin, a scaly anteater, before it infected humans from bats.

Members of the corona virus family (Coronaviridae) include envelope viruses whose genetic material is in the form of a positive-sense single strand ribonucleic acid (ss RNA). Coronaviruses have rod-shaped structures called spike (S) on their surface. Spikes are made of protein and sugar compounds (glycoprotein) and are placed on the surface of the virus after passing through the lipid membrane. Other protein compounds are present in the membrane structure (Membrane, M) , shell (Envelope, E), and coatings of the genetic material (Nucleocapsid, N) of Corona viruses. The sex and structure of these compounds stimulate the human immune system and are therefore called viral antigens. So far, 4 genera of corona viruses have been identified (alpha, beta, gamma and delta). Human coronaviruses (HCOVs) fall into the alpha (HCoV-229E, HCOV-NL63) and beta (HCoV-HKU1, HCOV-OC43, MERS-CoV-COV-1, SARS-CoV) groups.

Unlike most infectious diseases where the transmission of microbial agents occurs at the same time as the onset of symptoms, this is not the case with Covid-19 disease. The release time of SARS-CoV-2 virus is also different from that of human SARS and Mers virus coronavirus infections, and although the spread of SARS-COV and MERS-COV viruses begins at the same time as respiratory symptoms (cough, sneezing, and fever) The time of transmission of SARS-CoV-2 virus is possible before the onset of symptoms and during the incubation period of the disease. Studies have shown that the time of transmission of the SARS-CoV-2 corona virus to the environment from the carrier respiratory system, on average, starts 2.5 days before the onset of symptoms and peaks half a day before the onset of symptoms. Researchers believe that in 44% of cases, SARS-COV-2 virus transmission occurs

before a person becomes aware of the infection. Therefore, it seems that under the current circumstances, which are limited in the methods of diagnosis of Covid-19 disease, the spread of the virus before the onset of its initial symptoms is the main cause of the global spread of Covid-19 disease. Transmission of the SARS-CoV-2 virus is also possible up to a few days after a person recovers from Covid-19 disease, and failure to observe or reduce respiratory symptoms and fever in patients should not be considered as a complete recovery and elimination of the risk of transmitting the virus. To be taken. Molecular diagnostic tests (RT-qPCR) on respiratory and serological specimens are essential to ensure that people infected with the SARS-CoV-2 virus do not become infected. The Center for Disease Control and Prevention, based on the results of diagnostic tests for Covid-19 disease, when the risk of transmitting the SARS-CoV-2 virus from infected to healthy individuals is minimized, at least 3 days after complete recovery. Respiratory symptoms such as fever and shortness of breath, and at least 10 days after the onset of these symptoms, are considered.

Material and methods

This research study was conducted in the period of 2019-2020 years. Articles were obtained from databases, Web of Science, Cochrane, PubMed, Science Direct, Google Scholar. Words, virus, Novel corona, coronavirus, COVID19, prevention and protection were used to find articles. Inclusion criteria included, English language, types of review article on the topic of Coronavirus [14]. Exclusion criteria included qualitative and descriptive articles, articles with incomplete or no text. Found with keywords in the first 2118 articles. After reviewing the title, abstract, and text of the articles, three researchers were excluded from the study due to their duplication or exclusion criteria. Finally, 10 articles were selected. The selection of articles was based on PRISMA Checklist [15,16] (Figure 1). For the evaluation of the process and analysis of information, the framework of "Standards for Review Articles in the Health System" [17] was used.

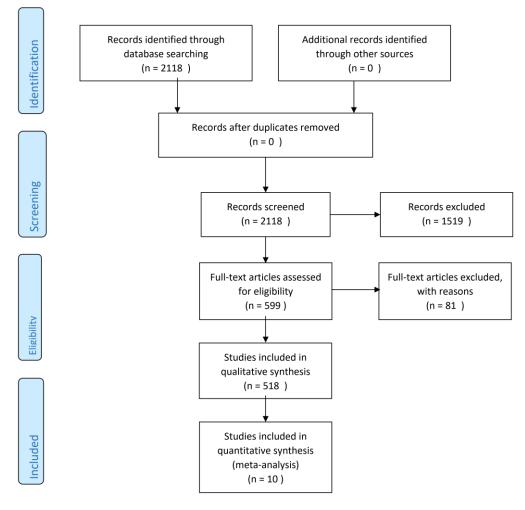


Figure 1: Select articles based on Prism Checklist

To date, no specific drug and definitive treatment for coronavirus and Covid-19 disease has been identified. Supportive therapies such as oxygen therapy, management of fluid accumulated in the lungs, and the use of broad-spectrum antibiotics to prevent secondary bacterial infections in patients with Covid-19 are some of the most important treatment management strategies. Based on research into the molecular mechanism of Covid-19 infection and the genomic organization of SARS-CoV-2, several targeted therapies have been proposed to target viral agents and cause effective disorders against them.

Targeted Viral Inhibitors

The use of RamedSiver for the treatment of Covid-19 is currently approved by the WHO.

Based on this, it seems that other nucleoside analogues, such as Favipiravir, Ribavirin, and Galidesivir, may have potential clinical applications against SARS-CoV-2.

Antibodies and Plasma Therapy

Plasma therapy is based on the use of specific antibodies against the virus SARS-CoV-2 in patients recovering from Covid-19 disease to treat patients with the disease. Hence, many patients recovering from Covid-19 disease volunteer to donate their plasma. This method has also been used to treat SARS and MERS. The use of this method in people with acute and severe forms of Covid-19 disease has shown favorable results.

Vaccination

So far, several different strategies have been used to make vaccines in laboratory animals, based on attenuated live viruses, viral vectors, inactivated viruses, subunit vaccines, recombinant DNAs, and recombinant vaccines. These studies are ongoing and have gone through several laboratory and animal models and reached the stage of human studies. The most important issue in making the SARS-CoV-2 vaccine is the ability to create lasting immunity in humans with the least risk to them. Unfortunately, due to the genomic structure of this virus (positive single-stranded RNA), Covid-19 is highly susceptible to mutations and alterations in its genetic and antigenic structure. This poses a great challenge to establishing lasting immunity in the host because it puts the individual at risk for new mutated strains of the SARS-CoV-2 virus, to which adequate immunity may be present.

Ways to Prevent Transmission of Covid-19 Virus

1. Quarantining infected individuals and minimizing direct contact with them or their associated personal items and surfaces play a key role in preventing the transmission of Covid-19 virus by airborne and foaming methods (contact with contaminated surfaces).

2. Observing social distance is one of the most important points in reducing the possibility of person-to-person transmission of SARS-CoV-2 virus.

3. The use of masks in crowded social places, public transportation, and high-risk places (supermarkets, gas stations and health centers) is essential and significantly reduces the risk of transmitting the virus.

4. Avoiding hand contact with the eyes, mouth, and nose, washing hands regularly with soap and water, or disinfecting them with skin-friendly alcoholic solutions is one of the main ways to prevent the virus from entering the mucous membranes and transmitting the disease.

5. Proper disinfection of food and purchased goods, depending on their type, is one of the most

important things to prevent the virus from entering the home.

6. Strengthen the immune system with vitamins D and C.

Result and Dissection

Finally, three research studies were reviewed [16–24] (Table 1). These works were narrative review and systematic review. The main findings of this study included symptom accuracy, hand hygiene, distance from each other, mask application, no nasal touch, eyes, and mouth (Table 2).

Symptom Accuracy

The most important symptoms include cough, fever and shortness of breathing [21]. You should pay attention to these or any other unusual situation [18]. Symptoms can include other conditions such as, body aches, sneezing, anorexia and diarrhea [22]. If you notice any symptoms, especially cough, fever, and shortness of breathing, see a health care provider [20].

Hand hygiene

The most important thing in preventing cavities is to hands hygiene [23]. Hands should be washed regularly [24]. Wash your hands after every action you take [19]. It is best to wash your hands with soap and water. Use alcohol-based detergents, especially when it is not possible to wash with soap and water [18]. Wash hands for 20 s and be sure to wash all parts of the hand [23, 24]. The palms of the hands, between the fingers, the back of the hands, and the wrist area, should be thoroughly washed [20].

Distance from each other

Observe the maximum distance [24]. Your distance from others should be about 1 or 2 steps [19]. Especially distance yourself from people who are suspicious or have symptoms [24]. Observing the distance can prevent the transfer of respiratory droplets [18].

Mask application

The mask is not required for everyone [24]. Wear a facemask if you are sick [21]. Apply the mask to those with symptoms [1]. Those who use masks that are symptomatic or those who care for a sick or suspicious person [20]. Discard the mask after each use. Remove the mask from the inside of it. Wash hands before and after using the mask [18].

No Nasal Touch, Eyes, and Mouth

Do not touch your nose, mouth or eyes [22]. Wear your mouth and nose if you are sick [24]. If you are ill, cover your mouth and nose with a tissues [20]. Discard the tissues after use. Then wash your hands [6]. Touching the mucosa will spread the virus to your body faster [18, 24].

Published			
Title	Authors	Abstract	Year and
The	Autions	Abstract	
	Cantaniani		Journal
A systematic review on the	Cortegiani,	The main target of the current stuy was to summarize	2020
efficacy and safety of	Andrea et al.	the available evidence for chloroquine for the	
chloroquine for the		treatment of COVID-19. EMBASE, PubMed and 3	·
treatment of COVID-19		experimental registers were searched for different	Critical Care
		studies on the use of chloroquine in patients with	
		COVID-19. The results include 6 articles and 23	
		ongoing clinical trials in China. Chloroquine appears	
		to be effective in limiting the replication of SARS-CoV-	
		2 in vitro. To justify clinical research on chloroquine	
		in patients with COVID-19, there is rational,	
		preclinical safety evidence, and evidence of the	
		effectiveness of long-term use of the clinic for other	
		conditions. However, clinical use must either follow	
		the MEURI emergency monitoring framework or be	
		ethically validated as a test defined by the WHO.	
Understanding Unreported	Liu, Zhihua	In this paper, the aim was to develop a mathematical	2020
Cases in the COVID-19	et al.	model for predicting an epidemic of COVID-19 in	
Epidemic Outbreak in		Wuhan (a city in China). The authors will use data	Biology
Wuhan, China, and the		reported on January 31, 2020 from the China Centers	
Importance of Major Public		for Disease Control and Prevention and the Wuhan	
Health Interventions		Municipal Health Commission (WMHC) to	
		parameterize the model. The authors then use this	
		model to advance an epidemic with varying levels of	
		public health interventions. This model predicts the	
		importance of the most important public health	
		interventions in the control of COVID-19 epidemics.	
A systematic risk-based	Jones,	Personal protective equipment is a key strategy for	2020
strategy to select personal	Rachael M. et	protecting healthcare professionals against infectious	
protective equipment for	al.	diseases. When groups of personal protective	American
infectious diseases		equipment based on transmission are not	Journal of
		appropriate, health care personnel should identify the	Infection
		route of transmission and anticipate exposure to the	Control
		choice of personal protective equipment. Because the	
		guidance for this process is very limited, the authors	
		proposed a systematic and risk-based method for	
		selecting and evaluating groups of personal protective	

Table 1:	Features of	the articles	used in this	research
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		equipment to protect health care personnel against infectious diseases. The approach used in this study includes the following four steps: (i) occupational risk analysis, (ii) infectious disease risk analysis, (iii) selection of personal protective equipment, and (iv) evaluation of personal protective equipment. The personal protective equipment selected must protect health care personnel from contact, be usable by health care personnel, and be suitable for the purpose. This method was indicated for intubation activity of patients with Staphylococcus aureus or acute methicillin-resistant acute coronavirus syndrome. As expected, this method led to the selection of different groups of personal protective equipment for these two pathogens. A systematic risk-based approach to the selection of personal protective equipment helps health care providers and health care personnel to select appropriate personal protective equipment in the absence of transfer-based precautions. Given the complexity of selecting and evaluating a group of personal protective equipment, a team specializing in infectious diseases,	
		occupational health, health care activities, and related disciplines such as human factors should be involved.	
		Participation, documentation and transparency are needed to ensure communication, criticism and understanding of healthcare staff decisions.	
Early containment strategies and core measures for prevention and control of novel coronavirus pneumonia in China	Chen, W.; Wang et al.	The Covid-19 outbreak occurred in Wuhan, in December 2019, and spread rapidly throughout the country. In the early stages of the outbreak, China adopted a containment strategy and implemented a number of key measures around this strategic point, including social mobility, strengthening case isolation and close contact tracking management, blocking epidemic areas, and traffic control to reduce mobility Personnel and increasing social distance, environmental measures and personal protection, with the aim of controlling the epidemic as soon as possible in confined areas such as Wuhan. This article summarizes the background, key points and basic actions in the country and provinces.	Zhonghua Yu Fang Yi Xue Za Zhi
COVID-19 pneumonia: infection control protocol	Nakajima, Kento et al.	Coronavirus Virus causes a series of pneumonia cases in Wuhan (city in China). It is spreading rapidly and	2020
inside computed tomography suites		globally. Computed tomography scan imaging is useful for assessing coronavirus pneumonia 2019 (COVID-19). Infection control within computed tomography scan sets is also important to prevent hospital-related COVID-19 transmission. The authors present our experience with the infection control protocol for COVID-19 within the computed	Japanese Journal of Radiology

		tomography scan complex.	
Covid-19: BMA calls for	Rimmer, Abi	The British Medical Association says it is working to	2020
rapid testing and		ensure that all physicians have adequate protective	
appropriate protective		equipment and that people who are separated by	BMJ
equipment for doctors		minor respiratory symptoms have quick access to	
		testing. In a letter to British Medical Association	
		members March 16, Chaand Nagpaul, chairman of the	
		British Medical Association Council, said that in	
		response to the covid-19 pandemic, the association is	
		working to address physician issues across countries	
		and in all Solve the practical branch. "We will all	
		naturally be concerned about how this will affect our	
		ability to provide vital patient care," Nagpul said. "We	
		are also concerned that healthcare workers are not	
		protected from exposure so that we can work as	
		safely and effectively as possible during this crisis."	

Table 2: Highlight of result in this study

Result	Highlight
Symptom accuracy	Fever, Cough, Shortness of breathing.
Hand hygiene	Regularly, for 20 seconds, with soap and alcohol.
Distance from each other	Two steps, especially for people with symptoms.
Mask application	For sick people and health care providers.
No nasal touch, eyes and mouth	Use tissues and no touch, nose, mouth and eyes.

Conclusion

Epidemic and control of a new virus from the Corona virus family is becoming a health crisis in the world. The various aspects of the virus are still unknown to the public. This study aims to introduce the general aspects of this virus. This study is a narrative review that uses the keywords COVID-19 and New Coronavirus 2019 to review available texts. Free search in Google search engine is used to collect background information. Aspects of prevalence, control and prevention of the disease were studied and presented. This study showed that the routes of transmission of Covid-19 virus are through respiratory droplets and direct contact with secretions containing the virus. One of the causes of the uncontrollable and surprising prevalence of this disease is the long incubation period of its cause and how it is transmitted in these asymptomatic, mild or pre-emergence periods of the disease. Also, according to this study, the symptoms of this virus occur in people with chronic diseases such as cardiovascular diseases,

diabetes, cancer, high blood pressure and chronic respiratory diseases, and the risk of this virus increases with age, and there is still definitive treatment. Not discovered for it. The results showed that the epidemic of this new virus will continue and according to the methods of prevention and management of the factors affecting its transmission, it can be prevented. It should be noted that the proposed ways to treat this disease are also being researched and tested. At present, the only way to COVID-19 is to maintain good personal hygiene, increase immunity, and avoid crowding in crowded places. COVID-19 is already pandemic. The most important thing about this disease is prevention and protection. Keeping this in mind can prevent the transfer of COVID-19. Preventive issues are important to all people. Because the virus is highly attacked, the only way to prevent it is to break the transmission chain through prevention. By staying at home and taking care of prevention, as well as educating other family members, we will reduce the likelihood of COVID-19 transition.

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Authors' contributions

All authors contributed toward data analysis, drafting and revising the paper and agreed to be responsible for all the aspects of this work.

Conflict of Interest

We have no conflicts of interest to disclose.

References

[1]. Zhu N., Zhang D., Wang W., Li X., Yang B., Song J., Zhao X., Huang B., Shi W., Lu R., Niu P., Zhan F., Ma X., Wang D., Xu W., Wu G., Gao G.F., Tan W., *N. Engl. J. Med.*, 2020, **382**:727

[2]. Wang C., Horby P.W., Hayden F.G., Gao G.F., *The lancet*, 2020, **395**:470

[3]. Karimi Z., Fereidouni Z., Behnammoghadam M., Alimohammadi N., Mousavizadeh A., Salehi T., Mirzaee M.S., Mirzaee S., *Risk Manag. Healthc. Policy*, 2020, **13**:1271

[4]. Li G., De Clercq E., *Nat. Rev. Drug Discov.*, 2020, **19**:149

[5]. Lai C.C., Shih T.-P., Ko W.C., Tang H.-J., Hsueh P.R., *Int. J. Antimicrob. Agents*, 2020, **55**:105924

[6]. Huang T.T., Peng J.M., J. Clin. Nurs., 2010, **19**:1686

[7]. Bull F.C., Al-Ansari S.S., Biddle S., Borodulin K., Buman M.P., Cardon G., Carty C., Chaput J.P., Chastin S., Chou R., Dempsey P.C. Br. *J. Sports Med.*, 2020, **54**:1451

[8]. Asadi L., Tabatabaei R.S., Safinejad H., Mohammadi M., *Arch. Clin. Infect. Dis.*, 2020, **15**: e102938

[9]. Jiang F., Deng L., Zhang L., Cai Y., Cheung C.W., Xia Z., *J. Gen. Intern. Med.*, 2020, **35**:1545

[10]. Khan Z., Muhammad K., Ahmed A., Rahman H., *Drugs Ther. Perspect.*, 2020, **36**:215

[11]. Gao Q.Y., Chen Y.X., Fang J.Y., *J. Dig. Dis.*, 2020, **21**:125

[12]. Layne S.P., Hyman J.M., Morens D.M., Taubenberger J.K., *New coronavirus outbreak: Framing questions for pandemic prevention. American Association for the Advancement of Science*, 2020

[13]. Li Q., Guan X., Wu P., Wang X., Zhou L., Tong Y., Ren R., Leung K.S., Lau E.H., Wong J.Y., *N. Engl. J. Med.*, 2020, **382**:1199

[14]. Kheirandish H., J. Med. Chem. Sci., 2021, 4:1

[15]. Liao C.Y., Ganz J.B., Vannest K.J., Wattanawongwan S., Pierson L.M., Yllades V., Li Y.-F., *Rev. J. Autism Dev. Disord.*, 2020, **2**:1

[16]. Ghiasvand H., Bayani A., Noroozi A., Marshall B.D., Koohestani H.R., Hemmat M., Mirzaee M.S., Bayat A.H., Noroozi M., Ahounbar E., *J. Addict. Dis.*, 2018, **37**:233

[17]. Greenfield D., Pawsey M., Hinchcliff R., Moldovan M., Braithwaite J., *BMC Health Serv. Res.*, 2012, **12**:1

[18]. Cortegiani A., Ingoglia G., Ippolito M., Giarratano A., Einav S., *J. Crit. Care*, 2020, **57**:279.

[19]. Liu Z., Magal P., Seydi O., Webb G., *Biology*, 2020, **9**:50

[20]. Jones R.M., Bleasdale S.C., Maita D., Brosseau L.M., Program C.P.E., *Am. J. Infect. Control*, 2020, **48**:46

[21]. Chen W., Wang Q., Li Y.Q., Yu H.L., Xia Y.Y., Zhang M.L., Qin Y., Zhang T., Peng Z.B., Zhang R.C., *Zhonghua Yu Fang Yi Xue Za Zhi*, 2020, **54**:1

[22]. Nakajima K., Kato H., Yamashiro T., Izumi T., Takeuchi I., Nakajima H., Utsunomiya D., *Jpn. J. Radiol.*, 2020, **38**:391

[23]. Rimmer A., *Covid-19: BMA calls for rapid testing and appropriate protective equipment for doctors.* British Medical Journal Publishing Group, 2020

[24]. Saeedinejad S., Mirzaee M., Parisaee Z., Khalili A., Paymard A., *Electron. J. Gen. Med.*, 2018, **15**:1

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