Study on Awareness and Knowledge of COVID-19 Among Healthcare Students and Professionals in Riyadh Hospitals in Saudi Arabia

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Abstract:

Background: Consistent with statistics, covid19 exposure is high and has decreased within the last three months. Therefore, this study aims to gauge the extent of attention and knowledge of the medical staff and medical students in Riyadh, Saudi Arabia COVID 19 control measures, and private hygiene. Methods: Collecting data on 500 medical staff and students from 25 hospitals in Riyadh through soft copy and text thanks to lack of your time and resources limits the event of this research. The response rate was 79% (395 questionnaires finish).

Results: illustrate knowledge of control measures and personal hygiene completely samples were above average. woman faculty, staff, and students be visible more awareness and knowledge than males. The medical staff has more knowledge than management staff and students the age bracket of 31-45 and above 45 has the exact best awareness and knowledge.

Objective: The target of this study is to decide the understanding, attitude, and cognizance of medical students in Saudi Arabia on the COVID-19 pandemic.

Conclusion: COVID-19 requires medical staff and medical students to understand personal hygiene strategies regularly, decrease the risk of student transfer and medical professions, and ensure that the only possible care for patients. The world is already under threat from the earth and other parts of the center East, like Saudi Arabia, where medical professional and doctors are the most targets of the COVID-19 outbreak of 2020.

Keywords: COVID-19; SARS-CoV-2; Pandemic; personal hygiene.

Introduction:

Coronavirus (Cove) is a large family of viruses that cause serious and sometimes deadly respiratory diseases such as long-term Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS). 1 Between 2002 and 2003, SAV-Cove was first identified in Guangdong, China as pneumonia, which later became a life-threatening respiratory disease. Initially, there was a transition to persons from animals to humans. The virus infects about 8,500 people with a 10% mortality rate. It is mainly transmitted to humans from dromedaries. same cases were reported in Wuhan, China in December 2019. The virus has been identified as a new form of coronavirus (Coronavirus-2017), and the disease it causes is called COVID-19.5. The World Health Organization (WHO) declared COVID-19 a public health emergency on January 30, 2020, and an infectious disease epidemic on March 11, 2020. According to the World Health Organization, around 3,349,786 persons worldwide have contracted the disease, including 19 cases of Covid-19 caused by SARS-COV2, including 238,628 deaths on May 3, 2020, 6.7 According to preliminary scientific reports, animals can deliver COVID-19 to humans. However, the available evidence suggests that humans can communicate with humans via inhaled droplets. 8.9 The incubation period for COVID-19 is 2 to 14 days. 11/10 The first symptoms are fever, cough, shortness of breath, shortness of breath, chest pain or pressure, fatigue, malaria or joint pain, confusion, blueness of the lips or face 12,13 Standard recommendations for preventing infection include maintaining

good hand hygiene, covering your mouth and nose when coughing or sneezing, and avoiding close contact with people with signs of respiratory illness and unprotected contact with farms or wild animals. To date, no vaccines or antiviral drugs have been released to prevent or treat COVID19. Current treatment guidelines from the Centers for Disease Control and Prevention (CDC) and the World Health Organization focus primarily on treating symptoms and preventing infections. As the risk of COVID-19 increases, people must limit themselves to protecting themselves from infection and its spread. While medical students and health professionals are not directly involved in treating COVID-19 patients, they can act as informants. You can educate the community about personal hygiene, the symptoms of COVID-19, and how to prevent its spread. Students should have a basic understanding of the new coronavirus and dispel myths associated with COVID-19. In this context, our research aims to assess the knowledge of COVID-19 and the understanding of medical students and students related to the health sciences. Saudi Arabia to work in the Middle East with COVID 19 due to the outbreak and frontline medical personnel are particularly vulnerable to infection. This is the first time the defendant has registered because he told the coronavirus COVID 19-2019nCoV (SARS-Cov-2) syndrome called 2 registered with the International Counter-Terrorism Committee (ICTV). This new species was discovered in 2019, and this is not present Coronavirus 2019 (COVID-19) may be a new communicable disease caused. by SARS-CoV-2, a replacement coronavirus with Severe Acute Respiratory Syndrome (Wang C et al. 2020). COVID-19 affects different people in several ways. The overwhelming majority of infected people are often moderately infected with the disease and may recover without hospitalization.

Methods:

The questionnaire was compiled as an online form and sent to 395 persons, including students and staff from various clinics in Riyadh city. The survey will be conducted from 12 to 19 March 2020. A total of 395 persons completed the survey, and the response rate was 79%. The autonomous questionnaire consisted of 20 questions based on social, demographic, and COVID-19 data on health and infection control measures, based on current guidelines and information from health care professionals. The health plan was updated on March 7, 2020 and published by the Centers for Disease Control (CDC). The questionnaire also contains technical questions that will help you evaluate the "five minutes" data on hand hygiene. Hygiene of the World Health Organization. Percentage of respondents regarding improved hygiene. Related samples are used to collect data and to distribute responses according to frequency and percentage. The groups also include gender, age (18-23, 31-45,> 45), study areas (undergraduate and graduate students in schools and hospitals, dental and physiotherapy), teachers, non-clinical staff, administrators, medical assistants, and staff. They are partners. In the field of health sciences). The subgroup was assigned based on hand hygiene response training. The data is recorded in Excel and SPSS22 is used for descriptive statistics. Use the average test to compare the percentages of each pair. Questionnaires (online e-questionnaires) are sent to the attendees via email. All hospitals notify the research management via direct access or telephone contact and are entitled to involve their staff within the study. Health staff and students were also contacted to participate in the study. The response rate was 79 percent (395 completed questionnaires). The questionnaire contains socio-demographic questions and two other main components, infection control procedures, and self-hygiene procedures as health professionals/students (Modi P D & Nair G & Upper A & et al. (2020). The info is collected employing a practical sample method, which represents the distribution of answers in terms of frequency and percentage Subgroups are classified by gender, age, and occupation. Groups also are classified as consistent with manual hygiene procedures, obtained from the promised. The info is listed in Excel and descriptive statistics are performed with SPSS 22. Use SPSS to perform multiple tests on the collected data Study population: A crosssectional study A field was added for medical studies and Administrative the Kingdom of Saudi Arabia, a fund for studies in neighboring Arab countries and a fund for western countries, the extension of the fund and information on medical students in Riyadh, which provides references to additional numbers for coordination. Problems with design, efficiency, and marketing: The 24-questionnaire survey was edited from COVID-19,

the datasheet, and edited by the WHO, the CDC, and the National Health Service (NHS). The survey includes aspects related to students' demographics, general ideas, sources, knowledge, and concepts related to COVID-19. Before checking the clarity, relevance, and acceptance of 10 students, 5 selected physicians and faculty prepared a draft report with questions on personality and content to determine its readability and effectiveness. Tested Medications and medications are selected at random. Changes and clarifications were made in response to the feedback received to better understand and adjust the order of questions. The final link to the survey was sent to students in the form of Google forms through various media platforms such as WhatsApp, Gmail, and Facebook. The content of the questionnaire: The survey consists of 20 closed questions, the answers to which take 5-10 minutes. The survey is divided into three sections, including an information sheet for participants, informed consent, and a questionnaire. In total, 20 questions from the group and 7 questions for understanding were registered, including general knowledge about the new coronavirus (11 questions), data sources (one question), step-by-step instructions, etc. Prevention and prevention (one question). Feeling COVID-19 (20 points) (Appendix 1). Data analysis: All collected data is recorded in Microsoft Excel and checked for errors. Description of statistics used to calculate conditions and frequency. The chi-square test was used to check the level of correlation between study variables. A p-value of less than 0.01 is considered statistically significant. Statistical analysis was performed using SPSS software.

Results:

..Socio demographics

395 complete questionnaires were received, and the demographics of the respondents were as the following:

Age	Ratio	No
18-23	50%	198
24-30	26%	103
31-45	15%	60
Above 45	9%	34
Total	100%	395

Table. 1: Questionnaire

Gender	Ratio	No
Male	34%	134
Female	66%	261
Total	100%	395

Table. 2: Profession Response

Profession	Ratio	No
Administration	15%	60

Medical staff	40%	158
Medical student	45%	177
Total	100%	395

4.2. Infection control procedures

This part included 6 questions as the following:

Table. 3: Questionnaire

Question	Number of true answers	Ration of true answers
1- What is the main mode of transmission of COVID 19?	244	62%
2- Is being in a range of 2 meters of a patients of COVID 19 for more than 5 minutes considered safe?	109	28%
3- A medical check should be done on people coming from countries known of the spread of the virus or people that were living in the same area of known COVID 19 patients. Yes/No	395	100%
4 - Medical mask should cover the nose and the mouth. Yes /No	390	99%
5- The best procedure when contacting COVID 19 patient is self-quarantine. Yes/No	239	61%
6- Who guidelines for disease control is the guidelines that hospitals follow during the pandemic times as the current time of COVID 19 outbreak. Yes/No	121	31%

On the first question 62% (244) correct answers, while 28% (109) correct answers for the second question, 100% (395) correct answers on the third question, 99% (390) correct answers on the forth question, 61% (239) correct answers on the fifth question, and only 31% (121) answers on the final question of this question.

4.3. Personal hygiene

Table. 4: Questionnaire

Question	Number of true answers	Ratio of true answers
7- Hand rub with soap for more than 20 seconds is better than sanitizer with alcohol. Yes /No	255	65%
8- Surfaces should be cleaned with Alcohol containing sanitizers of more than 70%.	199	50%
9- Hands cleaning should be done after every procedure or patients check or patients contact	390	99%
10 - Contact transmission occurs when contaminated hands touch the mucosa of the mouth, nose, or eyes. Yes /No	301	76%

On the seventh question, 65% (255) correct answers, 50% (199) correct answers on the eighth question, 99% (390) correct answers on the ninth question and 76% (301) for the last question.

To understand the results, the data is explained according to each subgroup as the following:

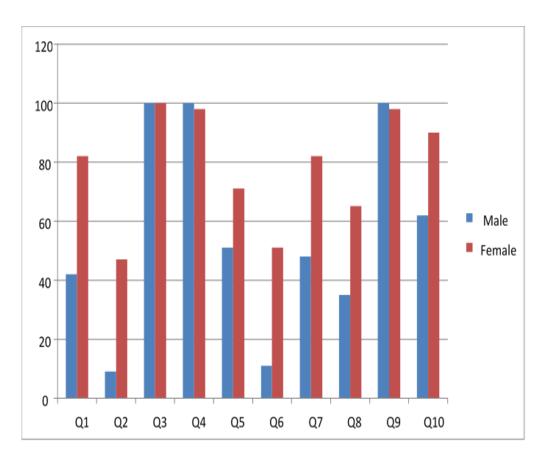
Table. 5: Questionnaire

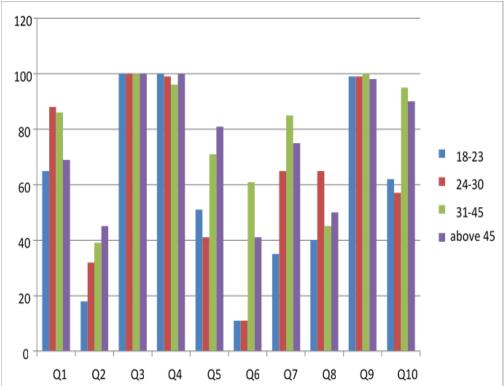
Question	According to Age group	According to sex	According to Professions
	18-23: 65%	Male: 42%	Administration:30%
Q1	24-30: 88%	Female: 82%	Medical staff:84%
	31-45: 86%		Medical student: 72%

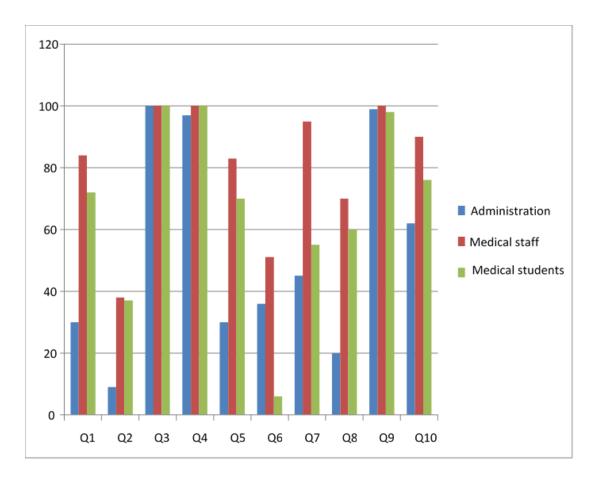
	41 45 600		
	Above 45: 69%		
	18-23: 18%	Male: 9%	Administration:9%
Q2	24-30: 32%	Female: 47%	Medical staff:38%
Q2	31-45: 39%		Medical student:37%
	Above 45: 22%		
	18-23: 100%	Male: 100%	Administration: 100%
Q3	24-30: 100%	Female: 100%	Medical staff:100%
Q3	31-45: 100%		Medical student:100%
	Above 45: 100%		
	18-23: 100%	Male: 100%	Administration: 97%
Q4	24-30: 99%	Female: 98%	Medical staff:100%
Q4	31-45: 96%		Medical student:100%
	Above 45: 100%		
	18-23: 51%	Male: 51%	Administration:30%
05	24-30: 41%	Female: 71%	Medical staff:83%
V ³	31-45: 71%		Medical student:70%
	Above 45: 81%		
	18-23: 11%	Male: 11%	Administration:36
06	24-30: 11%	Female: 51%	Medical staff:51
00	31-45: 61%		Medical student:6%
	Above 45: 41%		
07	18-23: 35%	Male: 48%	Administration: 45%
Q7	24-30: 65%	Female: 82%	Medical staff:95%
Q5 Q6 Q7	24-30: 41% 31-45: 71% Above 45: 81% 18-23: 11% 24-30: 11% 31-45: 61% Above 45: 41% 18-23: 35%	Female: 71% Male: 11% Female: 51% Male: 48%	Medical staff:83% Medical student:70% Administration:36 Medical staff:51 Medical student:6% Administration: 45%

	31-45: 85% Above 45: 75%			Medical student:55%
Q8	18-23: 40% 24-30: 65% 31-45: 45% Above 45: 50%	Male: Female: 65%	35%	Administration:20% Medical staff:70% Medical student:60%
Q9	18-23: 99% 24-30: 99% 31-45: 100% Above 45: 98%	Male: Female: 98%	100%	Administration:99% Medical staff:100% Medical student:98%
Q10	18-23: 62% 24-30: 57%% 31-45:95% Above 45: 90%	Male: 62 Female: 90%	%	Administration:62% Medical staff:90% Medical student:76%

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Discussion:

The study's purpose was to work out the notice of the COVID 19 procedures and measures of hygiene among healthcare students and professionals in Riyadh city in Saudi Arabia. The results show that the medical staff and students within the medical institutions in Riyadh have an above-average understanding of Infection control procedures associated with COVID 19. Female students and medical staff have the simplest understanding in comparison by sex. Medical staff has the simplest understanding among other students and administration staff. The age groups of 31-45, and above 45 are having the very best understanding and awareness of the control procedures associated with the COVID 19. The results are logical because the medical working staff thanks to their field experience have a better knowledge of all related procedures as they are within the middle of things. The surprising result was for the executive lower awareness rates of the procedures which should are higher, as they oversee the control procedures directly. The second part of the results showed higher awareness and knowledge of the private hygiene procedures associated with COVID 19 than the primary section of the control procedures. the right answers rate was above the primary section and thus showed higher knowledge among all the participants. Again, females had a better awareness (correct answers rate) among all the samples, and medical staff had the very best knowledge among all others (administrative and students). Also, age groups of 31-45 and above 45 are having the very best knowledge and awareness of the right personal hygiene among all the participants of the research. The results show that with the present situation, students of the medical professions should have a better awareness of the present situation of the pandemic that causes death and infections around the world. The administration of the clinic in Riyadh also consistent with these results will need a better understanding of things and therefore the needed measures of the control. The results showed higher awareness and knowledge of the private hygiene among all the samples than the notice and knowledge of the control measures of the pandemic, which is alerting even with aboveaverage rates of awareness among them because of the sample containing the present battlefront of the fight with pandemic and therefore the future battlefront of the healthcare institutions within the city.

HOW TO HANDRUB?

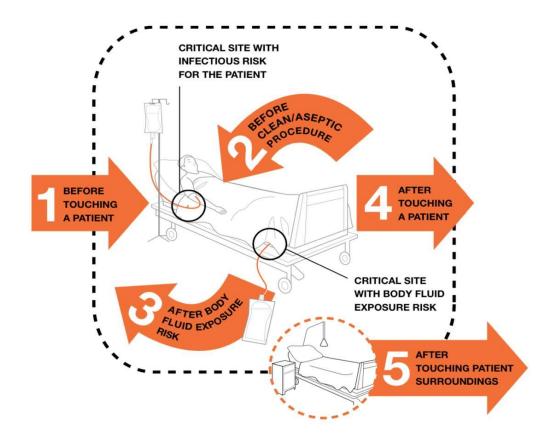


HOW TO HANDWASH?



WHEN?

YOUR 5 MOMENTS FOR HAND HYGIENE*



Literature Review:

Newborns, epidemiology, and reproductive health:

Published data and case reports support the idea that the number of children infected with SARS-CoV2 is small and the clinical manifestations of COVID-19 are lower than in adults. We found that the incidence of SARS-CoV2 in children is low and varies from country to country (China 2-12.3%, Italy 4.5%, 19 Korea 4.8%, 20 states) 5% 21).

There are many reasons for this difference: research availability, guideline 22.23 (some countries categorize children exposed to COVID-19 based only on the child's symptoms at the start of the epidemic. Diagnosed) and the child's infection is mild or mild. Although all people between the ages of 24 and 25 can become infected at any age, children are the most vulnerable. The main form of communication is communication with a person (mainly with a family). 4,5,27 Children can become infected when they inhale large droplets from coughing, sneezing, or contact with contaminated surfaces. Since the virus can be excreted in feces 9,10,28,29,30, SARS-CoV2 infection is comparable to SARS-Cove 31,32,33,34, and MERS-Cove. ... High, 9,10,35,36, but no hospital infections have been reported in children recovering from the hospital. Although a mother infected with SARS-CoV2 does not have clinical symptoms or the beneficial effects of microbiological infection on the newborn, direct delivery from the mother and fetus is not completely ruled out. 43, 44 In contrast, SARS-Cove 2 is not yet separated from the umbilical cord, sheep's milk, and milk.

However, it is important to evaluate pregnant women, take strict infection control measures for those who test positive, and a 44.45% risk will follow. Bathing times for children and babies (with an interval of 5-7 days) vary from 2 to 14 days but are usually longer than for adults. Therefore, suspicious children 10,46,47,48 should be monitored one by one. Be. The median time between the onset of symptoms and hospitalization is 2 days (1.00 to 3.50). Recovery usually takes 1 to 2 weeks from the beginning. 40.48 Symptomatic and asymptomatic patients can transmit SARS-Cove The initial recurrence of SARS-CoV2 (R0) varies (2-3.5 in the early stages of the disease). However, at 9 years old, R0SARS-CoV2 was higher than SARS Cove and H1N1.10. The CFR is approximately 6.25% (Johns Hopkins Corona Virus Resource Center, May 7) 3, which varies from country to country and covers 53 patients affected by the test. For patients under 18 years of age, CFR is less than 0.1% (endorsed by Johns Hopkins Corona Virus Resource Center May 7, 2020). 3.7 The facts of the day are not yet fully understood. 24.55 children are more likely to express ACE-2 receptors in type II lung cells than adults, and children with severe clinical symptoms have COVID-19 (low cytokinesis)., low permeability of pulmonary vessels, etc.) and 55 more immunosuppressants (immunosuppressants). Capacity, the first and highest response of polyclonal B-lymphocytes to SARS-CoV2 is the formation of many plasma cells and an increase in cell proliferation. Explain why the clinical signs of COVID-19 are less pronounced in children than in adults.

Transmission:

The role of the bulk of South China fish in the spread of the disease is unclear. Several previous studies on COVID-19 were related to this market and claimed that SARS-CoV-2 was transported from animals to humans [13]. However, genome studies have shown that the virus is sold from an unknown location, and although the virus can spread from one person to another, it is still spreading rapidly. Teams of affected families and caregivers have passed personal verification. As of 1 January, less than 10% of patients have entered the market, and more than 70% of patients have no market connection. It is believed that human-tohuman infection occurs through close contact, usually when the victim coughs or kisses the stomach drops. Foods may be the primary cause of the disease, as SARS Cove has been proven to remain on the surface for up to 96 hours, while other coronaviruses can last up to 9 days. Whether the spread of the disease is meaningless is controversial. A preliminary study published on 30 January reported asymptomatic drug births. It was later discovered that the researchers had not directly interviewed patients who had detected symptoms before birth. A new study published on 21 February also suggests asymptomatic delivery, but such studies can be prevented from exposure to false-positive effects or other conditions. Symptoms of the disease change rapidly, and selection is usually incorrect. Studies have shown that the average attack time is 5.2 days 95% confidence interval [95% BI]: 4.17.0). The incubation period is 19 or 24 days, although case definitions are usually based on a 14-day time frame. Several values (R0) were analyzed, and different results were obtained. R0 measures the average number of diseases that can occur from a patient to a fully infected person. Preliminary studies have confirmed that SARS R0 2.7 and 2009 H1N1 infection are 2.4. According to one study, the fertility rate (R 0) of this starting line is 2.2 (95% AI 1.4–3.9). According to a detailed analysis of the 12 research locations, R0 is 3.28. Since R0 is an average value, it is also important to consider the role of a super distributor. The super distributor is responsible for mass distribution, but it will not significantly affect the value of R0. In the presence of acute onset of the disease or infectious disease, R0 can be confusing. During pregnancy, studies on 9 pregnant women who developed COVID-19 at the end of pregnancy showed that COVID-19 does not cause more severe symptoms than pregnant women, and there is no evidence of intrauterine bacteria, Such as genetically modified compounds. Studies of 138 COVID-19 in hospitals show that 41% of patients received SARS-CoV-2 in hospitals. Also, another study of 425 patients showed that the number of cases among doctors increased rapidly over time. These problems may reflect a high viral load in recent interactions.

Risk factors:

SARS, 2-Cov common disease in adult men, with a mean age of 59 years to 34 years. SARS, 2-Cov likely to cause serious diseases such as heart and brain diseases and diabetes. The population with the highest incidence of serious illness in adults over 60 years of age, and some suffering from the disease, such as cardiovascular disease, neurological disease, and diabetes. For more serious symptoms such as bacteria and fungi. In 19 cases, the number of COVID children under the age of 15 years was low. In a study published January 29, a 19-year study of 425 children in the COVID 15 patients who were found to have no disease. However, 34 pediatric patients were reported in January 2020.

clinical symptoms:

The most common symptoms of 201 n SARS clinical symptoms such as seizure infection and Cove are fever, dry cough, shortness of breath, chest pain, fatigue, muscle aches. Common symptoms include headache, dizziness, abdominal pain, diarrhea, nausea, and vomiting. This report confirms that the most common symptoms are fever, dry cough, muscle pain, and sputum production are the most common symptoms such as headache, blood loss, abdominal pain, and diarrhea. Near pneumonia, bilateral%. However, as SARS infection and upper respiratory tract symptoms such as arthritis, sneezing, and sore throat, and other obscured COVID 1, would indicate the involvement of the lower respiratory tract.

Diagnosis:

Isolation is essential to control the spread of COVID-19, and proper patient monitoring is a useful diagnostic tool. With the spread of SARS-CoV-2, other respiratory infections may become more common in local communities. On 31 January 2020, the World Health Organization published guidelines on the prevention and control of COVID-19. For those who meet certain conditions, the WHO recommends that the most common causes be studied first. respiratory diseases depending on the season and location. If the result is negative, the sample should be sent to the SARS-CoV-2 laboratory for analysis. Case definitions may vary from country to country, as cases will change over time as the epidemiological situation in the region changes. In China, the cases were confirmed on January 15, 2020, within two weeks of the epidemiological link in Wuhan, and clinical signs include fever, pneumonia, and low white blood cell counts. January 18, 2020, In the past two weeks, the epidemiological standard has been extended to all populations in Wuhan. Subsequent case definitions eliminate the epidemiological link. WHO provided a case report Suspected cases of COVID-19: A) Severe acute respiratory infection (fever, cough requiring hospitalization), no other wound healing can fully explain the clinical symptoms, travel history, or travel history I was in China 14 days ago, but I had symptoms? (B) Patients with acute respiratory illness have at least one of the following conditions within 14 days; infection or exposure to SARS-CoV-2 confirmed or potentially infected cases in clinics or patients diagnosed with SARS. Or it can be treated for acute respiratory diseases with CoV-2. There are likely cases where SARS-CoV-2 has been insufficiently tested or cannot be tested for coronavirus and there is no evidence of other respiratory pathogens. Regardless of the clinical data, confirmed cases can be confirmed by laboratory confirmation of SARS-CoV-2 infection.

Control and prevention strategies:

This is a serious disease caused by international COVID. Reproduction rates are believed to be higher than that of SARS and they are believed to have died from SARS infection. Like SARS MERS-Cove, the refusal to spread chain is seen as a necessary condition to prevent the spread of the disease. Various global health trends need to be pursued. Unfortunately, this could be the main source of the spread of the virus in medical care. The model shows that SARS: uses triage, adopts infection control measures, and has many isolated cases, eliminating the contacts needed to limit the spread of infection in hospitals and clinics. In suspected cases, medical facilities, and respiratory infection standards (such as the runny nose, fever, cough) can contain the

virus from people to clothing. The sort will follow. You should look for patients who are not allowed to wait for other devices. It is in a separate room, which needs to be fully ventilated, approximately 2m from other patients using respiratory hygiene products., instead of one, if you must place it, you must confirm at least a few hours of COVID hospitalization every hour, because the air pressure is negative. The air is discharged from the medical particulate air purifier (HEPA). Personal protective equipment must ensure that medical personnel enter the room (PPE), such as N95 disposable gloves, clothing, and eyes. After decoration, if there is no will, if you want to disinfect or disinfect, you need to protect staff, use special masks, and wear indoor clothes to protect your eyes. People traveled in the desert, only in the city where the first infected army passed through desert. The Chinese health authorities plan to immediately isolate the infected person and tie up the suspect. However, there are several hypotheses about the origin of humans and animals (for example, some studies link viruses to bats, others link snakes, or use liquids to access the Internet to avoid being discovered. Use animals or wild animals in captivity. Therefore, further medical attention is needed, and it is necessary to inform the public of abnormal symptoms, such as cough or shortness of breath, and to detect the virus as soon as possible. In the process of dissemination, damage to community gatherings, school farms, weather, homes, deserts, properties, nearby signs, crowds, life supply (such as oxygen supply, ventilation mechanics), and personal hygiene, must be equipped with equipment Is this a mask.

Conclusion:

Overall, medical students in Saudi medical students show a general attitude towards COVID-19 and report the best preventive measures. However, as is generally reported, access to medical data from major scientific sources is provided by the media. Affected areas create strategies to educate students about care, treatment, and public health issues. At this point, students should receive proper legal ownership training. If medical students are required; Provide knowledge and procedures without caution. Due to the current global situation, medical schools must use the media to disseminate knowledge and plans before the start of emergency medical services and emergency medical services.

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