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**Interview with Health
Minister**



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Covid-19,
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could be
more
anxious**



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COVID-19

As the world was moving into the 2020's, with various inventions, innovations and ideas that it hoped would bring all its nations closer to each other, it did not imagine that it would be facing a pandemic that has exceeded the norms of all epidemics from the beginning of time up till this moment and left the entire international community baffled.

Malls, schools, and airports were closed, public transport stopped, and people were confined to their homes for fear of this hidden enemy, which has spread panic and death, and impacted the economy and various other aspects of life in an unprecedented manner.

Overnight, our lives were turned upside down, with various rumours and conflicting information about the disease floating about: Is it an imminent threat to our lives or just a passing phenomenon? Is there a conspiracy hatched by preying enemies seeking to change the world and control us for their own hidden agendas; are they the ones who created this epidemic, or is it God's judgment, our destiny, and a divine lesson to make us realize our true size in front of His Almighty's power and the greatness of His authority? These are some of the questions that arose in our minds in the light of

this situation that has forced world scholars and leaders into a frantic race to find a way of controlling its spread.

Here at SQU, the primary think-tank in Oman, scholars and researchers of this scientific phenomenon are running their own race, teaming up with the health and research sector in the Sultanate, to contribute to global efforts to find a treatment or method to stop the toll on lives and limit the devastating repercussions of the pandemic. Like healthcare workers in other hospitals across the country, our medical staff have been fighting a daily battle in trying to relieve their patients of their pain and instil hope rather than despair in them, so that they can recover from the disease and return to their loved ones.

In this special issue of Tawasul, we will unveil the ongoing clinical and field efforts being made inside SQU by the staff who are dedicated to caring for the health of the people in the face of COVID-19.

Editorial Board

H H Sayyid Dr. Fahad Bin Al Ju- landa is SQU's new Vice- Chancellor

A Royal Decree Nr. 67/2020 was issued on 2 July 2020, appointing His Highness Sayyid Dr. Fahad Bin Al Julanda Al Said as the new Vice-Chancellor of Sultan Qaboos University, the sixth incumbent since its inception in 1986.

His Highness is a graduate of the College of Agricultural and Marine Sciences, SQU, and was Assistant Deputy Vice Chancellor for Administrative and Financial Affairs, before assuming the position of Assistant Secretary General for Innovation Development at The Research Council.

Since its inception, the University has had five vice-chancellors to date, namely:

- H.E. Sheikh Amer bin Ali Al-Marhoubi (1986-1987)
- H.E. Dr. Yahya bin Mahfoudh Al-Mundhri (1987-1997)
- H.E. Muhammad bin Al-Zubair (1997-2001)
- H.E. Dr. Saud bin Nasser Al Riyami (2001-2008)
- H.E. Dr. Ali Al-Bimani (2008-2020).



Emergency response to COVID-19 using tele-health clinics

Dr. Mohammed Al-Jufaili - SQU Hospital - is conducting a research project aimed at reaching people at home using telemedicine technology to provide care and refer sick patients to health care facilities by forward triaging. According to the physician, the study will help health care institutions and provide online consultations, particularly those centers that lack specialists in infectious diseases and ICU care. He underlined that when COVID19 cases exceed the capacity of the emergency departments, una-

voidable outcomes may occur, such as delayed care, worsening conditions or even death. Most COVID19 patients could be managed at their homes and provided with proper care support, he said, adding that about 80% of the patients could be treated with such modalities. Tele-medicine is a subset of tele-health in which a health-related clinical service is provided using technological communication; it may be offered synchronously, i.e. live, or asynchronously, i.e. stored and recorded and later reviewed.



AI-based technique to diagnose COVID-19 disease

A team from SQU Hospital is proposing a new artificial intelligence-based method to precisely analyse CT images to

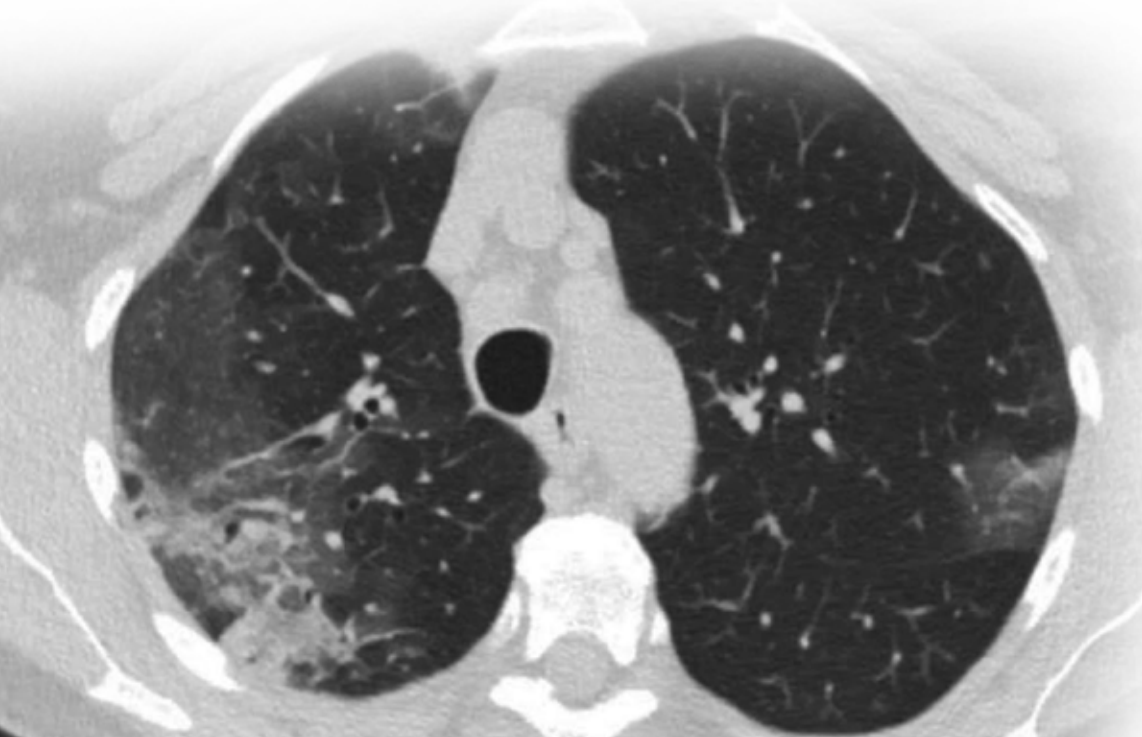
identify the patterns of COVID-19 induced lungs infections. Dr. Yassine Bouchareb - the team leader - said that the technique

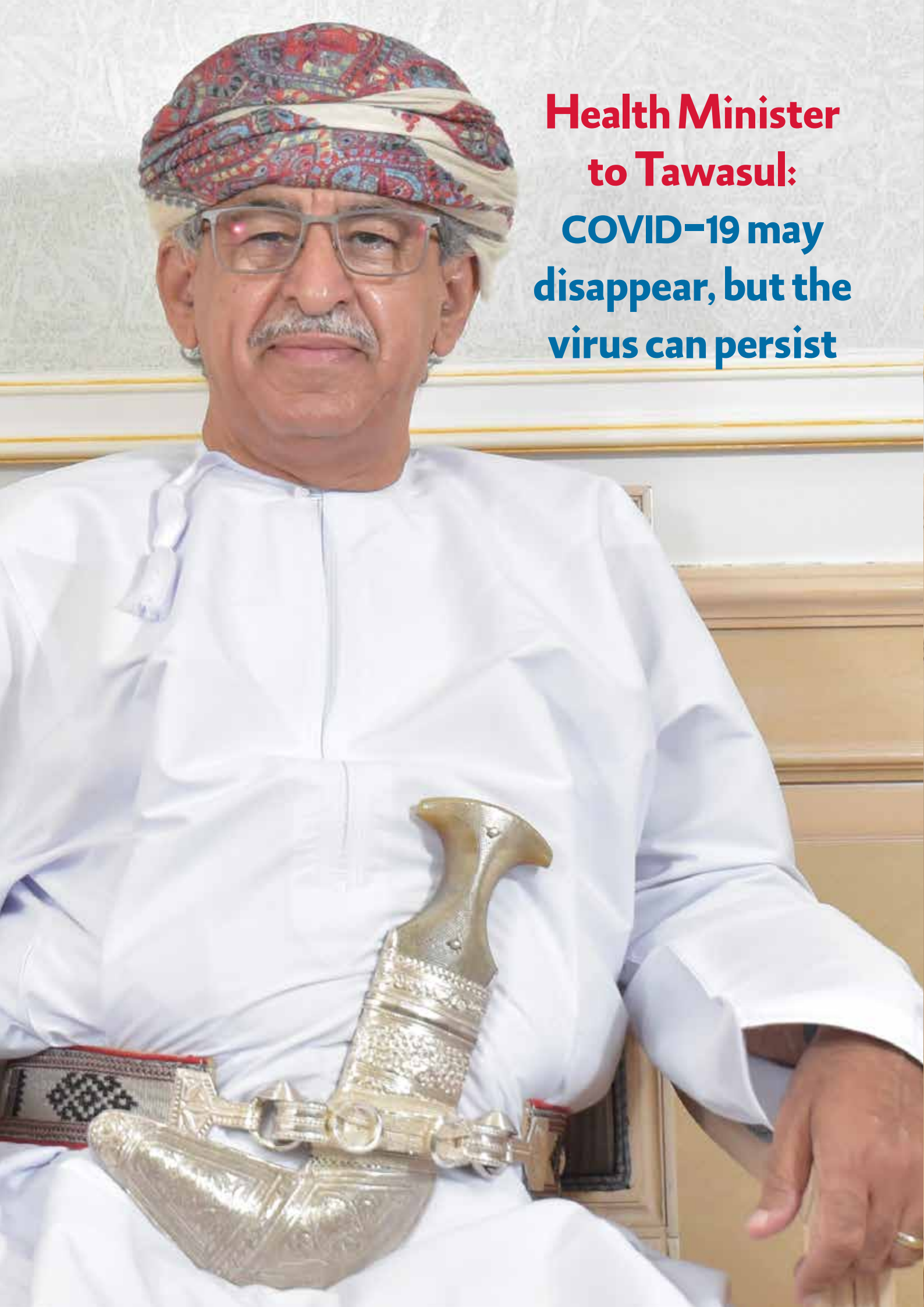
would predict the value of a CT-based radiomic signature for discriminatory accuracy in diagnosis of the disease.

Chest CT images of COVID-19 patients will be collected for extracting quantitative features such as the infected volume of the lungs, ground-glass opacity, histogram, texture, and intensity, he said.

He added that some demographic variables such as gender, age, occupation, etc. would be collected to study the relationships of patients.

In the current coronavirus worldwide pandemic, such a research project would help introduce an innovative CT reading and reporting methodology to give accurate diagnosis and prognosis of COVID-19 cases.





**Health Minister
to Tawasul:
COVID-19 may
disappear, but the
virus can persist**

Since the outbreak of the COVID-19 pandemic, and even before it struck the Sultanate, H.E. Dr. Ahmed bin Mohammed Al-Saeedi, Minister of Health, has been engaged in addressing this disease, giving interviews to different media outlets, clarifying facts, being positive in dealing with indicators, stressing preventive measures, and giving citizens and residents safety tips.

In this interview with Tawasul, H.E. Al-Saeedi sheds light on the measures taken to reduce the impact of the pandemic in the Sultanate.

Could you please define COVID-19 and its family?

COVID-19 is a strain that belongs to a widespread family of coronaviruses known to cause a range of diseases, ranging in severity from a simple respiratory infection to an acute pneumonia syndrome. New strains of coronaviruses have recently appeared; they are of animal origin and have acquired the ability to transmit to humans, such as the coronavirus that caused the severe acute respiratory syndrome (SARS, 2003), and the coronavirus that caused the res-

infection discovered in the Sultanate, and how did it happen?

The first case was confirmed on February 24, 2020 in a female Omani citizen who was returning from Iran; she was examined and quarantined as she showed symptoms of cough and fever.

The Ministry of Health has made remarkable efforts to deal with the pandemic. Would you please describe these briefly?

The Ministry of Health, through its health institutions and administrative departments and

ate; accordingly, regular meetings were held at the technical level of the Ministry; guidelines and policies were introduced to limit the entry of the disease into the Sultanate; public health measures were imposed at the land, sea and air borders; self-disclosure was applied to all travelers coming from pandemic-hit areas; medical examination of people with symptoms of the disease were carried out; and home or institutional quarantine was imposed on those coming from countries affected by the disease. The Ministry also provided medical supplies for testing and personal protection, which has effectively reduced infections. The Ministry's Central Public Health Laboratory capabilities were upgraded with the necessary reagents to diagnose the disease, health workers trained on how to deal with disease, and health institutions improved in terms of efficacy and readiness in this regard.

Implementation phase: Circulars were sent to all health institutions and departments complying with the decisions of the

Supreme Committee to reduce the number of employees in health departments and institutions of the Ministry of Health, trim the work on supervisory authorities and enable remote working.

Ongoing efforts were made at all levels to combat the pandemic outbreak. Advertising campaigns were intensified to urge the community to stay at home and adhere to prevention procedures; officials in the directorates made visits to different institutions to provide support for health workers and evaluate their ability to detect COVID-19 according to the algorithms issued by the Ministry and periodically updated to cope with the developments of the cases discovered.

The Ministry also implemented a package of precautionary procedures and measures to prevent the spread of the pandemic. An app called Tarassud was launched, which is an interactive electronic tool that contains the latest developments and information about the disease, and can locate infected people, as well as checking on their com-

The first case was a female Omani coming from Iran

piratory syndrome in the Middle East (MERS, 2012). In late 2019, an outbreak of the SARS 2 virus, which causes the COVID-19 disease, occurred in Wuhan, China, then spread further to other Chinese cities and countries through travelers who had previously been in Wuhan, before becoming a global pandemic.

When was the first case of

in cooperation with other relevant sectors, has taken important steps, in three phases:

Preparedness phase: At first, the Ministry of Health formed a technical team to review the global and local epidemiological situation and to develop response strategies and recommendations to limit the spread of the epidemic in the Sultan-

mitment to home quarantine. Meanwhile, press briefings were held to provide updates on COVID-19; the Ministry made efforts to combat it through publishing data on the number of infected people, recoveries and deaths; recommendations were given to limit the spread of the virus in the society. The Ministry of Health call center has also been active around the clock, in addition to other hotlines in all governorates, to provide information about quarantine or the

disease. Recovery phase: The Supreme Committee in charge of examining the mechanism to deal with the consequences of the outbreak, canceled a previous decision to exempt employees from coming to workplaces in government agencies, and called at least 50% of the employees of each agency back to work. Appropriate measures have been taken to implement the decision in our units and make sure that services are

consistently delivered, while setting the necessary precautionary restrictions to ensure that

ual impairment, and people who suffer from chronic diseases such as diabetes, blood pressure,

Vaccine production is not an easy process

the virus does not spread. Due consideration has been given to those employees belonging to risk groups, including pregnant employee/nursing mother, elderly people, people with vis-

asthma, heart, cancer, and kidney failure.

A new guide entitled "Return to work, a step for hope" includes public-sector procedures, measures for protecting employees from COVID-19, and procedures to protect the clients of public agencies. Seminars are regularly broadcast to raise awareness among the community about the importance of living with the new virus, while taking into account preventive measures like social distancing, when leaving homes.

Has the virus evolved as a result of transmission between humans? If yes, what are the factors behind this?

Scientists believe that the virus has undergone changes in its composition since its first appearance, and virus laboratories have been tracking these and their effect on the severity of infection. It has not been proven so far that the severity is related to these changes, but it is believed that some of its strains, like D614G, have a wider and faster spreading capacity. Unfortunately, this strain has been found in samples from the Sultanate.

Some believe that the whole world has failed so far to scientifically confront the virus and develop a vaccine. What



do you think about that, and is it easy to find one?

Vaccine production is not a quick process, and it has to be proven as to efficiency, quality and safety; it is conducted under the supervision of specialized organizations, since it will be used on large numbers of healthy people for the purpose of prevention. Production has to pass through laboratory testing, testing on animals and then on humans, to study their response and also its safety, and whether it causes complications.

In your opinion, will the virus be destroyed and its effects disappear once a vaccine is produced, or are there other aspects that can make it persistent?

Providing a vaccine for a large proportion of the world population may end the pandemic, but the virus may persist and will be added to the list of seasonal viruses and the diseases they cause, that people and health systems have to live with.

Besides the organizational and preventive efforts to deal with the pandemic in the Sultanate, what are the most prominent research efforts in this regard?

There are many research efforts that have been made in the Sultanate during this

period. A national (serological) scanning of COVID-19 was conducted to measure the spread of infection in Omani society, using the results as an indicator of the time when the restrictions imposed on movement could be lifted and suspended services reopened again. This has achieved a set of objectives,

such as assessing the spread of infection according to age groups, monitoring unconfirmed cases, estimating the level of infection nationally, the rate of symptom-free infections, cumulative number of infections, impact of the standard of living on the spread of the disease in the Wilayats, and assessing the effects of lockdowns on the epidemic spread in some areas versus non-closed ones.

There are also experiments to analyze different strains of the virus in the Sultanate, as well as trials of treatment and immunological investigation; there is ongoing research to look into factors linking the severity of infection in some cases to genetic factors or the virus strain.

Are there any scientific lessons drawn

from the crisis?

Undoubtedly, we have learned important lessons during this pandemic, such as the significance of global cohesion, interdependence, and that countries are not isolated from other countries. The pandemic emphasized the importance of interna-

Encouraging innovation is a lesson we learned

tional cooperation, support and benefiting from the experiences of other countries, the need to be well prepared and equipped to deal with any pandemic, and to protect the health and security of our population. This health crisis demonstrated the need for partnership between public, private and civil sectors in order to effectively address similar crises, develop mechanisms to maintain healthy lifestyles in emergency situations, enhance relevant technology, and encourage innovation locally.





Dr. Saif Al-Mabehsi
Respiratory Diseases Consultant at SQUH



With a systematic plan, and health and re- search efforts: SQU Hospital deals with Covid-19

They work day and night, relentlessly and tirelessly, moving between the various departments to attend to one patient, help another, or treat those who have been infected by Covid-19 and admitted to intensive care.

Since the outbreak of the Covid-19 pandemic in Oman, the SQU Hospital staff have been very active in dealing with Covid-19 patients, using all means to fight this vicious disease.

Tawasul visited the Hospital and met with Dr. Saif Al-Mabehsi – Respiratory Diseases Consultant – who spoke extensively about the efforts of the Hospital’s administration and staff to take care of the patients right from the outset of the pandemic.

In his remarks, he highlighted the Hospital’s preparations to deal with Covid-19 cases and the key measures taken to limit its spread. “The Covid-19 pan-

demical has posed serious challenges that have overloaded the capacity of health systems in many countries around the world. Right from the start of the crisis, it has become clear that the best way to address this problem is to be well prepared and organized at various levels. SQU Hospital’s plan was based on a scientific methodology for dealing with crises, the information available about the disease during that period, and the Hospital’s previous experience in dealing with the swine flu pandemic in 2009. It aimed to achieve four goals: Being fully prepared for safely handling the expected rise in cases of Covid 19; ensuring the continuous running of basic health and academic services by the hospital; providing safe health care for the rest of patients who are not infected with Covid-19; and having in place protective supplies for hospital workers.”

He added: “The University Hospi-

tal formed a working team consisting of the Hospital administration, experts and heads of various relevant committees (such as the Disaster Management Committee, Infection Control Department, Outpatient Committee, Day Clinic Committee, Operating Rooms Committee, Medical Stores Department, etc.), and representatives of the clinical and diagnostic departments directly involved in dealing with the pandemic. The Hospital established a virtual department that includes members from all other departments (clinical, diagnostic, and administrative) headed by the Hospital’s Deputy Director for Clinical Affairs and charged with implementing the Hospital’s plan to deal with the pandemic in accordance with the above goals. The infection protection and control team had an essential role in preparing for the pandemic, ensuring the necessary protective tools for hos-

pital workers, and determining optimal policies for the appropriate use of personal protective equipment to avoid shortages in the future.”

On the resources provided by the Hospital to streamline the admission and care services, he said: “The Hospital has provided specific spaces for people with Covid-19 at various levels (emergency, outpatient, day clinic, internal admission departments, intensive care, operating rooms, delivery rooms, etc). The capacity to conduct diagnostic examinations around the clock and provide medical supplies necessary for treating Covid-19 patients has also been increased, and health workers from various departments have been deployed to overcome any shortage that may arise because of the increased pressure.”

“The department in charge of dealing with the Covid-19 pandemic is keen to conduct multiple educational and training



courses in various fields to make sure the medical team is well prepared, and ensure its safety and that of patients."

Al Mabehsi talked about the Hospital's efforts to reach out to the community, saying: "The Hospital has been keen to reach out to the community through Twitter and Instagram by uploading scientific brochures and educational video clips on Covid-19. We also focused on highlighting the Hospital's research efforts, and specifically the practical and clinical research on Covid-19."

As for the most difficult cases the Hospital dealt in the past months, he said: "It is not easy to specify which cases are the most serious, since they vary in severity due to several factors. The case might be medically severe because of the presence of other chronic diseases that may complicate the treatment. Also, some severe cases may not respond to any treatment and thus deteriorate despite all attempts."

"There is also a socio-human aspect involved, as the workers sometimes attend to several members of the same family ; some get worse and are transferred to the intensive care section, which increases the psychological pressure on the rest of the family members, a situation which should be handled with wisdom and compassion. Additionally, the fact that the disease is so contagious that family members and friends are not allowed to visit their patients, further impacts patients, families and the health care providers."

Regarding the response of

patients to the treatment, the consultant said: "It varies from patient to patient. Clearly, Covid-19 affects the elderly in particular, and those with chronic diseases such as high blood pressure, diabetes, and atherosclerosis; however, there are many patients for whom the above risk factors do not apply, but their condition may still get worse, or they might not respond to the treatment as expected. The medical team uses a set of biological and chemical factors, indicators, and X-ray examinations to predict the patients' responses and follow up on their response to the treatment."

On the key medicines given to patients, Al Mabehsi clarified: "As you know, the virus that causes Covid-19 is new; it's a member of the corona family. Since the beginning of the crisis, the Hospital has been keen to adopt a scientific approach based on available evidence in providing appropriate treatments. It has conducted clinical studies on some drugs and other therapies such as convalescent plasma therapy and interleukin-1 inhibitors, and other drugs such as dexamethasone and anticoagulant

drugs, in addition to antibiotics." Al Mabehsi shed light on the service the care providers deliver in this context: "Dealing with Covid-19 patients is an integrated task carried out by several individuals, who work in an integrated and diligent manner to provide the best health care for all patients according to their role in the health system. The team works around the clock, across all departments, looking after patients and following up on their lab test results, while providing appropriate treatment for all health problems. The team is also keen to communicate regularly with patients' families, especially those with severe conditions."

Regarding the research efforts undertaken by the University Hospital to choose the right medicine for patients, he said: "SQU departments and the Hospital have conducted several research studies in various therapeutic and diagnostic fields, in addition to other research to study the social, psychologi-

cal and economic phenomena associated with the pandemic. One important clinical study to measure the efficacy of some drugs and treatment methods involves blocking interleukin-1 (Anakinra), which deals with its effectiveness in the treatment of cases of exacerbated severity of the disease; another study measures the effectiveness and safety of convalescent plasma in treating Covid-19 patients with severe infections and its effect on inflammatory cytokines and cellular immunity."

Al-Mabehsi concluded his remarks by thanking the government of His Majesty Sultan Haitham bin Tariq - may God protect him - for his utmost keenness to provide all the resources necessary to fight the pandemic and reduce its impact on citizens and residents of the Sultanate. He also hailed the University administration, Hospital and medical staff for their efficient planning and dedicated service in dealing with the pandemic.



Preliminary results: Due to Covid-19, women could be more anxious

Dr. Hamad Nasser Al-Senawi - SQU Hospital

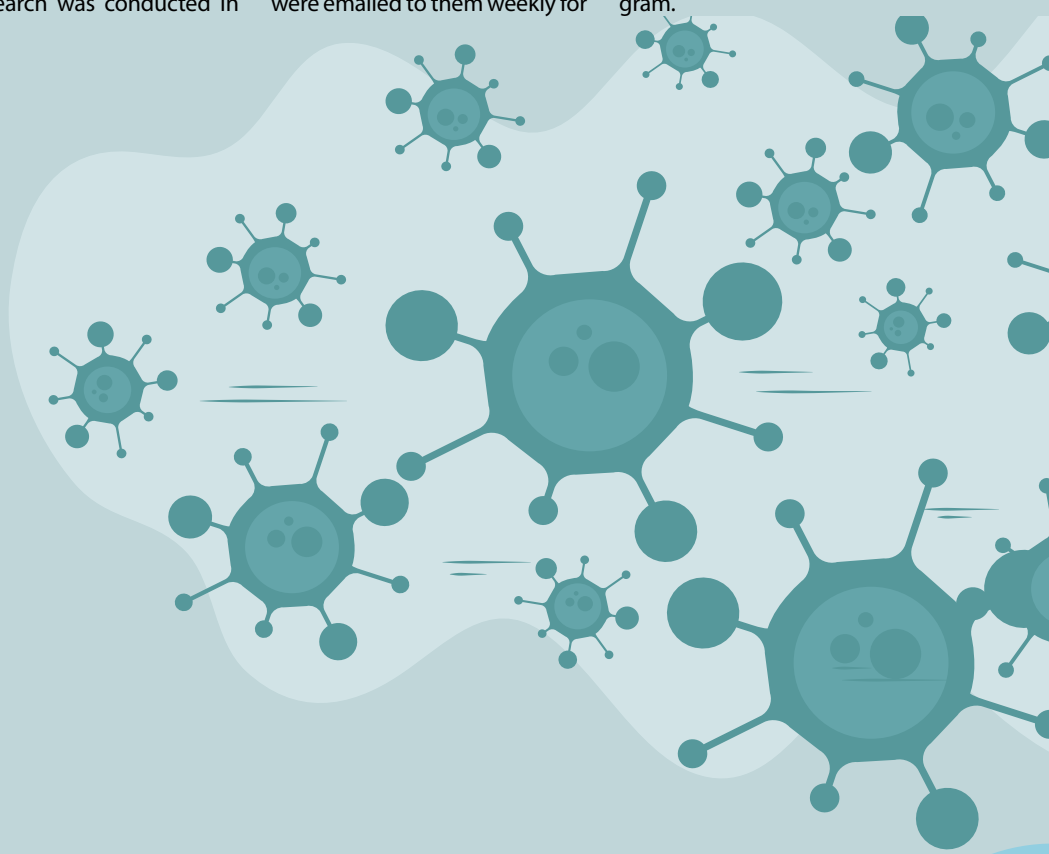
Initial findings of an SQU study suggest that women are more likely to have symptoms of anxiety and depression during the Covid-19 pandemic.

An analysis of the preliminary results of a study led by Dr. Hamad Nasser Al-Senawi, Senior Consultant of Behavioral Medicine at SQU Hospital, has shown that 30% of the participants in the survey suffer from either anxiety or depression. Furthermore, people who have undergone financial difficulties and had such a mental condition before the pandemic, as well as those who use drugs, are

more likely to experience anxiety and depression during the pandemic. Dr. Hamad said that his study, "Levels of anxiety and depression and the effectiveness of electronic psychotherapy during the Covid-19 pandemic," aimed to investigate the prevalence of anxiety and depression symptoms and identify the groups most vulnerable to suffer from them within a sample of citizens and residents in the Sultanate under the Covid-19 pandemic. It also sought to evaluate the effectiveness of electronic psychotherapy in reducing such symptoms. He pointed out that the research was conducted in

two phases. In the first phase, controlled psychological measures to assess symptoms of anxiety and depression were sent out via email and social media. Some 1538 people participated in the study, 75% of whom were women. In the second phase, individuals who had symptoms of anxiety and depression were divided into two groups, each having 30 participants. The first group received psychological treatment by a psychologist through an electronic platform in weekly sessions for six weeks, while the second group received self-psychological exercises that were emailed to them weekly for

six weeks. After that, researchers re-assessed the presence of anxiety and depression symptoms to verify the effectiveness of both the psychotherapy and psychological exercises in reducing the symptoms. Al-Senawi hoped that the findings would inform mental health officials about the quality and effectiveness of electronic psychotherapy to alleviate the psychological repercussions of current and future epidemics. It is worth noting that the study was among SQU's research projects that won funding from The Research Council's Covid-19 Research Program.



**The impact of
the Covid-19
pandemic on
psychological,
educational,
and social
aspects in
Omani society**



Prof. Abdullah Ambosaidi



There is no doubt that efforts being made to examine the aspects affected by the emerging Covid-19 pandemic in Omani society are extremely important. Such efforts will contribute to achieving Oman Vision 2040 regarding the role of research in the study of social and scientific phenomena in a way that could help address societal problems and develop the society. Much has been said in different circles and social media about the economic impact of the pandemic; however, little attention has been paid to the social, educational and psychological effects, which are no less serious and, in fact, could be more important and potentially dangerous, given that the human factor is the backbone of the local and global economy. In this regard, a research team led by Prof. Abdullah Ambosaidi of the Humanities Research Center, is investigating the edu-

cational, psychological and social effects of the pandemic on Omani society, emerging societal values, and best practices followed in dealing with them. The team will also see how to build on this reality in order to address future contingencies. The project includes a group of researchers in the humanities who will receive training in studying the phenomena, such as this pandemic, that have a great impact on societies. To achieve the research objectives, quantitative and qualitative tools will be used to collect data from the targeted study sample. According to Prof. Ambosaidi, "the quantitative tools include questionnaires and educational, psychological and social measures; the qualitative tools cover individual interviews and focus groups; they will be conducted face to face or remotely." He added: "The target sample

will include different individuals from each of the three areas, as required by each field. In the educational field, there will be a sample of decision-makers from the Ministries for Education and Higher Education, SQU and other higher-education institutions, teachers, students and parents. In the psychological field, we will collect the opinions of a sample that includes parents, mothers, children, psychologists and other specialists; and in the social field, responses will be taken from a sample that includes parents, children, sociologists, influential figures in the society, and others. As to the stages of the research, he said: "First, we will study the effects of the pandemic through surveying the views of the experts about the effects in the three areas, using appropriate tools (questionnaires, measures and interviews); in the second phase, a case study or two

will be conducted to see how educational, psychological and social institutions deal with this pandemic. In selecting the cases, the research team will focus on the best practices followed in addressing the effects; then we will analyse the data, identify patterns, isolate the factors affecting the treatment methods, and suggest solutions to deal with pandemics. In the third stage, a study report will be written and submitted to The Research Council." The researcher concluded his remarks by expressing his hope that the study could achieve its goals and inform our understanding of the educational, psychological and social effects of the emerging Coronavirus pandemic on Omani society, and highlight the best practices to address them.



Impact of COVID-19 on development in Oman

The emerging Covid-19 crisis has had a severe impact on all aspects of development in the Sultanate. World-wide, consumer spending has declined, travel and tourism have been disrupted, and industry has slowed down due to movement restrictions. Economic activities and services such as transportation and shopping were also affected, which has led to a decrease in both consumption and demand.

This ongoing crisis has given rise to such crucial questions as: What kind of economic repercussions can we expect as a result of this global epidemic? What impact will it have on society, education, tourism, and the environment? What are the best practices followed by Omani organizations in dealing with the effects of the pandemic? In this regard, Tawasul sheds light on some economic projections, plans and suggestions put forward by prominent scholars from different disciplines, in an attempt to answer such questions.

New strategies

Dr. Al-Mukhtar Al-Abri - Dean, College of Economics and Political Science - talked about the impact of the pandemic on Omani economy: "The Sultanate, like other oil-exporting countries, was affected by two simultaneous shocks: the global pandemic, and the drop in oil prices; however, despite the decline

Al-Abri: The pandemic will restructure supply chains in many countries and make them more stable.

recession.»

Al-Abri added: "The sectors most affected by the pandemic are hospitality, transportation and storage, and wholesale and retail trade (especially durable goods

be followed by such sectors, he stated: "Businesses and commercial companies should modify their business model after the pandemic by making their structures leaner and more responsive to shocks, changing the investment pattern by relying on the rental of equipment and machinery, and reducing the number of permanent employees while using external employees for specific tasks or outsourcing them to another company (for example, packaging and delivery). The pandemic will also lead to restructuring supply chains in many countries and make them more stable and less vulnerable to disruption during crises."

Regarding the economic measures taken by the Sultanate to confront the pandemic, Al-

Abri said: "The government has put in place a set of monetary and financial measures to provide liquidity, reduce the cost of borrowing, and ensure continued provision of credit to the affected sectors. The Central Bank also urged commercial banks to postpone the repayment of private sector loans for a period of six months to support their recovery. The government has adopted some measures to assist small and medium-sized enterprises, including supporting the workforce, deferring payments (such as taxes, rent, utility payments, etc.), and providing interest-free loans from the Development Bank."

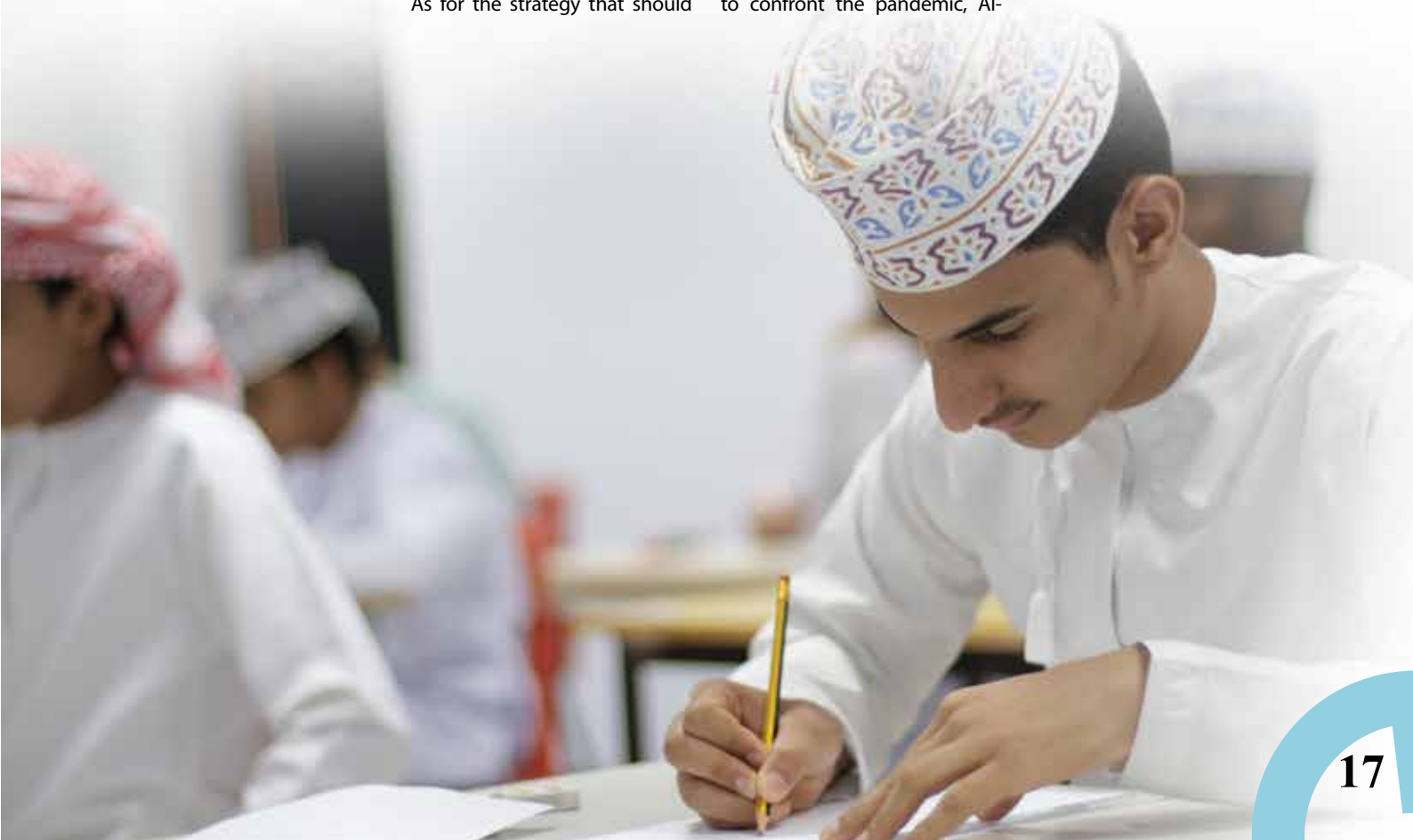
Al-Abri further pointed out that: "COVID-19 has demonstrated the importance of expanding strategic sectors, such as food, basic services, and information and technology to overcome long-term turmoil. The changes in the labor market brought

Al-Harhi: An electronic support site has been established to help faculty members acquire e-teaching skills.

in oil revenues and the difficult financial situation, the government has quickly responded to alleviate the economic consequences of the crisis through a package of measures to maintain financial stability, support the affected sectors and groups, and stimulate demand to prevent a prolonged economic

and luxuries); small and self-employed businesses have been particularly impacted. These sectors also require direct interaction (face-to-face) with the consumer; they were affected by the decrease in internal demand and collapse of demand by tourists and business travellers, as a result of border closures."

As for the strategy that should



about by the pandemic can also be used to reduce imbalances within it, increase the participation of the national workforce, and improve productivity. The pandemic's repercussions also constitute an opportunity to accelerate structural reform programs, such as developing the private sector and strengthening its partnership with the public sector, as well as improving the effectiveness of government spending and support."

Challenges to education

Dr. Aisha Al-Harhi - Department of Educational Foundation and Administration - shed light on the educational system in the Sultanate in the light of this pandemic: "There were big differences in how to run the system, in terms of the material and human capacity available in the educational institutions. Those that have a solid electronic infrastructure and the e-learning know-how have readily switched to e-learning, while others heavily relied on free and open source e-learning systems, which caused a small number

Othman: Water resources have improved due to suspended industrial activities.

Speaking about the teaching system at the University under the current conditions, she said: "All colleges have in place all the tools required to run the system; committees were formed at the colleges and departments to follow up the ongoing operation of e-learning at the University; students were able to seek technical support from a team who managed to sort out their issues or referred them to other concerned units; an electronic support site was established to help faculty members learn e-teaching skills, refine their experience and provide some training courses in e-learning».

She went on: "One of the biggest challenges facing higher education institutions is simply the lack of both clear policies for e-learning and clear standards for assessing the quality of the e-learning provided to students, apart from the large disparity in financial, logistical and

The environment is the biggest winner

Dr. Muhammed Othman - Center for Environmental Studies and Research - mentioned the positive environmental outcomes the coronavirus has brought us: "An improvement in the quality of water resources was observed due to the strict closure measures and cessation of industrial activities. For example, there was a significant decrease (between 10-40 percent) in the amount of particulate matter in Indian and Italian lakes (Venice), thanks to the closures. In the same context, it has been confirmed that air quality has improved significantly in many cities due to the low emission of pollutant gases during lockdowns. This water and air quality improvement is likely to be temporary, but the results could give us a glimpse of the future as standards for sanitary water drainage and gas emissions become more stringent."

Othman revealed research findings on wastewater containing waste of corona-infected people, suggesting that it could harm the environment and water resources if not treated properly. In this respect, researchers have suggested analyzing the content of this virus in municipal wastewater in order to track the spread of infection in time and space.

Commenting on the impact of

the pandemic on food security, he said: "There has been a considerable impact on crop production systems, supply chains, and global food security. The workforce shortage (due to movement restrictions and social distancing rules) and difficulties in importing/exporting agricultural products have affected the entire food supply chain, including producers, manufacturers and transport companies. There are also reports of agricultural and dairy products being destroyed due to the inability of farmers or traders to transport them from the point of production to local markets or manufacturing centers. The countries exporting basic products (such as energy raw materials) have been hard hit due to a significant decline in demand in the developed countries."

Social solidarity

On the impact of the pandemic on society, Aseelah Al-Azri - Center for Humanities Research - said: "Undoubtedly, the pandemic has affected various groups of society. For example, the precautionary measures taken by the supreme committee to combat coronavirus and ban certain commercial activities are quite serious; there have been negative effects on the owners of small and medium-sized enterprises, loan holders, those laid off from work, expats who suddenly found themselves jobless, and families in need of support; other measures included the closure of places of worship, recreation, sports and tourism, the suspension of edu-

Al-Azri: Social solidarity and psychological support platforms help alleviate the impact of COVID-19.

of staff with little experience in using such systems to be heavily overloaded, and put pressure on teaching staff and students alike. Given the lack of support for infrastructure and e-learning training, the practices were based on trial and error, rather than a pre-planned process."

training support provided to faculty members and students; this has brought into focus dispersed and different efforts in electronic teaching methods, means of student evaluation, and improving students' ability to e-learn without providing them with appropriate support."

cation, and confining employees to working from their homes; all of this caused restricted move-

of social solidarity, like giving aid, charity, alms and initiatives by individuals and civil society

Al-Balushi: Oman enjoys diverse tourism potentials that will lead to revival of tourism beyond the crisis.

ment of individuals and families, thus depriving them from leading their normal lives or performing religious social activities such as praying in mosques, holding wedding parties, funeral gatherings, visiting relatives, and family gatherings on Eid and other occasions.”

She added: «We cannot ignore the fact that the elderly and children are especially vulnerable under these exceptional circumstances, which have forced them to stop short of engaging in many social and entertainment activities, or seeing relatives or friends. As a result, they have undergone great psychological stress, anxiety and panic.”

Al-Azri, however, highlighted one positive outcome of the pandemic: “We’ve seen cases

groups, in addition to online platforms that were focused on delivering counselling to those affected by the pandemic; free online training courses were also provided to a lot of people.”

As regards the measures taken by authorities to minimize the damage inflicted on society by the crisis, she said: “Such measures were evident in the collaborations of different agencies to address the pandemic and its effects; a psychological support initiative has aimed to offer psychological support and counselling through a telephone line on issues related to the pandemic; people also share their achievements and ideas on social media, which sends a positive and reassuring signal to others and underlines a sense of

togetherness.”

Consequences for tourism

Dr. Masoumeh Al-Balushi - College of Arts and Social Sciences – underlined the importance of tourism as a key source of national income: “Many countries rely on tourism to generate income and provide jobs. The returns of tourism are economic as well as cultural.”

On the impact of the crisis on the tourism sector, she said: “There is no tourism right now, simply because there is no air travel and the movement of people has been restricted; but we can say that the crisis has also brought positive effects. What do we mean by this? One of the articles of the Tourism Ethics Code provides for freedom of movement, but this is obviously not possible currently. However, tourism does not only mean tours; it is still possible to get some products while you are restricted to one place. There are sectors that have shown extraordinary adaptability and resilience,

including the food and beverage industry, and especially small and medium-sized enterprises. If we look at the reality, we will find that large businesses have been adversely affected by the pandemic, while small enterprises have flourished during this period and have proven their ability to survive even under such conditions, and here we see a strange paradox, i.e. the survival of the smallest.»

She concluded her remarks by saying: “There will be no tourism until we recover from the pandemic, but with the gradual recovery, everyone will be able to get through this experience. Oman has a strong economy, advanced infrastructure of airports, airlines, modern roads, excellent hotels, archaeological and tourist places, diverse heritage cultures and customs, and spectacular deserts, seas and mountains. All of these can help domestic tourism to recover and advance with confident but cautious steps, and later foreign tourism will also return.»





**Dr. Arwa Zakaria AlRiyami – Senior
Consultant Hematologist at SQU
Hospital**

Steps and effects: Donating convalescent plasma

Issam Al-Fadheli did not know when he was returning from work that he would contract the coronavirus. The symptoms began to appear in him, at first a slight fever that went up the next day, aching bones, a headache, and then a sore throat and shortness of breath. The symptoms lasted for two weeks, then began to fade, but his experience pushed him to help others. He heard about the convalescent plasma donation program and thought to himself, "that's it!"

Issam reported to SQU Hospital to donate plasma. The necessary checks were done before he donated three times at the University's Blood Bank. Reflecting on the experience, he said: "It is a wonderful feeling, just thinking

the plasma may save a human life from the risk of the coronavirus."

In this context, Dr. Arwa Zakaria Al Riyami - Senior Consultant Hematologist at SQU Hospital - explained the mechanism of donating convalescent plasma for use in treating patients with Covid-19.

Al-Riyami said: "An invitation to donate convalescent plasma at SQU Hospital is normally sent to all individuals who have recovered from Covid-19 after at least 14 days have passed since they recovered from the symptoms and the quarantine period has ended."

She indicated that: "The blood donation process in general passes through various stages to ensure the safety of donors and

whether it is possible for them to donate; these stages begin with an interview with the specialist doctor to review the donors' health condition and get their approval for donating convalescent plasma; adequate tests are also made to see whether they are able to donate plasma and when, in addition to lab tests to ensure they are Corona-free and to determine the appropriate time for donation, including taking a swab and a blood test to measure the level of antibodies to the virus."

The doctor added:

"The donor file is transferred to the University Blood Bank where the test results

are reviewed and the donor is contacted to set a date for donation. The donor should meet the conditions for donating and be able to come to the bank, after making sure they have recovered from the disease, shown no symptoms, and made no contact with any Covid-19 patients, in compliance with the special conditions for donating blood under the Covid-19 pan-





dem. The donor is also provided with general advice before coming to the Bank to donate.”

Al Riyami went on: “There are general donation steps, including filling out a blood donation form, checking hemoglobin level, weight and pressure, and taking test samples for hepatitis B and C, immunodeficiency disease, and others. The plasma donation is carried out using a special device that collects the plasma in a special bag in a safe and sterile manner. This procedure takes about 30-60 minutes, during which about half a liter of plasma is collected.”

“Then, the plasma is separated into 2-3 units and is treated with a special pathogen inactivation technique to eliminate any viruses and microbes that may be present in it. The quality of the plasma and level of antibody

ies are also confirmed through special tests. The plasma is stored in the freezing machine of the blood units of the University Blood Bank until it is requested for treatment, as each patient needs approximately 1-2 units of plasma according to condition of the disease.”

She stated: “When a patient is likely to benefit from the plasma, and after getting appropriate approvals, the plasma is requested from the Blood Bank; then the plasma unit is removed from the freezing machine and thawed to room temperature, and then given to the patient intravenously. The patient’s condition is closely monitored, and their response determined. After donating, the donor is contacted to confirm their condition, and to set the next date for donation, as they can donate plasma

weekly, provided that the total number of donations does not exceed 4 times.”

Al-Riyami conducted an analytical team study at the International Blood Transfusion Society to develop recommendations to blood transfusion staff and researchers on the use of convalescent plasma, and identify knowledge gaps in the clinical application of its use.

In the study, the criteria for selecting donors and mechanism for plasma collection and preservation in blood banks in 22 countries on 6 continents were compared. The mechanisms and challenges in this process were compared in developed and middle- and low-income countries.

Key conclusions suggest that the use of convalescence plasma in Covid-19 patients should preferably

be within a clinical study, with a recommendation to start clinical studies on its use in the early period of the pandemic after evaluating the potential to collect it, and the expected benefits and potential risks. It should be used in the early stages of the disease, based on the experience of using plasma in the treatment of other viral infections, and it is important to ensure its safety in adult patients and children with Covid-19. Its efficacy should also be evaluated in comparison to other treatment alternatives, wherever possible.

It is worth noting that the University Blood Bank is part of a clinical study aimed to examine this type of treatment for patients with Covid-19. The research is being conducted by a team from SQU Hospital led by Dr. Zaid Al-Hinai.

Omani recovering from Covid-19 tells his story: "I moaned in pain as if I were on a battlefield"

Covid-19 is not just a disease, it is about recurring stories, tragic incidents and a growing number of victims with different experiences.

In these lines, Salem Al-Obaidani tells his experience with this tricky, nasty virus, which infected him and his parents and brother. They became bedridden for some time at SQU Hospital, but recovered thanks to the intensive care they received from the staff there. Here is his story:

I was plagued by the illness after interacting with a co-worker, who developed symptoms the day after coming in contact with me. Symptoms started appearing one after the other. It was one of the worst experiences I've ever had in my life; I had a fever, headache, diarrhoea, and body aches that made me bedridden.

"I was home quarantined for 3 days and was not able to go to the health centre for testing.

The situation got worse and one day I was surprised to see myself lying in the University Hospital, alongside my father, my mother, and my older brother. Things deteriorated rapidly, and I watched my father and brother struggling to breathe.

Unbelievable moments went by; we could hear groans of pain as if we were in a battlefield; a small curtain separated the beds, and the confusion of sounds of ven-

tilators, coughing and people calling out the names of their relatives and loved ones.

I was lying next to my father with my eyes fixed on the ventilator that counted his breathing rate and heartbeat. I was also worried about my mother who suffered from asthma and was fighting for recovery, and my brother who had been taken into the intensive care unit.

As days passed, I could only pray to God to end this struggle as mercifully as possible. My eyes were crying in pain, but I believed in my heart that God would have compassion on the sick. Days went by and my mother recovered and stayed next to my father, waiting for my brother to return from intensive care. Having gone through that horrible ordeal, I will never forget the angels of mercy at SQU Hospital who worked hard to take care of the afflicted day and night. Their wonderful words

and solemn sacrifices are unparalleled; I couldn't understand how they managed to show all that positive energy and help patients for twelve hours non-stop, wearing masks and protective clothing and loaded with breathing apparatus, just like soldiers making their way into a battlefield!

Masks on their faces, protective gear on their bodies, their families waiting for them, they worked tirelessly. Cheerfully, they roamed the Covid-19 patients' ward, wearing a smile and bringing hope to everyone. In this scene, I witnessed humanity in its greatest image. My mother was discharged from the hospital after more than 10 days, followed by my father two days later, and my brother returned from the intensive care unit, unconscious, with the ventilator-caused bruises still visible: a swollen face, exhausted body and loss of memory.

Gradually, my brother started to recover. His face was swollen and he was still on the oxygen delivery device, but with the recovery of his memory, physical health, and self-esteem, he was determined to abandon the breathing tubes and mask and stand on his feet. Day after day, he began to return to life, struggling to complete the breathing exercises and try to walk by himself. Eventually, he was able to do so without help and return to his wife and children.

A final word: you may draw your own conclusions from what I went through. For those who choose to disregard the directives of the Supreme Committee and the Ministry of Health, and think that the coronavirus is just a lie, I say this: I hope God guides you and bestows mercy on the victims, and that you never have to go through a similar experience.'



COVID-19 gene sequencing: initial results revealed

A research project funded by SQU's Medical Research Center (MRC) and The Research Council (TRC), has produced initial results of analyzing the full-genome sequencing of coronavirus (COVID-19). Dr. Fahad bin Mahmoud al-Zedjali, Assistant Dean of Research, said that in the second phase of the project - which is still ongoing - some 160 virus genomes were analyzed from individuals infected with mild, moderate and severe conditions.

He added that the analysis suggested the presence of some mutations in the virus genetic sequence, some known and some new, indicating that the research team was looking into the association between these mutations and clinical variants.

The study included designing a local laboratory test based on the virus genome of the initial samples, he said, adding that the test was being evaluated as a cheaper alternative to the current one being used.

The study aimed to analyze the viral strains in diagnosed cases in the Sultanate and include them in the global data of the virus strains within each country of the world, in order to understand how the virus spreads, the differences of its mutations, the association between such mutations and clinical variants, and their impact on the accuracy of lab tests.

The research team includes Dr. Samira Al-Mahrouqi - Medical Laboratories Specialist in the Ministry of Health (MOH) Central Public Health Laboratories - Dr. Fahad Al-Zedjali, and doctors from MOH and SQU.

A portrait of Dr. Fahad bin Mahmoud al-Zedjali, a man with a beard and mustache, wearing a white thobe and a purple and orange patterned ghutra. He is looking directly at the camera with a slight smile.

**Dr. Fahad bin Mahmoud al-Zedjali -
Assistant Dean of Research**

Measuring e-learning readiness in Oman's schools in collaboration with MOE

Ali Kadhem - College of Education

A research team led by Professor Ali Kadhem, College of Education, is conducting a research project designed to determine the degree of readiness of schools in the Sultanate to provide e-learning to their students in the face of the COVID-19 pandemic. The team will also look into the options available for schools to develop their e-learning capacity, including the availability of appropriate electronic equipment, teaching and administrative staff know-how in communicating with students electronically, and students' awareness and ability to use technology as a basic source of learning, and well as utilizing possible opportunities to overcome the challenges and apply this mode of education. Recently, e-learning has been

considered by many countries as an alternative means of education due to the coronavirus outbreak, said Professor Kadhem, adding that students can receive their education remotely without the need to be physically present at school or university. Explaining the research methodology, he said: "First, two main areas were identified: the readiness of schools to deliver e-learning, and the options available for implementing it. As far as readiness is concerned, three sub-areas were suggested, namely infrastructure, awareness and perception, and e-learning skills. Regarding the options, two sub-areas were highlighted: infrastructure and e-learning skills. Two questionnaires were set, one for teachers and one for students, with five options to

choose from; each tool included the goal of the project, instructions on how to respond, and an assurance regarding the confidentiality of respondents, and that the data would be used for research purposes only. The teachers' questionnaire included three demographic variables: gender, years of experience, and specialization; the students' questionnaire included gender, grade and school." He continued: "The tools were reviewed by 17 referees who are specialists in educational and psychological sciences working in higher education institutions and the Ministry of Education (MOE). All observations and suggestions were taken into account, e-copies were prepared, and the questionnaires tested."

The research project is likely to identify and establish the strengths of current practices, while at the same time diagnosing the weaknesses in order to overcome them. It also seeks to build appropriate overall strategies and bring together the efforts made by educational institutions to achieve the desired results of using e-learning. It is worth noting that the MOE has decided to merge the project with another project it started a short while ago targeting private education in the Sultanate. The team will review the project objectives, tools, and procedures in line with the Ministry's proposal to better serve education in the country.



COVID-19: SQU Hospital capabilities

In line with the national efforts to combat the spread of COVID-19, the University Hospital is dealing with the steady increase in virus testing by providing laboratory devices and tools that would improve the quality of testing to yield correct results in a relatively short time. By using such equipment, the country has been able to carry out thousands of tests to detect, trace and isolate infected persons.

MagNa Pure is used to automatically extract DNA from samples (such as swab and respiratory secretions)



Liferiver is used to automatically purify and isolate DNA from samples. Extracting DNA from samples is an essential step in molecular biology, prior to initiating a polymerase chain reaction (PCR). Polymerase chain reaction (PCR) is a basic molecular technique used to amplify a target sequence of DNA for easy detection in the lab device.



Besides other devices, Real-Time PCR QuantStudio is used to accurately and sensitively detect a portion of the DNA of the emerging coronavirus (SARS-CoV-2) and other viruses.





Digital solutions and medical supplies ... SQU graduates contribute to dealing with Covid-19

SQU not only provides education to its students, but also teaches them research skills and develops their potentials for innovation, whether during their studies at the University or even after graduation.

Nowadays, the Covid-19 pandemic has taken a toll on society as a whole, and so everyone is doing their best to mitigate its impact.

Below, we shed light on two examples of SQU graduates who have developed important products that have contributed to the efforts made by the public and private sectors to minimize the effects of the pandemic.

The first example

Othman Al Mandhari is chief executive of Innotech, an Omani start-up specialized in 3D printing services that produce medical supplies.

It started when Othman and his colleagues asked doctors to test the devices and define their specifications and standards so as to be practical and useful. Then they made sure the products were affordable and the materials available in the local market.

Having received the feedback from the doctors, they began manufacturing some experimental products, and after verifying their efficacy, they began the production of these important devices, including:

- Masks that protect people who interact with patients or those infected with the coronavirus and reduce the risk of infection transmission.

- An oxygen pumping device for ventilators.

- Diving masks that are used to isolate patients with ventilators completely.

- Vests that protect the medical and nursing staff as well as other employees against infection.

The second example

Azzan Al-Kindi, owner of Rahal, an Omani company specializing in data management, process automation and artificial intelligence, explained to us his experience with the Covid-19 pandemic, saying: "The company was established with the aim of addressing data-related challenges and improving efficiency and productivity, using up-to-date technology. When the Sultanate was affected by the pandemic, different institutions sought our service for projects that would enable employees to work from home to reduce the risk of contracting the disease."

He added: "To do this, Rahal has undertaken several projects of process automation in those

organizations, and while they allowed their employees to work from home, there were many tasks and operations that must be performed from the actual location of the institution, which exposes employees to the risk of infection. By automating these processes and tasks, employees were able to continue work from home, thus ensuring their safety. We've partnered with Petroleum Development Oman to help its digital operations to ensure business will continue during this pandemic."

Al-Kindi went on to say: "When the government decided to reduce the workforce in the workplace to 30%, tasks and processes piled up for large companies, so the automation of processes ensured cost saving and the efficient processing of pending transactions."



**Risk management:
constant efforts to
combat COVID-19**

As part of the efforts made by public and private institutions to deal with the repercussions of the COVID-19 pandemic, the University, through its Risk Management Office, has been keen to develop a recovery plan to ensure a full response and preparedness for sustained action, and full commitment to implement preventive measures and strict control to reduce the impact of the pandemic.

SQU has followed a path of its own, starting from a proactive move of crisis management. This has involved holding intensive meetings to set plans and ensure capacity and resources to deal with the challenges, being ready for all possible scenarios to contain the crisis, and implementing the measures taken in various aspects, as listed below.

Health and safety at SQU facilities:

- Intensive sterilization and cleaning of all facilities, including SQU cars and Muwasalat company buses.
- Installing hand sanitizers at elevators and at the entrances of buildings, and maintaining old ones; distributing many temperature measuring devices, hand sanitizer packages, gloves and masks to all Colleges and units at the University to avoid the transmission of infection; and providing antiseptic cleaners for surfaces and floors.
- Conducting a comprehensive survey of restaurants and cafes within the University, including restaurants in the female student dormitory, to ensure that preventive measures are applied

and health standards in the food served followed.

To increase awareness of the precautionary measures, the following steps were taken inside the University:

- Posters on preventive measures were drawn up in cooperation with the University Hospitals' educational committee, and distributed to all facilities, including residential compounds.
- Awareness-raising videos were prepared and produced in collaboration with the Center for Educational Technologies.
- Awareness-raising banners were designed and placed on illuminated street panels.
- Posters about standing distance were produced and given to various facilities.
- Guiding messages, both in Arabic and English, were sent to SQU contractors.
- SMS's were sent to employees and students to give advice and information about preventive measures.
- The Public Relations Department created a webpage posting all COVID-19 information provided by the University.
- An e-brochure was designed covering important questions and answers, and a guide on preventive measures against COVID-19 was prepared in both Arabic and English and published on the webpage.
- Tweets about SQU efforts in combating the spread of the virus were posted.

At the academic and student levels:

- Various units have undertaken

a set of initiatives to maintain the study on the emergency e-learning system in order to ensure the educational process is sustained under these circumstances.

- A revised academic calendar was announced following the impact of suspending studies in conjunction with the trend towards emergency e-learning; the academic aspects of implementing this type of education were explained, and academic support was provided to students in a way that facilitated progress in their study plan.
- An e-learning platform was designed and well equipped to serve the educational process; all Colleges have sought to develop and prepare the academic courses in a way compatible with the new method of distance learning.
- A non-academic page was designed on Moodle to communicate with students and upload the most important topics that Colleges want them to know about, which recorded a turnout of 10,200 students; it included stories that students from the College of Medicine and Health Sciences told about their experience under quarantine.
- Awareness-raising seminars (on topics such as the psychological dimensions of home quarantine, future anxiety, the keys to distance e-learning, etc.) were given to University students and the local community.
- A document on readiness for the academic year 2020/2021 was developed in collaboration with the Colleges, Deanships and other units.

Regarding exams:

- Halls and gymnasiums were equipped to receive applicants for the position of teacher at the Ministry of Education, and to conduct summer semester exams for SQU students, as well as aptitude tests for the College of Education and College of Arts and Social Sciences, while taking preventive measures to regulate entry and exit movement in the halls, and keeping physical distance during exams.

The plan for employees' return to workplace:

- The plan deals with key principles that must be followed for the return of academics, administrators, technicians, employees and contracting companies, while ensuring full compliance with preventive measures to reduce the impact of the pandemic; this is achieved through applying precautionary restrictions in accordance with the standards and requirements announced by the Supreme Committee in charge of the mechanism for dealing with the developments following the spread of the Covid-19, which included reducing the number of employees in the working place to the minimum necessary to do the work, based on a percentage decided by the Supreme Committee, while allowing the rest to work remotely.
- SQU has developed 24 projects to cover all aspects, gaps and challenges created by the pandemic; they are being implemented by specialized University teams.



MRC Director:
We are supervising
10 COVID-19
projects

Research centers are cultural phenomena in societies whereby research, specifically in the area of health care, is much appreciated. Biomedical and clinical research is an integral part of quality health care. Over the past several decades, significant scientific and technological advances have been made in biomedical and clinical research that have helped to improve health care.

SQU has paid special attention to this field and, consequently, has established the Medical Research Center (MRC) to integrate the expertise of researchers and clinicians from different scientific disciplines and sustain advanced biomedical research.

Dr. Khalid Al Rasadi, MRC Director, said that the establishment of the Center was based on a proposal submitted by the College of Medicine and Health Sciences (CMHS), and approved by the University Council in December 2017. He added that the

centralization of research in various disciplines of medicine provides the necessary connectivity within the general and clinical scientific community. For years, biomedical and clinical research has been, and continues to be, an integral part of the activities of the CMHS, College of Nursing (CN) and SQU Hospital (SQUH) at the University. However, several challenges still face medical interdisciplinary research at SQU. These include inaccessibility of essential high-tech and expensive equipment, a lack of administrative and laboratory core services, and a suboptimal environment for collaboration and communication among researchers and clinicians. The Medical Research Center aims to bring together the researchers in the biomedical and clinical fields in SQU and other relevant bodies and provide an optimal environment for collaboration and interdisciplinary research.

Al Rasadi pointed out that the

Center has as its goals to conduct, coordinate and facilitate high-quality research on themes that are especially relevant to Oman and Omani health issues, with a focus on translational research linking basic biomedical research to clinical practice. The MRC will serve the needs of diverse groups of researchers from the CMHS, CN, SQUH, SQU colleges and research centers, and other concerned organizations in Oman. The MRC aims to improve and expand medical and biomedical research at SQU both in quality and quantity, support the development of steady and advanced collaborative research, and contribute to the expansion of postgraduate studies. Thus, the MRC will nurture a strong collaborative and productive research output and promote a culture of health research in the country. The center will also encourage and be involved in international multicenter clinical trials. Its

activities and functions will be driven by the SQU Strategic Plan of "engaging in internationally recognized research that significantly contributes to the Sultanate's socio-economic development through the generation of knowledge and innovation."

As for the vision, mission and roles of the Center, he said that its vision is "to be a leading regional Medical Research Center recognized internationally"; the mission is "to carry out advanced medical research, coordinate medical research facilities and expertise at SQU, and create a scholarly environment conducive to innovation and excellence in the research, and promote research collaboration"; and its roles are:

- 1- To perform world-class basic translational and clinical research in a centralized facility that is relevant to and appropriate for the cultural traditions of Oman.**
- 2- To organize, coordinate and**





carry out research of particular interest to the Sultanate and the region.

3- To support the professional development of the medical professionals and scientists in research and promote a research culture.

4- To integrate and collaborate with national, regional and international institutions/ organizations to enhance the activities of the Center and medical research in SQU, and provide evidence-based advisory services in the area of medical research and development to government and other local institutions.

5- To disseminate information depicting the activities of the center in various fields of research, and to support research capacity building for Omani academicians and

medical professionals.

6- To raise awareness about health research issues among different sectors of the public.

He indicated that the MRC has collaborations with internal and external agencies, the internal being the CMHS, CN, Communication and Information Research Center (CIRC), and the Center for Environmental Studies and Research (CESR), while the external agencies include the Center of Studies and Research at the Ministry of Health, Dhofar University, WHO, and the King Hussein Cancer Center.

He stressed that the Center has an important role in SQU's efforts to combat COVID-19 as it supervises 10 of the 17 research projects that have won funding from COVID-19 Research Program. These projects are:

1. "Convalescent plasma for

treating COVID-19: a clinical study," by Dr. Zaid Al-Khattab Al-Hinai.

2. "Genome analysis of the emerging coronavirus, and genetic correlation analysis with clinical variables," by Dr. Fahd Mahmoud Al-Zedjali.

3. "The correlation between cytokine levels, lymphocyte subgroups, and ferritin, and between the severity and outcome of corona infection," by Dr. Kholoud Ali Al-Maamari.

4. "Emergency response for COVID-19 patients through advanced triage and remote clinical consultations," by Dr. Mahmoud Saif Al-Jafli.

5. "Electronic psychotherapy during the COVID-19 pandemic, an open refereed study," by Dr. Hamad Nasser Al-Senawi.

6. "Developing a new method for exploring the specific indica-

tors for diagnosing COVID-19 by CT scan at the University Hospital," by Dr. Yassin Bouchareb.

7. "Identifying symptom-free carriers of COVID-19 among health care workers at SQU Hospital," by Dr. Amal Nasser Al-Shibli.

8. "The Impact of the COVID-19 pandemic on the Omani economy," by Dr. Ashraf Saad Eddin Musharraf.

9. "The use of the anti-interleukin-1 (Anakinra) drug in patients suffering from severe COVID-19 at SQU Hospital," by Dr. Abdullah Abdul-Rahman Balkhir.

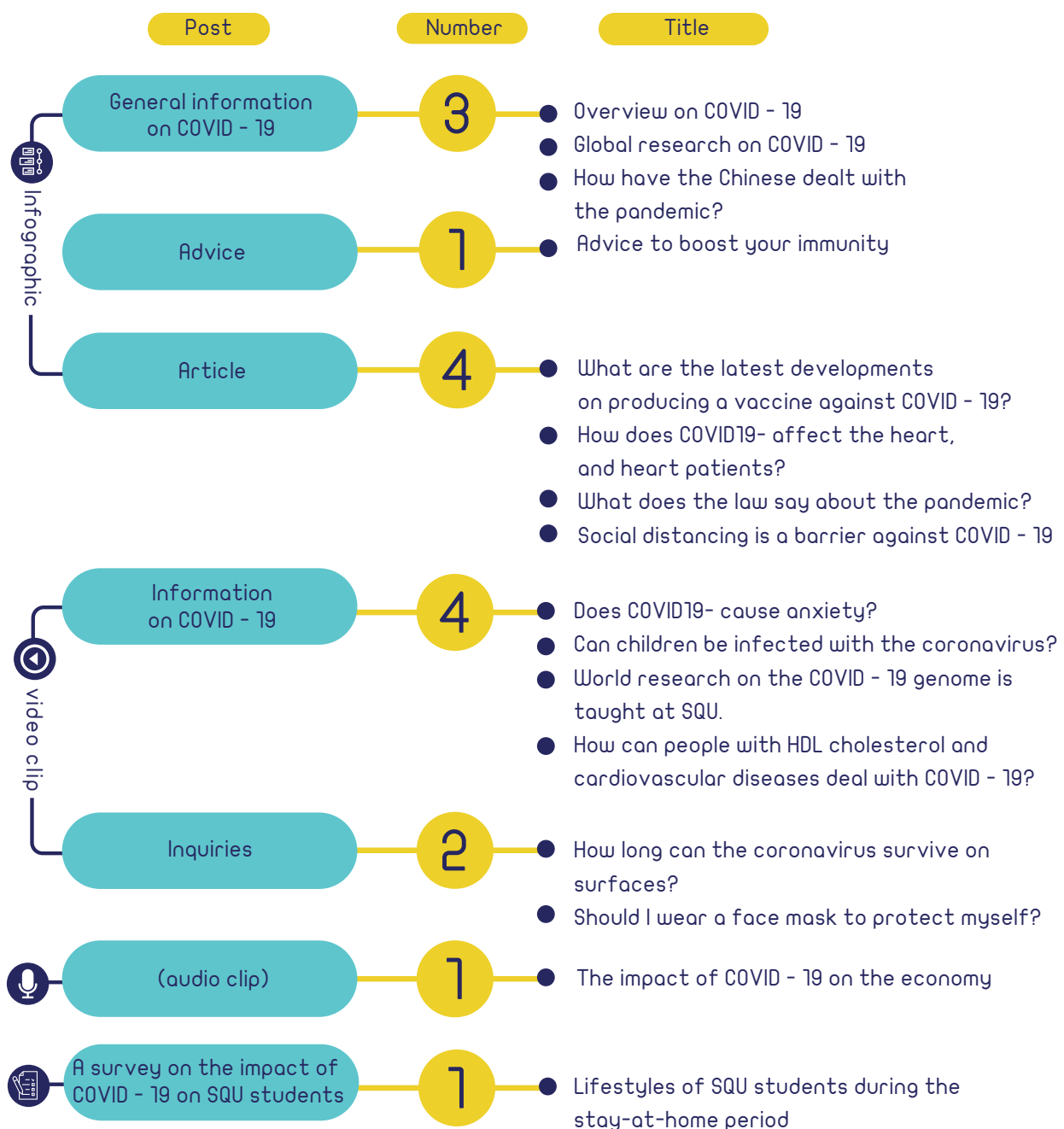
10. "Cardiovascular manifestations of patients with COVID-19 and their association with outcomes, complications and death during in-hospital treatment," by Dr. Fahad Al-Kindi.

COVID-19 tweets reflect community-wide interactions

The Deanship of Research's accounts on social media have witnessed a high level of interaction, as they have been among the most important sources that readily provide information to users. There have been over ten thousand followers on

Twitter, with 16 tweets on COVID-19 offering general information, tips, articles, educational and research videos. They also cover questions answered by SQU Hospital doctors specializing in infectious diseases, in addition to a survey on the effects

of the pandemic on University students. The Deanship's page was highly appreciated by readers and followers for the efforts made to raise awareness among the community.



COVID19



Wear a mask



Wash hands



Boil your food



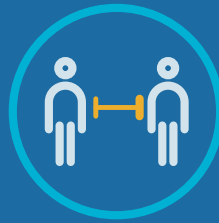
Avoid contact



Use soap &
Antibacterial gel



Cough into
your elbow



Keep your
distance



Get adequate sleep