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THE ERA OF PERSONALIZED MEDICINE DRAWS CLOSER.

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Secrets of the date palm

Predicting the gender of the date palm could have huge implications for agriculture and horticulture.

Researchers Lisa Mathew, Yasmin Mohamoud, Joel Malek and Karsten Suhre.

Researchers at WCM-Q can now predict whether a date palm seed will produce a male or female plant with effectively 100 percent accuracy – with huge implications for the commercial use of the plant.

The team led by Dr. Joel Malek, assistant professor of genetic medicine and director of the Genomics Core at WCM-Q, already knew that the sex of the date palm plant is determined by the XY system, whereby the male of the species determines the sex of the offspring, similar to the way that human gender is determined. They also knew that a large region of genes appeared to be always associated with gender but were unclear on the specific DNA responsible.

That uncertainty has now been solved, and in doing so the research team has discovered how to predict the sex of all 14 palm tree species within the Phoenix genus – the genus that contains the date palm. They did this by decoding the genome of each species to calculate which genes appeared in the male plants but not the females.

Dr. Malek said: "The mechanism was narrowed down to four genes that every male plant in the entire genus had, but that were absent in the female plants. Essentially, those four genes are responsible for a tree producing pollen."

He added that the Phoenix genus was one of only a few examples where the sex determinants are the same across the entire genus.

The discovery, which has been reported in the high impact journal *Nature Communications* could have major implications for both commercial agriculture and horticulture.

For farmers growing date palms and harvesting the fruit, it is important to have as many female plants as possible to maximize crop yields. Conversely, city planners and landscape gardeners who plant palm trees for aesthetic reasons prefer male plants, as they do not produce fruit which must be cleared up when it drops.

Dr. Malek said: "Farmers must traditionally wait four or five years to discover whether the trees that they have planted will yield fruit or pollen so genetic testing of the seeds can ensure a high ratio of female plants are grown, with only a few male plants being cultivated for pollination purposes.

"At the same time, the genetic test can be used on other species in the genus that are also important such as the Canary Island date palm which is extremely widespread in the world at large for landscaping."

Future research will see Dr. Malek and his team identifying the genes which control features such as the date's size, sweetness and texture, along with its resistance to certain diseases and stress factors like drought.

Dr. Malek thanked Qatar National Research Fund (QNRF) as the study was only made possible by grant NPRP-EP X-014-4-001 from QNRF, a member of Qatar Foundation.

Al Ahli signs with WCM-Q

Education affiliation agreement means medical students will receive experience of cardiac investigations and healthcare.

Dr. Thurayya Arayssi, Al Ahli CEO Khaled Emadi, and Dr. Robert Crone.

Students will now be able to take electives at Al Ahli Hospital's Heart Center following the signing of a new affiliation agreement.

The agreement was signed by Khaled Emadi, the CEO of Al Ahli Hospital, and Dr. Abdurrazzak Gehani, chairman of Al Ahli Heart Center, with Dr. Robert Crone, WCM-Q's vice dean for clinical and faculty affairs, and Dr. Thurayya Arayssi, the college's senior associate dean for medical education, signing on behalf of WCM-Q.

The agreement outlines the rules and regulations for WCM-Q students that allows them to take an elective at the Heart Center. The college's trainee doctors will experience bedside clinical teaching, as well as attending all investigations carried out in the center, including procedures in the cardiac catheterization laboratory, and open-heart surgery. The program will be directed by Dr. Gehani with the teams in the Heart Center. Patients' privacy, confidentiality, dignity and consent will be at the center of all conduct, as is the standard in all teaching institutions.

Khaled Emadi, Al Ahli Hospital's CEO, expressed his delight at the signing of the affiliation with WCM-Q, which provides an educational opportunity for medical students and affirms the culture of proper medical practice, while also raising the standards of service. He also affirmed the commitment of Al Ahli Hospital towards excellence in the fields of medical training and education.

Mr. Emadi added that Al Ahli Hospital has included training and education among its development aims for the institution, and wants it to operate as a teaching hospital so that it contributes to the education of medical students in Qatar. The hospital's efforts are to advance medicine, and medical education has a fundamental role in this goal.

Mr. Emadi further emphasized that Al Ahli Hospital is always ready to contribute to medical education in Qatar and, as a private institution, believes that such contributions are at the very core of the hospital's social responsibilities towards the State of Qatar.

Dr. Crone said affiliation agreements are vitally important for doctor training.

He added: "The agreement with Al Ahli Hospital Heart Center provides a new training dimension for our students, allowing them to learn from experts and to experience both complex and basic medical procedures provided to the people of Qatar in the private sector.

"Weill Cornell Medicine's agreements with all of our affiliate institutions are incredibly important to the education of our students, and their support ensures we graduate doctors who deliver world-class healthcare to the people of Qatar and beyond."

Dr. Thurayya Arayssi, senior associate dean for medical education, said the agreement would bring real benefits for students, doctors and patients.

She said: "We are extremely happy to be forming this important new collaboration between WCM-Q and Al Ahli Heart Center, two elite institutions that share the same commitment to providing excellence in patient care. We are excited by the benefits that this collaboration will bring to patients, healthcare professionals and our students as we move forwards."

Dr. Gehani, the chairman of Al Ahli Heart Center, added that there is a keen interest from all parties to aim for the highest standards of patient clinical care and that medical education is the main pillar that guarantees healthcare advances in hospitals and specialized centers around the world.

Representatives from both institutions explained how the affiliation agreement would benefit them.

Humanities and medicine

Students and faculty at WCM-Q express their artistic passions in new book.

Hanof submitted an example of Arabic calligraphy.

Medical students and faculty at WCM-Q have contributed work to a new volume of art and poetry designed to be a reminder of humanism and its importance to life and medicine.

The book – *Ascensus, A Journal of Humanities* – is produced at Weill Cornell Medicine in New York, and is now in its seventh iteration. The volume features artwork, poetry, and essays and is an outlet for students and faculty members who are increasingly focused on the scientific world, yet who wish to express and explore their creative and artistic talents.

Hanof Ahmed, who will graduate in May, was one of those who was published, submitting a painting of a kingfisher and an example of Arabic calligraphy. Hanof has been painting for many years and has recently set up an art club at WCM-Q. She said art transcends nationalities and language barriers and has health benefits as a stress release therapy.

She said: "It's a method of getting away from all the daily stresses by focusing purely on the task at hand. Transforming an empty canvas to a beautiful painting absorbs negative energy and clears my mind."

Hanof added that art also adds huge value to her medical work.

"Being an artist fosters a holistic approach to life through critical and creative thinking," she said. "Isn't that what medicine is all about? Being able to deliver patient-centered care is pivotal and a vital aspect of medical practice. Not only does it change my outlook on medicine but the visual aspects of the practice become clear. For example, reading X-rays or looking at ultrasounds becomes an easy task by reading the lines and variations in color, shapes, and intensities. I believe that being a concurrent artist in the medical field is an asset and art should be encouraged for stress relief and revelation."

WCM-Q's Dr. Mohamud Verjee, associate professor of family medicine in clinical medicine and assistant dean for medical student affairs, submitted three examples of his poetry for publication, while Dr. Sohaila Cheema, director of the Institute for Population Health at the college and assistant professor of healthcare policy and research, provided an example of her photography.

Dr. Verjee said the humanities have a vital role to play in the healthcare sector.

"Medicine is often seen as an exact science – a patient is ill, they are given a specific therapy or treatment which reacts with their body in a certain way, with cure being the expectation. However, medicine is much more nuanced than that and relies integrally on human relationships and interaction. This factor includes the doctor-patient relationship and also the multitude of interdisciplinary relationships that are formed within a consultation to ensure a patient receives the very best of care. The arts and humanities are there to remind all physicians that medicine is practiced in the real world, a world in which stress, poverty, wealth and emotions all exist and that doctors should always be aware of the potential need for a holistic approach to healing their patient."

Alumnus made chief resident

WCM-Q graduate will lead a group of pediatricians at elite US teaching hospital.

Dr. Awab Ali Ibrahim has been appointed chief resident.

An alumnus of WCM-Q has scored a double success by being appointed chief resident of his residency training program and winning the program's Student Teacher Award.

Dr. Awab Ali Ibrahim, who graduated WCM-Q in 2012, was made chief resident following his successful completion of the three-year pediatric residency training program at the University of South Alabama College of Medicine in Mobile, Alabama.

The position of chief resident carries great responsibility and demands not only exceptional clinical skills but also superior leadership and organizational ability. In this new position, Dr. Ibrahim will remain at the University of South Alabama for a further year and will be leading a group of doctors on the pediatric residency program, overseeing their progress, serving as their mentor and advocate, and ensuring that the program's high standards are met.

Dr. Ibrahim said: "I'm extremely proud and happy to have been made chief resident - it's really an exciting start to the next phase of my career. I love my residency program, the community here in Alabama and the children we work with, so I am absolutely delighted to be staying for another year.

"We serve a lot of children who come from less privileged backgrounds and I am very pleased that I will be staying so that I can continue to try to give something back to Alabama, which has given me so much."

Of the Student Teaching Award, Dr. Ibrahim said: "Teaching is one of my passions. I love it, it's so rewarding and fun, so I feel very fortunate to be honored like this for doing something that brings me so much pleasure. I aim to go into academic medicine so I hope I can continue to develop as an educator."

Originally from Sudan, Dr. Ibrahim arrived in Qatar in 1996. He hails from a medical family.

"I saw the dedication of my parents to their patients and how rewarding they found their work," he said. "That is what attracted me initially. But after that, it was just curiosity and a need to understand things. I'm a simple person and I wanted to take all this complex information and understand it in simple terms. To me, that's what medicine is about. Making complex things simple so that we can understand them and take action. I think that's an important process for patients, too."

Following his graduation, Dr. Ibrahim, a keen researcher, joined the lab of WCM-Q's associate dean of research, Dr. Khaled Machaca, where he worked on a project investigating microvilli and published a paper with Dr. Raphael Courjaret, WCM-Q's assistant professor of research in physiology & biophysics. Dr. Ibrahim then moved to the Harvard laboratory of Dr. Alessio Fasano, one of the world's leading experts on celiac disease research, developing an abiding interest in gastroenterology, the microbiome and the impact of diet on health.

Looking to the future, Dr. Ibrahim, hopes to take a fellowship in pediatric gastroenterology and pursue research in this field.

He said: "Obesity and diabetes are emerging as two of the biggest healthcare challenges facing children today. As such, I would like to spend a major part of the rest of my career conducting research and making innovations to improve children's health and healthcare, with a particular focus on gastroenterology, the microbiome and the role of diet."

Dr. Thurayya Arayssi, senior associate dean for medical education at WCM-Q, said: "Being made chief resident is an absolutely fantastic achievement and we are very proud of Dr. Ibrahim. It is extremely gratifying to see him making such a positive difference to the lives of his patients and to the young doctors he is now guiding."

Surgeon takes part in innovative cancer treatment

There are hopes that the procedure, which involves 'washing' the abdominal cavity with chemotherapy drugs, could be introduced in Qatar.

Dr. Arash Rafii Tabrizi.

A doctor at WCM-Q hopes to bring an innovative form of surgery for ovarian cancer to Qatar in the hope of improving survival rates among women.

Dr. Arash Rafii Tabrizi, professor of genetic medicine in obstetrics and gynecology at WCM-Q, recently took part in a new surgical protocol in France that has only been in use for a few months. Doctors believe that it may improve the survival rate of patients with ovarian cancer and Dr. Rafii Tabrizi would like to work with local stakeholders to set up an innovative program for advanced ovarian cancer management and introduce the new personalized medicine approach in Qatar.

Dr. Rafii Tabrizi explained that ovarian cancer is the deadliest form of gynecological cancer, with patients who are diagnosed when the disease is at an advanced stage only likely to live for three or four years. This is compared to breast cancer which has a survival rate of 80-90 percent.

"For the last 10 years, my laboratory, supported by Qatar Foundation through both the biomedical research program and the Qatar National Research Fund, has examined the relationship between the peritoneum and cancer cells. We have identified that the peritoneum cells become activated during surgery and this reaction is hijacked by the cancer cells to evade the chemotherapy drugs. So, we have to disrupt this relationship to improve the chances of destroying the disease."

The reason that the prognosis for ovarian cancer is so poor is that it develops in the abdomen. As this is such a large cavity, the symptoms often go unrecognized until the cancer is at an advanced stage and it has spread throughout the body.

Currently, the standard treatment is surgery to remove all tumors, followed by intravenous chemotherapy, but recurrence of the disease is common and Dr. Rafii Tabrizi believes this is because microscopic cancer cells are able to hide in the peritoneum.

Dr. Rafii Tabrizi said: "Most patients will experience a recurrence of the disease within three years following the operation and will then require additional chemotherapy and sometimes surgery. Because of the high prevalence of relapse, it adds credence to the theory that the peritoneum - the membrane that lines the abdominal cavity and surrounds the internal organs – provides cancer cells with a refuge in which they are protected from the chemotherapy drugs.

"For the last 10 years, my laboratory, supported by Qatar Foundation through both the Biomedical Research Program and the Qatar National Research Fund, has examined the relationship between the peritoneum and cancer cells. We have identified that the peritoneum cells become activated during surgery and this reaction is hijacked by the cancer cells to evade the chemotherapy drugs. So, we have to disrupt this relationship to improve the chances of destroying the disease."

Dr. Rafii Tabrizi explained that in 2004 he became involved with the concept of HIPEC - hyperthermic intraperitoneal chemotherapy – in advanced ovarian cancer. This involves heating the chemotherapy drugs and then applying them directly to the abdominal cavity rather than delivering them intravenously. The heat provides a shock to the cancer cells

which leads to cell death, and applying the chemotherapy directly to the abdomen allows it to be delivered in a higher concentration than delivering it through the veins. Unfortunately, though, the technique was not effective.

However, doctors still believed the peritoneum to be the key, so the process has been changed; in order to reduce the shock to the patient's body, the temperature of the chemotherapy drugs has been reduced by two degrees to 40 degrees.

The new protocol has now been in use for a few months, and Dr. Tabrizi took part in his first operation using it at the University Hospital Foch which is just north of Paris.

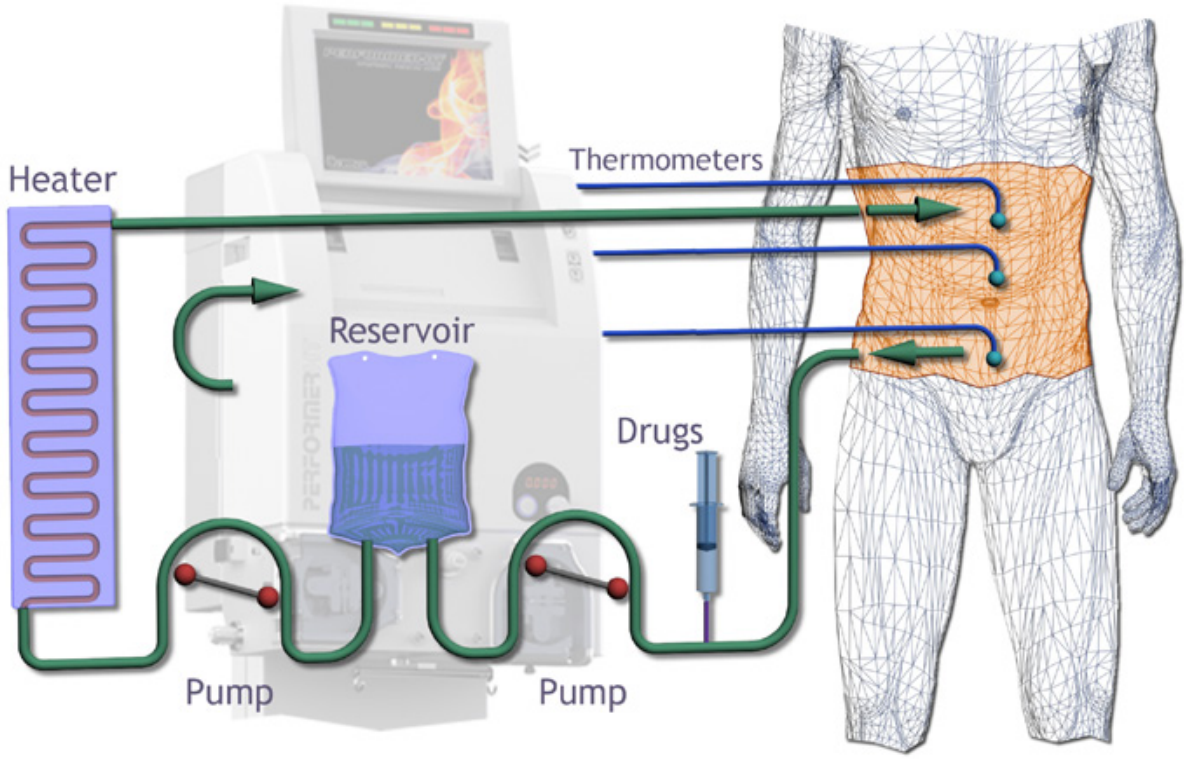
The operation involved meticulous teamwork with surgeons and anesthesiologists, and lasted nine hours in total. The patient, who is in her 60s, had an advanced form of ovarian cancer and was carefully selected for her suitability for the procedure. She was also placed on a strict exercise regime before the operation to ensure she was as physically fit as possible. Dr. Rafii Tabrizi said the woman is now out of intensive care but that it is a waiting game to see if the cancer returns.

He is, however, optimistic.

He said: "The theory is that there are just microscopic cancer cells left in the peritoneum after surgery to remove the visible tumors, so we literally saturate the abdominal cavity and organs with the chemotherapy drugs.

"My ambition now is to work with local stakeholders and bring the procedure to Qatar. So far, this procedure has only been carried out in a few countries but given the severity of ovarian cancer we need to offer patients every chance possible of increasing their lifespan or even beating it altogether."

Dr. Rafii Tabrizi in the operating theater.



Hyperthermic Intra-Peritoneal Chemotherapy (HIPEC)

Research boosts personalized medicine

The work may eventually allow doctors and scientists to predict the chances that an individual will contract a specific illness.

Dr. Khalid Fakhro and Dr. Noha Yousri.

A collaboration between WCM-Q researchers and colleagues from Sidra Medicine and Weill Cornell Medicine in New York, has made important new discoveries about genetic variations that affect the human metabolism, which could eventually help make diagnoses and treatments more effective.

The researchers analyzed the genetic material and the metabolisms of 1,000 Qatari subjects to identify links between genetic variations and metabolism. While similar research has previously been carried out in European populations, this is the first time that such a large study of this kind has focused on an Arab population.

The study, which has been published in the leading scientific journal *Nature Communications*, sheds light on the role of genetic differences between people and their ability to metabolize certain molecules from food. Some of these genetic differences may explain why people have different risks of developing metabolic disorders, such as diabetes and cardiovascular disease.

The research has established a high-quality data resource that will aid diagnosis of inherited diseases in Qatari and other Arab populations, as well as helping physicians identify targets for personalized treatments tailored to the individual genetic and metabolic profiles of patients.

The paper, entitled 'Whole-exome sequencing identifies common and rare variant metabolic QTLs in a Middle Eastern population' has two joint first authors: Dr. Noha A. Yousri, adjunct assistant professor of genetic medicine at WCM-Q, and Dr. Khalid Fakhro, director of human genetics at Sidra Medicine and assistant professor of genetic medicine at WCM-Q.

Dr. Yousri said: "While previous studies of this type – known as Metabolomics Genome Wide Association Studies (mGWAS) – have been conducted in Caucasian populations, none had looked at Middle Eastern populations. Our motivation was to do a similar study for Qataris to understand how genetic variations affect metabolite levels in both healthy and disease states in this population. However, the use of an enhanced technology - whole exome sequencing - facilitated studying the effect of functional variants, in particular, on moderating metabolic pathways."

She added: "This study is the first of its kind to be conducted in a Middle Eastern population, and will benefit the whole region. It will eventually allow us to predict the likelihood that individuals will develop certain diseases, and also point the way towards more effective personalized

medicine. It also paves the way to future collaborative efforts with key institutions in Qatar to integrate different omics data, as epigenetics and others, with genetic variants for enhancing disease treatment in this population."

The researchers used a technique called whole-exome sequencing (WES) to analyze the exome - the part of the genome that contains all of the protein-coding genes. They then used a technique called high-resolution metabolomics profiling to map the metabolic processes taking place in each individual. In total, 1,303 metabolites were analyzed. The two datasets were then compared using high-performance computers to pinpoint associations between metabolic disorders and genetic variants in particular positions on the chromosome, known as 'loci'. In total, the study discovered 21 common genetic loci and 12 rare loci, 45 percent of which were completely new discoveries, presumably specific to Qatar.

The study is the latest in a series of research projects led by WCM-Q and Weill Cornell Medicine in New York focusing on the Qatari genome. A previous study broke new ground by gathering vast amounts of genetic data from a large sample of the Qatari population and establishing a reference genome - an essential resource for understanding the nature of disease in a population and as a basis for personalized medicine.

Dr. Fakhro said: "The take-home message is that genetics alone may not give a complete picture of health and disease, and metabolomic analysis can play a significant role in filling the gaps. Our work lays down an initial map of what a 'healthy Qatari metabolic profile' looks like, and can serve as a baseline for future studies against which 'disease states' can be compared."

He added: "Generating these profiles for 1,000 Qataris is a follow-up to our previous work studying Qatari genomes and performing large-scale analysis for the population. Our aim is to contribute these discoveries to the larger biomedical research enterprise in Qatar, which together will form the foundation on which precision medicine will be built in the country. This is also embedded in Sidra Medicine's approach to personalized care for the women, children and young people in Qatar."

Other key contributors to the study were Dr. Karsten Suhre, professor of physiology and biophysics & director of the Bioinformatics Core at WCM-Q, and Dr. Ronald Crystal, professor and chairman of the Department of Genetic Medicine at Weill Cornell Medicine in New York.

Dr. Suhre, a pioneer in the field of metabolomics, said: "It is extremely pleasing to be able to unite the two disciplines of genomics and metabolomics in a single study in this way. By studying the associations between genes and the metabolism we are able to understand the nature of disease far more comprehensively."

Dr. Crystal, one of the world's leading genetic medicine experts, said: "Previous studies like this have mainly focused on Caucasian populations. While the Qatari population has essentially the same genes, the variations that cause disease

Dr. Ronald Crystal.

are different from those of the Caucasian populations. As such, this study not only advances personalized medicine in the Middle East but also increases our understanding of how genetic diversity influences inherited disease."

The study was supported by the Biomedical Research Program at WCM-Q, with funding from Qatar Foundation. It was also supported by Qatar National Research Fund grants 09-740-3-192, and 09-741-3-793 and in part by 7-272-1-041.

Dr. Karsten Suhre.

WCM-Q inspires the doctors and scientists of tomorrow

Students were able to try out the college's anatomage table.

Hundreds of high school students and their families visited WCM-Q's annual community outreach event to learn more about science and medicine.

Medicine Unlimited is WCM-Q's premier student outreach event and is designed to give prospective students - or those who are simply curious about medicine - an insight into life at the college and a chance to meet faculty, students and staff and ask them any questions they may have.

Held on Saturday 10 November, visitors were also able to tour WCM-Q's state-of-the-art facilities, visiting the biomedical research laboratories and hearing from representatives of WCM-Q's various divisions. Stalls were set out in the north and south halls of the WCM-Q building covering medical topics like ophthalmology, human anatomy and global and public health, but also other topics like chemistry, physics and biology, writing skills and information on the admissions procedure.

WCM-Q's student clubs had a good share of activities at the event this year, including the Debating Club, the Pediatrics Interest Group and the Family Medicine Interest Group. Additionally, Hamad Medical Corporation and Sidra Medicine offered screening and hands-on activities to parents and families.

Dr. Rachid Bendriss, assistant dean for student recruitment, outreach and foundation programs at WCM-Q, said: "Medicine Unlimited is one of the highlights of our year as it allows us to showcase the outstanding teaching facilities that we can offer students, but it also allows us to meet literally hundreds of students who have an interest in becoming doctors or who are just passionate about science. It is always so rewarding to meet young people who are ambitious, forward-thinking and who want to make a real difference to the world in which they live.

"I hope that we have done their enthusiasm justice and that they sensed our own excitement about scientific discovery, knowledge and healthcare, and I look forward to perhaps seeing some familiar faces at the beginning of the 2019 academic year."

Students who attended Medicine Unlimited were able to engage in hands-on simulations in basic science labs, interact with faculty, students and staff in a very friendly atmosphere and win prizes by answering the 'Test Your

"Medicine Unlimited is one of the highlights of our year as it allows us to showcase the outstanding teaching facilities that we can offer students, and it also allows us to meet literally hundreds of students who have an interest in becoming doctors or who are just passionate about science."

Information' quiz questions. Medicine Unlimited has been a yearly tradition since 2008, and continues to be the most vibrant on-campus event bringing the whole WCM-Q community together to attract hundreds of prospective students passionate about science and medicine.

The opening remarks of the event were delivered by Ramin Sedehi, WCM-Q's chief administrative officer, who is also a frequent speaker and author on issues facing higher education, academic medicine and organizational transformation. Mr. Sedehi shared his wisdom about career exploration and following one's dreams. The event was presented by medical students Tala Abu Saman, Malik Mushannen and Ramez Boudair.

Year 12 student Mohammed Yousef Al Ansari, from Tariq Bin Ziyad Secondary School, said it had been a really informative event.

He said: "I would like to thank everyone who organized Medicine Unlimited as it has provided me with detailed information about the admissions process and taught me a lot about the curriculum and what I can learn about at WCM-Q."

WCM-Q alumnus Dr. Mohammed Al Hajajji is currently working as a pediatrician at Sidra Medicine and Hamad Hospital, but volunteered at Medicine Unlimited to help inspire future students.

Dr. Al Hajajji said: "I volunteered to encourage secondary students in Qatar to begin their medical studies and to familiarize them with pediatrics as a specialty. I wish success for all the participants, and I hope they have enjoyed Medicine Unlimited and that it will help them choose their future career."

The college's six-year medical program comprises two years of pre-medical training and then four years of the medical curriculum. There are also many research opportunities. WMC-Q also offers a year-long foundation program, which gives students a thorough grounding in English, math and the basic sciences to prepare them for the six-year medical program.

WCM-Q awards its graduates a US-accredited degree-exactly the same as those who graduate from Weill Cornell Medicine in New York. It is also the only university outside the US to do so.

Dr. Rachid Bendriss said Medicine Unlimited is a highlight of the year.


A visitor tries out her pipetting skills.


Stalls were set out offering guests different experiences of medicine and science.

Global award for Sahtak Awalan

WCM-Q's flagship health and sustainability campaign takes the national honors from a global environmental organization.

The award was presented for initiatives like Khayr Qatarna.

An international environmental organization has presented WCM-Q's Sahtak Awalan – Your Health First campaign with a prestigious award for sustainability.

The Energy Globe Foundation, which is based in Austria, announced that Sahtak Awalan was the 2018 winner of the Energy Globe Award for the State of Qatar. The prize honors projects across the globe that raise awareness about the sustainable use of resources and which make a real difference to the future of our planet.

Nesreen Al-Rifai, chief communications officer at WCM-Q, said it was a great honor to have been selected and testament to the valuable work that Sahtak Awalan is doing in the community.

Ms Al-Rifai said: "Sahtak Awalan is helping to change the health and sustainability landscape in Qatar through a multitude of projects that are improving people's lives but also mitigating the environmental impact that we have on the world around us.

"We have a duty to our children to create sustainable lifestyles that will protect both their health and the environment and Sahtak Awalan is helping to do this."

Ms Al-Rifai also thanked the campaign's strategic partners for their incredible support.

She said: "Our governmental and corporate partners provide invaluable backing and I would like to thank everyone at Qatar Foundation, the Ministry of Public Health, the Ministry of Education and Higher Education, the Ministry of Environment and Municipality, Occidental Petroleum, ExxonMobil, and the Supreme Committee for Delivery and Legacy for their belief in the campaign."

Initiatives launched by Sahtak Awalan include The Color Run, Yalla Natural and Project: Greenhouse, which has built 130 greenhouses in local elementary schools to teach children how to grow fruit and vegetables, and the importance of including them in their diet. This has been taken to the next level by the new phase of Project: Greenhouse, Khayr Qatarna, which was launched in February. This has seen 10 large-scale greenhouses erected in local schools and fruits and vegetables grown on a commercial scale. The produce is then sold under the Khayr Qatarna brand at local supermarkets with all proceeds being reinvested in the scheme so that it can be expanded to include more schools.

The mission and vision is to support Qatar's drive for food security, but also to improve sustainability by reducing food miles. The scheme also teaches students about agriculture and economics.

This year, more than 182 countries participated in the Energy Globe Awards and there were over 2,000 entries. With such strong engagement, the award is considered to be the most prestigious environmental and sustainability prize worldwide. Having been selected as the national winner of the Energy Globe Award, Sahtak Awalan will now be considered for the international prize.

The impact of sleep on childhood obesity

Getting a good night's sleep may affect food choice, consumption and energy expenditure.

On average, the children went to sleep at 9.22pm and woke at 6.26am.

A lack of sleep is likely to be a contributing factor in childhood obesity in Qatar, researchers have shown.

The relationship between obesity and insufficient sleep has been demonstrated before, but the majority of studies have relied on subjective estimates of sleep, and only one indicator of obesity.

By contrast, the team from WCM-Q used five indicators of obesity to ensure the condition was accurately defined. They also issued each subject with a wrist actigraphy device which records movement and allows researchers to accurately and objectively estimate sleep parameters.

The study was conducted on 335 elementary schoolchildren in Qatar who were aged between seven and 12. Each child was asked to wear the actigraph for seven consecutive days and nights. The children had their neck and waist circumferences measured, their height and weight taken (allowing their body mass index [BMI]) to be calculated, and their percentage of body fat and fat mass measured.

The research found that the average time at which the children went to sleep during the week was 9.22pm, and the average time at which they woke was 6.26am.

Of the sample, 42.1 per cent were classified as either overweight or obese according to the definitions from the World Health Organization. Of those children, weekday sleep duration was significantly shorter at 7 hours 36 minutes, as opposed to 7 hours 54 minutes for those who were a healthy weight.

Although sleep is certainly not the only factor involved in obesity, the researchers state that it appears to be a contributory factor. Sleep duration may influence food intake, food selection, and energy expenditure with downstream effects on body fat.

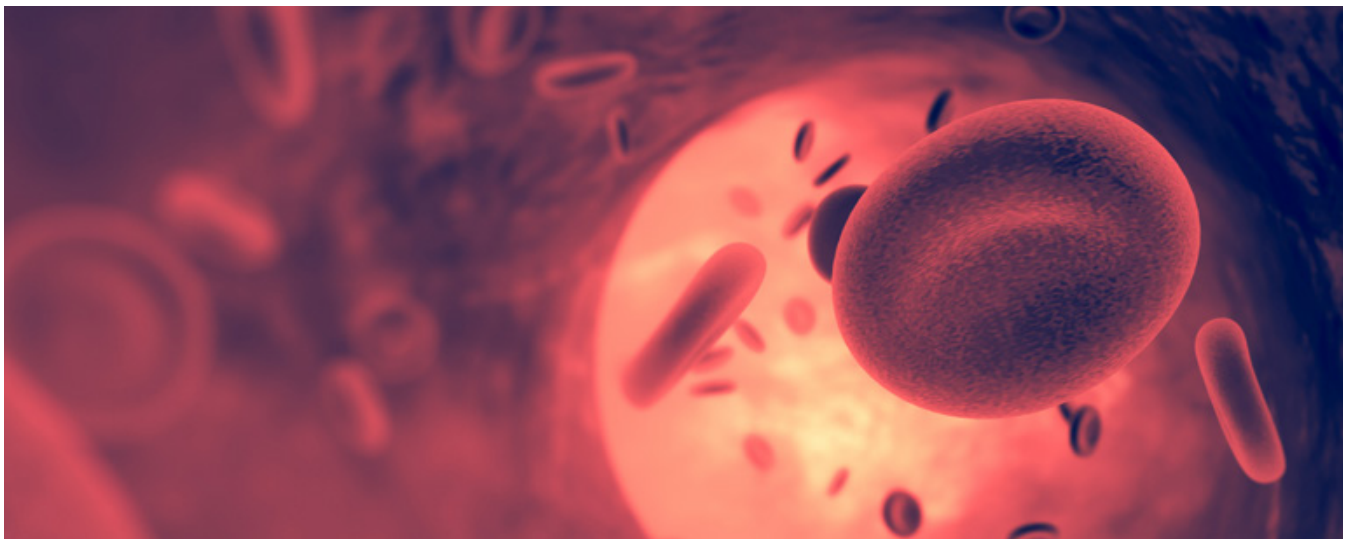
Dr. Shahrad Taheri, director of the clinical research core and assistant dean for clinical investigations said that the body of evidence pointed to a lack of sleep having an effect on a person's weight, and there is increasing evidence to support this from studies of both children and adults.

Dr. Taheri added: "Here, we observe the relationship between sleep and obesity in the first study of sleep in schoolchildren in Qatar. The study demonstrates that conditions like obesity are far more complex than we first thought, and should be treated holistically. Qatar has a high prevalence of obesity and there is a need to look at improving sleep to prevent and tackle obesity. We plan to undertake further research to see if it is possible to reduce obesity through lifestyle change that includes diet, physical activity, and sleep."

Dr. Shahrad Taheri.

Risk factors for diabetics

Study finds that those who develop the disease at a young age have more chance of microvascular complications.



Small blood vessels are typically found in high quantities in organs like the eyes and kidneys.

A study has shed new light on the relationship between diabetes risk factors and microvascular complications that can lead to blindness, kidney failure, and nerve damage ultimately leading to lower limb amputation.

The research, led by Dr. Ravinder Mamtani and Dr. Sohaila Cheema of WCM-Q's Institute for Population Health, surveyed 1,034 adults at Hamad Medical Corporation outpatient clinics in Qatar and found that 48 percent had one or more microvascular complication.

Microvascular complications arise from damage to small blood vessels caused by high blood sugar levels. They commonly affect areas of the body that have high concentrations of small blood vessels, such as the eyes (retinopathy), kidneys (nephropathy) and nerves in the extremities (neuropathy).

The study, entitled 'Risk Factors for Microvascular Complications in a High-Risk Middle East Population', found that the risk factors most associated with these microvascular complications were having a family history of diabetes, severity of disease, disease duration, and hypertension. Onset of the disease at a young age was strongly associated with having multiple microvascular complications.

The study collected information via a structured questionnaire and by reviewing patient records, where permission was given, on a wide range of variables, including gender, education level, nationality, family medical history, duration of disease, BMI, smoking status, hypertension history, and cholesterol levels. A total of 534 respondents had no microvascular complications, while 318 reported suffering one complication, 140 patients had two, and 42 had three.

Like many Gulf countries, Qatar has a high prevalence of diabetes. Earlier studies conducted in Qatar have shown that between 13 and 17 percent of adults in Qatar have the disease, while the global level is about 8.5 percent, according to the World Health Organization.

Dr. Mamtani, senior associate dean for population health, capacity building and student affairs, said: "The complications of diabetes can be absolutely devastating, so we wanted to use this study to get a clearer picture of the nature of the diabetes disease burden in Qatar. The results give us many useful insights that could help physicians assess the likelihood that their patients will develop diabetes complications. Furthermore, these results could be utilized to give some useful indications of the diabetes disease burden in the wider Gulf region and the rest of the Middle East."

The study, which also featured contributions from researchers at the Department of Internal Medicine at Hamad Medical Corporation, New York Medical College in Valhalla, NY, and the European Institute of Oncology in Milan, Italy, has now been published in the *Journal of Diabetes Research*.

Dr. Cheema, director of the Institute for Population Health, said: "Our hope and belief is that this research provides useful information that could be used to target healthcare interventions more effectively, as well as providing insights that could be used to help individual patients understand their condition more fully in collaboration with their healthcare practitioner and make positive lifestyle changes to reduce the likelihood of suffering from major diabetes complications."

The work was supported by IPH, WCM-Q and Qatar Foundation through the WCM-Q Biomedical Research Program.

Making memories

Celebrations as trainee doctors don their white coats for the first time

The Class of 2022.

The next generation of Qatar's doctors joined WCM-Q in August, donning the white coat of the physician for the first time at a special event.

The 49 students were presented with the coat and their first stethoscope in front of an audience of family and friends at the White Coat Ceremony, which was held at the Hilton Hotel. The ceremony, which has become a traditional highlight of the college's academic calendar, is a symbolic event that marks the point when students begin the four-year medical curriculum that will lead to them graduating as doctors.

Sumaya Al Maraghi was one of the students who participated, having spent the last two years on WCM-Q's pre-medical program.

Sumaya said: "The White Coat Ceremony has been great. It is what has motivated everyone on the pre-medical program. Everyone is a little nervous about the medical curriculum but it is what we have all wanted to do for a long time so it will make the next four years very enjoyable."

Of the new medical students, 16 are Qatari and of the total number 25 are men and 24 are women. In addition, students are traveling further and further to be here, attracted by WCM-Q's reputation for academic and research excellence. Countries from which students have traveled include South Korea, Kuwait and Pakistan. However, Bruno Pacheco, who has joined the medical curriculum, has travelled further than most. Bruno is originally from Peru but elected to come to WCM-Q over universities and colleges closer to home. He explained why.

The 22-year-old said: "I'm very excited to be here and really looking forward to learning about the region and its culture. Being able to do so while studying a US curriculum at a very highly regarded institution is something unique. I have a really strong interest in global health issues so I value the opportunity to be here to get a very international perspective of healthcare."

"The White Coat Ceremony has been great. It is what has motivated everyone on the pre-medical program. Everyone is a little nervous about the medical curriculum but it is what we have all wanted to do for a long time so it will make the next four years very enjoyable."

Dr. Ibrahim Janahi shared anecdotes from his own life.

Dr. Javaid Sheikh, dean of WCM-Q, said the White Coat Ceremony was a time of real optimism and pride.

Dr. Sheikh said: "It gives me great pleasure to welcome all of our new students to WCM-Q. The physician's white coat and stethoscope are recognized throughout the world and are symbolic of being a doctor. It is my honor to present them to our new students.

"Putting on the white coat for the first time is a memory that doctors carry with them throughout their lives. It is the moment when they truly begin to learn the knowledge that will allow them to heal the sick and make a difference to their community.

"These trainee doctors are Qatar's future healers. They are part of the generation that will deliver a world-leading healthcare system for Qatar and the region."

Dr. Ibrahim A. Janahi, chair of medical education and division chief of pediatric pulmonology at Sidra Medicine, gave the keynote speech and shared some stories from his own life as a pediatrician that highlighted the importance of values that he advised the students to acquire in their journey to become a doctor.

He said: "Today marks the first step on your lifelong, exciting voyage that is a medical career. On this journey, you will learn how to be an exemplary leader. For that you must learn the principles of leadership, ethics, knowledge acquisition, human values, communication skills, how to care for sick people and many other critical skills that you will master before you become a wonderfully competent doctor."

The ceremony also welcomed 60 students who are joining WCM-Q's six-year medical program, which integrates two years of pre-medical training and the four-year medical curriculum. A further 17 students have joined WCM-Q's foundation class, a one-year program intended to be a pathway to entry to the pre-medical program.

Turki Almutairi, from Kuwait, is one of those who have joined the pre-medical program.

He said: "Both my mother and my aunt are physicians and I was inspired to follow in their footsteps by their dedication to their patients. I'm also very happy to be able to study in the Middle East without having to go a long way from home, but also being in a new and exciting country."

The White Coat Ceremony is the finale of WCM-Q's Orientation Program, where all of the college's new students are introduced to the faculty and staff, and learn more about the state-of-the-art facilities that are available to them.

The Class of 2022 will now spend four years receiving training in all aspects of medicine from faculty members based in Qatar and also from Weill Cornell Medicine in New York.

They will gain experience working directly with patients at WCM-Q's clinical affiliate Hamad Medical Corporation, and they will also have the opportunity to work at NewYork Presbyterian/Weill Cornell Medical Center in New York City, one of the world's foremost university hospitals.

If successful in their training they will then receive a Cornell University medical degree.

Dr. Javaid Sheikh, dean of WCM-Q.

Dana Al-Ali with Dr. Javaid Sheikh and Margaret Allen, assistant director of the Medical Education Department at Hamad Medical Corporation.

Nasser Al-Kuwari receives his white coat from Dr. Javaid Sheikh.

Dates and metabolism

Scientists evaluate the potential health benefits of dates through the metabolites produced during digestion.

A new study by researchers at WCM-Q has revealed for the first time the specific effects of two popular varieties of dates on human metabolism.

The researchers analyzed a wide range of small molecules, called metabolites, which enter the bloodstream and remain in circulation for up to two hours after eating khalas and deglet nour dates.

Blood samples were collected from 21 healthy volunteers at five time-points following the ingestion of a glucose drink (used as a control), khalas dates, and deglet nour dates. Each volunteer was tested after ingesting each of the three products, with intervals of at least one week between each product. The khalas and deglet nour date varieties were chosen due to their distinct genetic and metabolic profiles and commercial importance.

Overall, the researchers found that 36 metabolites significantly increased in the bloodstream, of which some were specific to date fruit consumption. Several were metabolites of known polyphenols, such as caffeic acid, which can be beneficial for those with complex chronic diseases, given its anti-oxidative and anti-inflammatory properties. The researchers also found that serotonin present in deglet nour dates quickly broke down into its metabolite (5-hydroxyindolacetate) following ingestion. This implies that these dates are not useful as a serotonin supplement in healthy individuals for mood, appetite and sleep regulation. Compared to khalas dates and the glucose drink, deglet nour also led to a sharp increase in blood sucrose levels.

WCM-Q's Dr. Karsten Suhre, professor of physiology and biophysics, and director of the Bioinformatics Core, was one of the lead authors of the study, which has now been published in the *Journal of Functional Foods*. Dr. Suhre, who is one of the world's foremost researchers in the field of metabolomics, said: "The findings of this paper could be useful for clinicians when determining the impact of these metabolites in the management of complex diseases."

Dates are believed to be one of the world's oldest cultivated food crops and have special cultural significance for the Middle East. Khalas dates are prized for their deep reddish-brown color, moistness and hearty flavor, while the deglet nour are known as the 'Queen of Dates' and are famed for their light, translucent coloring and honey-like taste. Dates were recently proposed as being a 'functional food' as they may provide health benefits that go beyond essential nutrition and may help reduce chronic disease risk or otherwise optimize health.

Dr. Suhre added: "The design of our study is extremely versatile and could be used in the future to assess other functional foods and evaluate their potential health benefits."

Other scientists who contributed to the study, entitled 'Metabolic changes of the blood metabolome after a date fruit challenge,' were Sweety Mathew, Joel Malek, Anna Halama, Sara Abdul Kader, Minkyung Choi and Robert Mohney.

The research was supported by a National Priorities Research Program – Exceptional Program grant (NPRPX-014-4-001) from the Qatar National Research Fund, a member of Qatar Foundation. The research team and Weill Cornell Medicine-Qatar thanked QNRF for its support that made the research, with its implications for human health, possible.

The research paper can be read in full at: https://doi.org/10.1016/j.jff.2018.08.037

Summer of research

Qatari high school students gain experience in WCM-Q's state-of-the-art laboratories.

Mooza Al-Hail was one of 11 students to complete the internship.

Qatari high school students with a love of science spent the summer gaining hands-on research experience at WCM-Q.

Eleven students aged 16-18 completed the WCM-Q Research Internship for National High School Students program, which gives young Qataris who are keen to pursue careers in science the chance to work in WCM-Q's state-of-the-art laboratories and learn from leading biomedical researchers.

In addition to learning practical research skills, the students were also given advice to help them make their college applications stronger, and took classes in self-directed study, critical thinking and time management.

The program, which is delivered by WCM-Q's Research Division, has now completed its fourth annual cycle. It aims not only to equip high school students with practical skills, but also to give them a glimpse of life as biomedical researchers, fueling their passion for science and scholarship. Many students who complete the program go on to apply to study medicine at WCM-Q.

High school student Mooza Al-Hail, aged 16, attends Al Maha Academy for Girls. She said: "I have been able to spend a lot of time in the lab actually learning real skills and seeing how research is done, which has been really exciting. Biology is my favorite subject at school and I would love to study medicine at WCM-Q in the future. I have also learned about perseverance because when you are doing any project you find lots of obstacles. I learned that if you work hard and think critically you can find a way through and succeed."

Christy Poppe, senior research training specialist at WCM-Q, said: "Bringing enthusiastic young Qatari high school students to WCM-Q to gain research experience not only helps them plot successful careers but also enhances Qatar's ability to conduct world-class biomedical research, helping to build upon the country's growing status as a regional research hub."

The Research Internship for National High School Students program targets Qatari nationals who are 16 years old and above. The program also counts towards students' voluntary community service hours. Students who complete the course can log between 50 and 100 hours of service, depending on whether they take the two-week or four-week option.

Marathon man

Scientist runs 330 kilometers in aid of women fighting cancer.

Dr. Arash Rafii Tabrizi on the 330km Tor des Géants trail.

A doctor and cancer researcher at Weill Cornell Medicine – Qatar (WCM-Q) has completed one of the toughest marathons in the world, running a total of 330km.

Dr. Arash Rafii-Tabrizi, professor of genetic medicine in obstetrics and gynecology completed the Tor des Géants endurance trail through the Italian Alps in September.

Dr. Tabrizi, who has previously run about 11 ultramarathons, took 120 hours to complete the race, finishing 165th out of 850 and snatching just 12 hours sleep over five days.

He said: "It's considered to be one of the most difficult ultramarathons as it's very long and the climbs are brutal. It's meant to be very painful, but I hadn't done it before so I decided to give it a go."

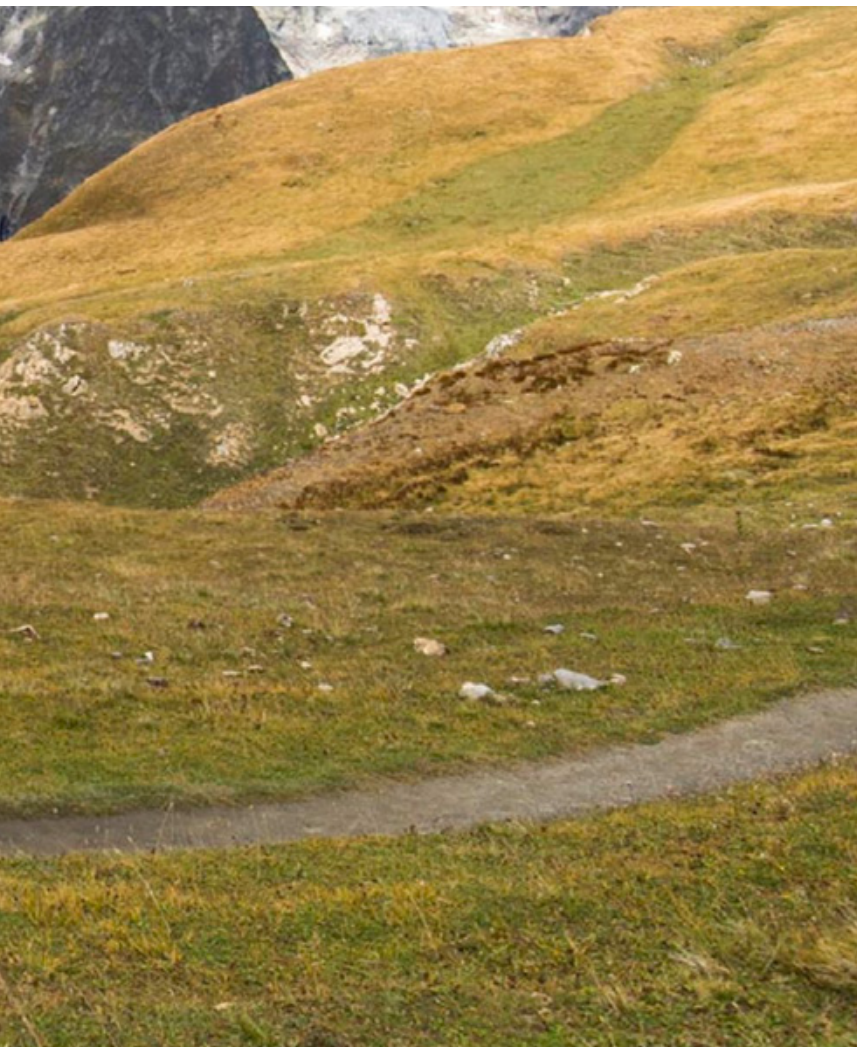
The run was also used to advertise and raise money for the foundation that Dr. Tabrizi has set up to help inspire women fighting cancer.

Entitled Un Sommet de Plus (A Mountain Higher), the foundation takes women battling cancer into the mountains to help inspire them in their fight against the disease and show them that they can still achieve great things.

"The idea was that the chemo itself is a summit," said Dr. Tabrizi. "The women have already got a fight, so this is another."

To prepare himself for the ultramarathon, Dr. Tabrizi ran every day for between 15 and 20 kilometers, training on waste ground near Al Shaqab.

"A lot of it is mental preparation," he said. "It's a bit like



chemotherapy, you know it's going to hurt so you have to be prepared."

The trail involves a total of 30km of uphill running - most of it up very steep inclines - and the organisers erect camps along the route where the runners can sleep and eat. For the majority of the run, Dr. Tabrizi's diet comprised of pasta and salty, high-fat foods to provide energy and replace the salts he was losing through the exertion.

Although for most people the Tor des Géants would be a traumatic experience, Dr. Tabrizi said he enjoyed the run.

He said: "The high point is the people you meet, it was fascinating. I met a guy who was running to celebrate his wife's 10-year remission from breast cancer. You meet amazing people who you team up with for a few minutes, hours or days. Everyone has a different reason for doing this kind of thing. But it's a very long race so you get to meet a lot of people.

"The high point is the people you meet, it was fascinating. I met a guy who was running to celebrate his wife's 10-year remission from breast cancer. You meet amazing people who you team up with for a few minutes, hours or days. Everyone has a different reason for doing this kind of thing. But it's a very long race so you get to meet a lot of people."

"There were no lows; this race went really well and I really enjoyed the whole thing. It was beautiful, I listened to my body and I had great mental preparation. It's something that is very spiritual; you reach a point of pain and endurance and you just feel in the right place at the right moment.

"The low is after. The depression you get the day after when you're back in your office and you would rather be back in the mountains. My strategy was to have some exciting stuff to do afterwards in terms of my research. You have to have that. The endorphins you get are so high that everything else seems boring. Interestingly enough, that happens in cancer patients as well.

"You obviously think about doing it again, but five days is a very long race, it's very disruptive. I would receive emails from work but, for the most part, you can't answer as you are so focused on getting from A to B."

By the end of the 330km (205 miles), Dr. Tabrizi - who is also a surgeon - had lost 6kg but was back running in just a few days.

"It took me four or five days to start running again but the body recovers very well from this kind of thing although it is down to experience as well; when it's your 12th one you know more."

Now back in his laboratory conducting research into gynecological cancers, the professor isn't planning on any more runs - yet.

"I consider this one to be the last one that I'll run...," he said, "but you never say never..."

A week of healthy living

Inaugural Lifestyle Medicine Week held to remind staff about the importance of making good lifestyle choices.

The week began with the Walk for Life.

WCM-Q has held its first Lifestyle Medicine Week to reinforce messages about leading healthy lives among Education City staff, faculty and students.

The week-long event was organized by WCM-Q's Institute for Population Health, and featured workshops and demonstrations designed to improve community members' health and remind them of the need to make good lifestyle choices. The event began with the Walk for Life in Qatar Foundation's Oxygen Park, which was attended by Education City staff, faculty and students as well as their friends and families. The week continued with cookery demonstrations by Jens Heier, executive chef at the Millennium Hotel, Doha, who made Vietnamese chicken salad and sea bass with cucumber and dill, among other dishes, before an appreciative audience.

Russell Clarke who works in Information Technology Services at the college, said the recipes were quick, healthy and most importantly, tasted great.

He said: "It was really impressive watching Jens cook the meals so quickly. I'm not sure I would be as quick but the demonstration really made you think about the food that you eat and how you can improve your diet with just a few tweaks."

Other events included 'Get Connected', a seminar on building and maintaining good relationships with others, which was presented by Sobia Rahman, psychologist and learning support specialist at WCM-Q; and 'Quiet your busy mind and body' presented by mindfulness teacher Jackie Woodworth who provided attendees with ideas of how to build healthy habits that promote improved health and wellness.

The final day of the week saw the Tobacco Control Center at Hamad Medical Corporation visit WCM-Q to deliver messages and techniques for stopping smoking to those who use cigarettes and shisha, and also to their friends and families via pamphlets and advice groups.

Dr. Sohaila Cheema, director of the Institute for Population Health, said it had been a fascinating week.

She said: "I'd like to thank everyone who attended the various activities hosted during the week. I think everyone has picked up tips and ideas for improving their health and wellness in small but significant ways and we will look at hosting the week again next year."

Dr. Ravinder Mamtani, professor of healthcare policy and research and senior associate dean for population health, said the aim of the Lifestyle Medicine Week was to make people consciously think about their health and consider ways in which it could be improved.

Dr. Mamtani said: "Non-communicable diseases are the biggest causes of premature deaths in the world today. These chronic diseases, examples of which include heart disease, strokes and diabetes can all - for the most part - be prevented or in some cases even reversed by eating healthily, taking regular exercise and curtailing known health risks like smoking cigarettes and shisha.

"Although all Education City employees work in institutions for higher education, we all at some time or another fall into bad habits, so this week was a chance to remind everyone of how they can improve their health."

The Lifestyle Medicine Week followed the inaugural meeting of the recently established Lifestyle Medicine Interest Group-Middle East (LMIG-ME), which was convened at WCM-Q in late September. The meeting drew a large number of healthcare professionals as participants and also saw delegates attend virtually via an online video-link. The meeting was hosted by Dr. Cheema and Dr. Mamtani and featured a discussion of the aims and strategies of LMIG-ME, followed by an interactive Q&A session. The Institute for Population Health is planning to host its first Lifestyle Medicine Symposium in February 2019.

The role of cell signaling in disease

WCM-Q conference brought 18 international experts to Doha to explore communication at the cellular level.

Dr. Khaled Machaca (center), with conference delegates.

Some of the world's foremost researchers investigating the mechanisms by which cells communicate with one another convened in Doha at a conference hosted by WCM-Q.

Eighteen international experts in the field of cell signaling gave presentations at the event, explaining the very latest advances in what is a highly dynamic and complex research area. Cell signaling refers to a wide range of communication processes occurring at the cellular level, which govern many activities of cells, making life possible. Cell signaling coordinates essential cell processes like tissue repair, growth and immune response; errors in these processes are involved in many serious illnesses, including diabetes, cancer, and autoimmune diseases such as rheumatoid arthritis.

Dr. Khaled Machaca, WCM-Q's associate dean for research and professor of physiology and biophysics, specializes in the study of the role of calcium in cell signaling.

Dr. Machaca said: "Understanding the molecular mechanisms governing cellular signaling, including calcium signaling, is essential to develop novel therapies to treat diseases. Ultimately the regulation of homeostasis happens in large part at the cellular and molecular level, so such an understanding is important to tackle complex diseases and identify more effective therapies."

The two-day 'Signaling at Membrane Contact Sites' conference brought expert speakers to Doha from all over the world, including Professor Ole Petersen, CBE, professor of physiology at Cardiff University, Wales, UK; Dr. Andreas Guse, director of biochemistry and molecular cell biology at University Medical Center, Hamburg-Eppendorf; Dr. Raphael Courjaret, assistant professor of research in physiology and biophysics at WCM-Q; and Dr. Richard Lewis, professor in the department of molecular and cellular physiology at Stanford University School of Medicine.

The lab of one of the speakers, Dr. Stefan Feske, associate professor at the New York University School of Medicine, investigates the role of ion channels in controlling immune response, with the ultimate goal of identifying drug targets for immunotherapy.

Dr. Feske said: "If you can identify modulators of ion channels that control immune cells that are involved in inflammatory response, it may be possible to manipulate these channels or their modulators to suppress inflammation and treat diseases like rheumatoid arthritis or asthma. The big challenge, as with all drugs, is to find drug targets and therapies that specifically inhibit inflammation without causing detrimental side-effects, for instance by suppressing desirable immune responses to infections or tumors. Studying the calcium channels known as ORAI1, ORAI2 and ORAI3 and their regulators STIM1 and STIM2 helps us to define ways to modulate immune responses for therapeutic use."

YHF celebrates Qatar National Day

Thousands of people visit the installation at Darb Al Saai to see the new Your Health First virtual reality attractions.

Sahtak Awalan – Your Health First has once again helped people celebrate Qatar National Day, providing an interactive installation that proves exercise can be fun.

The flagship health campaign of WCM-Q, Your Health First was invited to participate in the Darb Al Saai celebrations inside the Qatar Foundation tent for the fourth time, having attracted tens of thousands of people to in previous years.

This year, Sahtak Awalan showcased its new virtual reality sports machines, that both entertained visitors and encouraged them to take more exercise.

A virtual reality rowing machine allowed visitors to experience rowing on a river and lake, while the cycling machine offered them the chance to cycle along mountain roads or at a velodrome. Cross trainers gave them the chance to go up against previous participants to beat times or reps, and a giant snakes and ladders game gave the younger members of the family a chance to get involved.

Nesreen Al-Rifai, chief communications officer at WCM-Q, said: "Everyone at WCM-Q is extremely proud that we can contribute to the Qatar National Day festivities in such a positive way; helping the community to enjoy exercise and supporting the goals of Qatar National Vision 2030.

"None of this would have been possible without the tremendous support of our strategic partners, Qatar Foundation, the Ministry of Public Health, the Ministry of Education and Higher Education, the Ministry of Municipality and Environment, Occidental Petroleum, ExxonMobil and the Supreme Committee for Delivery and Legacy."

The virtual reality exercise machines proved particularly popular with the schoolchildren who visited Darb Al Saai each morning.

Shahine Al Kuwari, of Al Hayat School, said he liked the virtual running machine the best.

The grade 4 student said: "I like the running game the most because it's good for your health.

"To stay healthy at home, I don't eat junk food and I eat lots of fruit like apples, bananas and oranges."

Fares Salmi of the Palestinian School said of the Your Health First installation: "It's amazing, we are able to have a lot of fun with lots of people and make new friends. I liked the virtual rowing the best and the cycling one was scary, it made you sweat a lot.

"To keep healthy at home and school we shouldn't eat too much, we need to eat lots of fruit and vegetables and we should train a lot in the gym."

Launched in 2012, WCM-Q's Sahtak Awalan – Your Health First campaign is an educational outreach program that works to encourage and empower all members of the community in Qatar to live healthy, sustainable lifestyles, with a particular focus on young people. Its initiatives include Khayr Qatarna, Project Greenhouse, Yalla Natural and the Color Run.

"None of this would have been possible without the tremendous support of our strategic partners, Qatar Foundation, the Ministry of Public Health, the Ministry of Education and Higher Education, the Ministry of Municipality and Environment, Occidental Petroleum, ExxonMobil and the Supreme Committee for Delivery and Legacy."

The cycling, rowing and running machines all proved to children that exercise can be fun.

Simulation-based learning in medicine

Symposium brings together more than 100 delegates to discuss medical education and benefit from practical workshops.

The symposium was organised by the Clinical Skills and Simulation Lab team.

Health professions educators, clinicians, students and technical specialists from institutions across Qatar convened at WCM-Q for a one-day symposium on simulation-based learning.

Simulation-based learning in the medical field uses a variety of teaching aids and techniques to recreate a range of clinical experiences. These are designed to give trainee health professionals opportunities to learn the importance of human factors such as effective communication, leadership and teamwork when caring for patients, in addition to offering teaching aids which support learned mastery of clinical and communication skills, in a safe and controlled environment.

The symposium, hosted and coordinated by the WCM-Q Clinical Skills and Simulation Lab (CSSL) team, offered a series of six practical workshops, a lecture on life-long learning that emphasized the role of debriefing, and two panel presentations in which the presenters discussed the current state of simulation-based education in Qatar. The symposium also unveiled its new 'Sim Souq', a networking platform designed to provide opportunities for health professions educators to meet, share and develop innovative ideas, and hatch collaborative endeavors.

The annual event, now in its second year, brought together more than 100 attendees and speakers from WCM-Q, Hamad Medical Corporation, Sidra Medicine,

In total six workshops were held.

Dr. Grigory Ostrovskiy delivers a workshop.

"We are delighted to welcome a wide range of highly skilled professionals who are here today to learn more about how to optimize health professions teaching using standards of best practice in simulation-based education, and to share their insights on this important and exciting field of medical education."

College of the North Atlantic – Qatar, Qatar University's College of Medicine and College of Pharmacy, and the University of Calgary in Qatar.

Dr. Stella Major, associate professor of family medicine in clinical medicine at WCM-Q and symposium course director, said: "We are delighted to welcome a wide range of highly skilled professionals who are here today to learn more about how to optimize health professions teaching using standards of best practice in simulation-based education, and to share their insights on this important and exciting field of medical education."

The symposium featured keynote speaker Dr. Ralf Krage, an anesthesiologist at VU University Medical Center in Amsterdam, Netherlands, director of the ADAM Simulation Center, and vice president of the Dutch Society for Simulation in Healthcare, who gave a presentation on the challenges and opportunities presented by life-long learning.

The event's six workshops addressed the advocacy-inquiry debriefing model; training human role-players in health professions education; assessment measures for evaluating high-performing teams; integrating simulation into a curriculum; contrasts between different simulation modalities and tools; and assessment strategies in simulation-based learning.

The event also featured a session in which health professions trainees in Qatar discussed their experiences of simulation-based learning and gave feedback and recommendations on how health professions educators can make simulation-based learning more effective.

Entitled 'Optimizing Health Professions Education with Simulation-Based Learning', the event was accredited locally by the Qatar Council for Healthcare Practitioners-Accreditation Department (QCHP-AD) and internationally by the Accreditation Council for Continuing Medical Education (ACCME).

Panel presentations discussed simulation-based education in Qatar.

Students honored for academic success

The annual Dean's Honor List recognizes high-achieving students and their dedication to their work.

Faculty members with the high-achieving students.

WCM-Q has recognized the outstanding academic achievements of 36 students by inducting them onto the Dean's Honor List for 2018.

To be included on the Dean's Honor List, students must have achieved a grade point average of 3.75 or higher in either the fall 2017 or spring 2018 semesters, a measure that is approximately equivalent to receiving an average of an A grade for every piece of graded work for an entire semester.

Speaking at a ceremony held to acknowledge the students' inclusion on the honor list, WCM-Q dean Dr. Javaid Sheikh said: "To achieve a GPA of 3.75 across an entire semester demands not only great talent but also absolute dedication to one's studies over a prolonged period of time. I hope you will each take a moment to enjoy this remarkable accomplishment, and also to give thanks to the family members, friends, faculty and staff who have supported you to help make this moment possible."

The keynote speech was given by former WCM-Q student Dr. Karima Becetti, who graduated in 2011.

Dr. Becetti, who is now a consultant rheumatologist at Hamad Medical Corporation, said: "Congratulations to all of you on this incredible achievement. You have worked hard, shown a high level of scholarship and determination, and earned yourself the honor of making it onto the Dean's List. Most importantly, you have proved to yourself and everyone else that you have the necessary sturdy foundation for a successful career in medicine. I have no doubt that you are ready to take on the challenges of what comes ahead and will excel as medical students and future doctors."

First-year medical student Haya Al-Taweel was one of those who made it onto the Dean's Honor List. Haya, who was also included on the list in her first year of pre-med studies, said: "When I heard I had made it onto the Dean's Honor List I was so happy and excited, and it still feels great. Good time management and occasionally interacting with my professors have really been the key for me through the semester, as well as making time to rest and do fun things to avoid getting overwhelmed by my studies. I'm really pleased that my hard work has paid off."

The Dean's Honor List usually only features students on WCM-Q's Six-Year Medical Program, but this year two students - Maryam Al-Quradaghi and Tala Abu Samaan - made it onto the list for their academic performance on the WCM-Q Foundation Program.

WCM-Q Dean's Honors List 2018

Maryam Al-Quradaghi, Tala Abu Samaan, Anas Abed, Dana Al-Ali, Nasser Al-Kuwari, Muna Almasri, Nada Al-Mulla, Kawthar Al-Najar, Khalifa Al-Sulaiti, Haya Al-Taweel, Khalifa Bshesh, Zain Burney, Jibrail Cheema, Ashton D Souza, Ahmed Fares, Mais Ar-Reem Hammoud, Mohamed Hussine, Maryam Idris, M Fatin Ishtiaq, Omar Khalil, Ibrahim Laswi, Safa Khan, Omar Mhaimeed, Nada Mhaimeed, Narjis Mhaimeed, Malik Mushannen, Adeeb Narangoli, Hiba Naveed, Shehroz Rana, Shaheen Rizly, Arwa Saed Aldien, Mohammad Salameh, Jasna Chalangal, Ameena Shafiq, Sara Tomerak, Lina Yagan.

A genetic map of human proteins

WCM-Q research underpins international effort to chart the links and relationships of the 'proteome'.

A groundbreaking study first conducted by researchers at WCM-Q has been expanded upon by an international team of scientists, leading to a detailed genetic map of human proteins.

The work, led by scientists at the University of Cambridge and MSD pharmaceuticals company, characterized the genetic underpinnings of the human plasma 'proteome', identifying nearly 2,000 genetic associations with almost 1,500 proteins. Previously, only a small fraction of these associations were known, mainly because researchers could measure only a few blood proteins simultaneously in a robust manner.

The researchers used technology - SOMAscan - developed by the SomaLogic company to measure 3,600 proteins in the blood of 3,300 people. They then analyzed the DNA of these individuals to see which regions of their genomes were associated with protein levels, yielding a four-fold increase on the study previously published by WCM-Q. The new study has been published in *Nature*, a leading scientific journal. The earlier study was supported by the Biomedical Research Program (BMRP) of Weill Cornell Medicine-Qatar, a program supported by Qatar Foundation.

Dr. Karsten Suhre, professor of physiology and biophysics and director of the Bioinformatics Core at WCM-Q, led the earlier research in Qatar last year, which revealed many previously unknown links between genetic variations and a series of debilitating conditions, including Alzheimer's disease, heart disease, autoimmune disorders and cancer. Following publication of these findings, Dr. Suhre was asked to participate in the latest study.

He said: "It was a great honor to be part of this huge study. It takes our own research to the next level, but it is also gratifying see that Qatar was there at the start, providing our own contribution to the global knowledge of human biology and genetics. It is also demonstrable proof that WCM-Q and the Qatari leadership's goals of transforming Qatar into a knowledge economy and a hub of world-class scientific research in the region have come to fruition.

"The technology that was used in the new research – the SOMAscan – is available to researchers in Qatar, and with Qatar BioBank we have a resource that is allowing researchers in the country to unlock the secrets of the human genome, and specifically the Arabic genome."

He added: "This is a hugely valuable resource that will be used for decades to come, hopefully heralding therapies and treatments for a range of diseases and conditions that are prevalent in the MENA region."

Dr. Khaled Machaca, associate dean for research at WCM-Q, said: "The use of proteomics biomarkers to correlate with disease progression and prognosis is a powerful approach that is likely to become more and more in use in the future. It is very gratifying to see such approaches being pioneered in Doha at WCM-Q through the efforts of Dr. Suhre, as this truly validates the vision of Qatar and Qatar Foundation to establish the country as a hub of knowledge generation rather than just knowledge transfer."

Dr. Karsten Suhre, professor of physiology and biophysics and director of the Bioinformatics Core at WCM-Q.

Green-fingered students honored

Students produce bumper crops of cucumbers, tomatoes, eggplants, zucchini, capsicum, cilantro, parsley and more.

Audio Education Complex for Girls was the winner of the 2018 Project Greenhouse competition.

The winning schools in this year's Project: Greenhouse competition, an initiative of WCM-Q's Sahtak Awalan – Your Health First campaign, have said how valuable the experience has been.

For 2018, the school judged to have produced the most impressive crop of fresh fruit, vegetables and herbs was Audio Education Complex for Girls. Second place was awarded to Seoud Bin AbdulRehman Elementary School for Boys, while Um Amad Elementary School for Girls came third.

Since its inception, Project: Greenhouse has provided greenhouses, soil, seeds and plant pots to more than 130 schools across Qatar to help students learn about the environment, sustainability, food security, agriculture and the benefits of eating a healthy diet. Students have responded with enthusiasm, planting seeds and tending their crops diligently to produce bumper yields of cucumbers, tomatoes, eggplants, zucchini, capsicum, cilantro, parsley and more.

That hard work was rewarded when WCM-Q representatives, joined by Fatima Al-Obaidly of the Ministry of Education and Higher Education, visited the winning schools to present students with trophies recognizing their success.

Nesreen Al-Rifai, chief communications officer at WCM-Q, said: "We are very happy to recognize the hard work and success of all of the children taking part in Project: Greenhouse – they have made us so proud. Their enthusiasm is what has made Project: Greenhouse such a success and has given us the opportunity to expand the scheme with the launch of the Khayr Qatarna brand that not only promotes healthy eating but also raises awareness of the importance of self-sufficiency and food security."

Project: Greenhouse is supported by Sahtak Awalan's strategic partners: Qatar Foundation, the Ministry of Public Health, the Ministry of Education and Higher Education, the Ministry of Environment and Municipality, Occidental Petroleum, ExxonMobil, and the Supreme Committee for Delivery and Legacy.

Grade 5 students Amina Ayman, Shaheeda Muhammad and Aisha Khalid were chosen to receive the trophy on behalf of their school, Audio Education Complex for Girls. Amina said: "We learned a lot about growing plants and it was really fun seeing them sprout and the taller plants like the tomatoes begin climbing up the walls of the greenhouse."

Shaheeda said: "We discovered that you have to plan carefully and plant your seeds evenly. You can't just throw them anywhere. And you have to give each different plant different amounts of water. We were really happy when they started to grow because we have learned that it's important for Qatar to grow its own food."

Aisha said: "The plants we grow don't have chemicals added to them so they taste better."

Project: Greenhouse recently expanded its scale and scope with an initiative called 'Khayr Qatarna' which is promoting food security and self-sufficiency in Qatar and has installed ten large-scale, hi-tech climate-controlled greenhouses at selected schools. These greenhouses are being used to grow fruit and vegetables that the Ministry of Agriculture is distributing through local supermarkets under the Khayr Qatarna brand. Students will continue to be involved and are able to visit the greenhouses, learning more about food production and economics. Proceeds from the sale of the produce is being reinvested to expand the scheme further.

Ms. Fatima Al-Obaidly, the head of the Events and Activities Department at the Ministry of Education and Higher Education was in attendance to present the children with their trophy. She said: "We greatly appreciate our partnership with Weill Cornell Medicine - Qatar, which has built greenhouses in Qatari schools to educate students about healthy living and the importance of self-sufficiency and food security. School is the best place to shape students' habits and behaviors, so the greenhouse initiative has helped raise awareness. In addition, the students have begun growing fresh produce at home and have replaced fast food with healthy meals."

She added: "We are very pleased to honor the students of Audio Education Complex for Girls for their great achievement. They won first place because they produced the best crop of tomatoes, eggplant, capsicum, mint, and more. We are also very happy that Project: Greenhouse has achieved great things by expanding from 15 schools in 2012 to 130 in 2018. This allows us to look forward to promoting the health of the younger generation to achieve the goals set out in Qatar National Vision 2030."

The spread of herpes

Researchers find the type 1 virus is emerging as a main cause of genital disease in Asia, mirroring findings in the West.

Hiam Chemaitelly, Laith Abu-Raddad, Manale Harfouche, and Ryosuke Omori.

Transmission patterns of herpes simplex virus type 1 (HSV-1) are changing in Asia in a striking way, and that this virus is emerging as a key sexually transmitted infection, researchers at WCM-Q have found.

According to findings published in the high impact and prestigious *Journal of Clinical Infectious Diseases*, 20 percent of genital herpes cases and six percent of genital ulcer cases are now caused by HSV-1.

HSV-1 is one of the most widespread infections globally. It is normally transmitted orally leading to blisters and lesions around the mouth known as oral herpes. Recent data from the United States and Western Europe, however, showed that HSV-1 can also be transmitted sexually leading to genital herpes and genital ulcer disease. The data also indicated that the rate of genital infection is increasing in Western countries. It was unknown whether this newly emerging trend is happening in other parts of the world.

However, the WCM-Q study, conducted by the Infectious Disease Epidemiology Group, demonstrated that this is also the case in Asia. The study found that although HSV-1 remains mostly orally transmitted, the virus is increasingly being transmitted sexually. The study, which provided a comprehensive characterization of HSV-1 infection patterns in Asian countries, also estimated that about 50 percent of children are infected with the virus, all of whom are infected orally, and that 75 percent of adults are infected with the virus, through both the oral and genital routes.

"It was striking for us to discover this shift in HSV-1 transmission patterns from oral to genital infection in Asia," said Manale Harfouche, joint first author of the study and senior research specialist at WCM-Q.

Lara Khadr, joint first author and research intern at WCM-Q added: "This is an intriguing transition for an infection known historically only as an oral infection. It remains to be seen whether this transition is also happening in other parts of the world."

Laith Abu-Raddad, principal investigator of the study and professor of healthcare policy and research at WCM-Q, concluded: "These findings demonstrate the criticality of accelerating HSV-1 vaccine development to control transmission and to prevent the medical and psychosocial disease burden that is emerging from this infection."

The study, entitled 'The epidemiology of herpes simplex virus type 1 in Asia: systematic review, meta-analyses, and meta-regressions', was conducted with funding from the Qatar National Research Fund through the National Priorities Research Program (NPRP 9-040-3-008).

Key scientific findings of the study

- HSV-1 is playing an influential role as a sexually transmitted infection in Asia.
- 20 percent of genital herpes cases and six percent of genital ulcer disease cases are caused by HSV-1.
- 50 percent of children and 75 percent of adults are infected with HSV-1.

A link between diabetes and breast cancer?

Researchers combine studies into diabetes and cancer to improve understanding of the interaction between the two diseases.

Sharon Varghese, Elizabeth Varghese, Dr. Samson Samuel, and Dr. Dietrich Busselberg.

The links between type 2 diabetes and breast cancer have been explored in research published in *Cancer Treatment Reviews*, a leading scientific journal.

The researchers, led by Dr. Dietrich Büsselberg, carried out a comprehensive review of a range of more than 200 existing diabetes and breast cancer studies, concluding that women with diabetes not only appear to have an increased risk of developing breast cancer, but also that diabetes supports breast cancer progression and can negatively impact the effectiveness of anti-cancer therapies.

The paper, entitled 'Challenges and perspectives in the treatment of diabetes associated breast cancer', also inferred that managing diabetes and treating cancer using a combination of anti-diabetic and anti-cancer drugs is likely to be more effective in the treatment of diabetes-associated cancers.

The World Health Organization estimates that the number of people with type 2 diabetes worldwide rose from 108 million in 1980 to 422 million in 2014. The condition is characterized by the body becoming resistant to the effects of insulin, a hormone produced by the beta-cells of the pancreas that keeps blood glucose levels under control. While it is well known that high blood glucose can cause damage to the heart, nerves, kidneys and eyes, the link between diabetes and cancer, although evident, is less well understood.

Dr. Büsselberg, professor of physiology and biophysics at WCM-Q, said: "A vast amount of research has been published about type 2 diabetes and breast cancer separately, but not so much in regard to the links between the two. Therefore, we decided to bring research into both diseases together in one review to improve our understanding of their interactions. We believe this review indicates there is indeed a direct link between diabetes and increased breast cancer risk, its progression, metastasis and relapse. Better understanding of this link will be extremely beneficial to patients, hopefully improving survival rates and the quality of life among affected individuals."

The study explains that as diabetes progresses the body's metabolism undergoes fundamental changes, with elevated levels of lipids (fats), insulin and glucose in the blood. These metabolic changes in turn disrupt and alter the normal functions of cells, causing damage to the DNA and the cell's own structures, uncontrolled cell proliferation, and inhibition of a process called apoptosis, a normal form of programmed cell death that is a key part of cellular development and renewal. Inhibition of apoptosis in breast cancer cells serves to initiate or promote the growth of breast tumors.

Dr. Samson Mathews Samuel, the first author of the new review, said: "With diabetes a 'metabolic reprogramming' takes place, changing the way the cell functions as it attempts to cope with the abnormal levels of lipids, insulin and glucose in circulation. This reprogramming alters the very intricate processes of cell signaling in normal breast cells, and this disruption of normal cellular function can contribute to the incidence, progression and aggressiveness of breast cancer. In straightforward terms, diabetes disrupts normal cell function and makes cancer more likely."

The study also discusses the effects of diabetes therapies on cancer risk, finding that drugs that target high blood glucose appear to induce cell death in cancer cells. While insulin therapy appears to increase breast cancer risk and support breast cancer progression, drugs that increase the body's sensitivity to insulin, such as the widely prescribed metformin, have significant anti-cancer potential.

Dr. Büsselberg said: "Studies have shown that metformin, which is the most widely prescribed oral anti-diabetic drug, decreases the occurrence of cancer in diabetes patients and also may increase the effectiveness of anti-cancer drugs for cancer patients. More research is now needed to determine how diabetes and breast cancer are linked, and how best to use anti-diabetic and anti-cancer drugs in combination to improve patient outcomes."

The study was also worked on by senior research specialist Elizabeth Varghese and research specialist Sharon Varghese, both of WCM-Q. The work was supported by a Bridge Funding Grant (Nov 2017- current) awarded to Dr. Büsselberg by the Biomedical Research Program at Weill Cornell Medicine-Qatar, a program funded by Qatar Foundation.

Life as a medical student at WCM-Q

Students take classes including neorology, emergency medicine and cancer research.

Eighty-three students were offered the chance to learn what life as a medical student at WCM-Q is like during its two summer explorer programs.

The Qatar Medical Explorer Program (QMEP) and the Precollege Enrichment Program (PEP) both provide students with a two-week snapshot of what life is like at WCM-Q by giving them the chance to take a series of classes that have been modeled on the actual curriculum followed by the WCM-Q students.

The teenagers, who were all aged between 14 and 17, came from a wide variety of schools across Qatar, with two even travelling from the US and Canada in order to participate. Depending on the program they were on, the students took classes in infectious diseases, neurology, psychology, emergency medicine and cancer research, as well as lab safety, the history of medicine, DNA extraction techniques and human anatomy. They also had the chance to take a dissection class in the WCM-Q biology lab, learn about the human heart by working with hi-tech robotic mannequins in the state-of-the-art Clinical Skills and Simulation Lab, and visit Hamad Medical Corporation and Sidra Medicine.

Jude El Shaarawi was one of those on the QMEP stream. The 14-year-old, who lives in Canada but whose father works in Qatar, said she had considered a variety of careers, including teaching and the law, but had settled on medicine because of the influence of her aunts and grandfather who had also studied medicine.

She said: "I've learned many new things as the Canadian curriculum is very different to the one taught here. I've learned the names and functions of body parts and new chemistry and biology terms. I've never dissected anything in my life, either, and I really enjoyed that.

"It's been a really cool experience; everyone is really outgoing and everyone is really nice and they make sure everyone is included in the activities."

Other highlights of the two-week programs included classes on animal care and use in research, an introduction to medical ethics, and a chance to meet current WCM-Q medical students and graduates for a Q&A session. The program culminated with the participants giving presentations about a medicine-related topic and taking part in an academic debate.

Maha Al Nuami attends Qatar Secondary School, and was on the PEP.

The 16-year-old said: "I applied to learn more about the college and what the requirements are to apply. I also wanted new experiences and I've learned a lot; I've dissected a frog, which was really interesting, we've visited Hamad Hospital and seen the emergency room and the MRI machines and we also visited Sidra, where I would ultimately like to work as an obstetrician and gynecologist."

The prospective students were selected using an application system that mimics the admissions process for WCM-Q's Medical Program. Selection is based on the candidate's English skills, demonstrated aptitude for the sciences, their interest in pursuing medicine as a career and their academic achievements. The two programs, QMEP and PCEP, are part of the summer enrichment series organized annually by the Office of Student Recruitment and Outreach at WCM-Q.

Hep C and the MENA region

Research reveals true nature of hepatitis C infections across the Middle East and North Africa.

Drs. Ravinder Mamtani, Karima Chaabna, Sohaila Cheema and Amit Abraham.

Population health researchers at WCM-Q have published a study that gives a more accurate picture of the epidemiology of hepatitis C infections in the MENA region.

The researchers, led by Dr. Sohaila Cheema and Dr. Karima Chaabna of WCM-Q's Institute for Population Health (IPH), conducted a comprehensive overview of 37 systematic reviews on hepatitis C in 20 MENA countries published between 2008 and 2016. They then evaluated the quality and precision of each systematic review and the studies they included to determine how useful they were to policy makers attempting to design intervention strategies to eliminate hepatitis C infection from the region. The research, entitled 'A systematic overview of hepatitis C infection in the Middle East and North Africa', was published in the *World Journal of Gastroenterology*.

The overview revealed that several hepatitis C systematic reviews in MENA countries reported general population estimates based on data drawn from mixed populations at differing risk of exposure to the hepatitis C virus (HCV) and over significant time periods, in some cases as long as two decades.

Dr. Cheema, director of the Institute for Population Health and assistant professor of healthcare policy and research, said: "The consensus is that the best way to eliminate HCV infection is to focus interventions on at-risk populations, such as people who inject drugs, people who have had blood transfusions, prisoners, and people who engage in risky sexual practices, among others.

"Unfortunately, many of the systematic reviews of HCV in the MENA region use data from mixed populations at differing risk of exposure to HCV, rather than targeted sub-sections of the population. In addition, several studies make judgments of the current epidemiology in the region using old data, despite new data being available. This means policy makers are likely to have difficulty using the available systematic reviews to design effective, targeted micro-elimination strategies for HCV."

It is estimated that 71 million people worldwide have chronic HCV infection, a potentially life-threatening liver infection that is transmitted through blood and other body fluids. The World Health Organization has set a goal of eliminating viral hepatitis by 2030. Because there is no vaccine for pre-emptively protecting people from HCV infections, intervention measures must focus on preventing the infection among the populations at higher risk to HCV exposure and on identifying people with the infection through screening and giving them antiviral drugs. But in order to do this, good quality data is essential. Incidence of HCV infection varies significantly across the MENA countries, with Egypt having one of the highest HCV prevalence rates in the world and Pakistan the second-highest number of chronically infected worldwide. Conversely, in Qatar the prevalence is just 0.9 percent and it is the only MENA country on track for the elimination of HCV by 2030.

Dr. Chaabna, population health and communication specialist, said: "Our study reveals quite serious limitations with many of the hepatitis C systematic reviews reporting data on the MENA region. We believe that in order to achieve the goal of HCV infection elimination by 2030, up-to-date, good quality data that focuses precisely on at-risk populations is needed in order to help policy makers plan micro-elimination strategies in MENA, which our study will certainly help achieve."

Dr. Ravinder Mamtani, senior associate dean for population health, capacity building and student affairs at WCM-Q and senior co-author on the study said: "WCM-Q is at the forefront of engaging in cutting-edge population health research and this study, undertaken by us, is a case in point."

Other researchers who contributed to the study were Dr. Amit Abraham and Dr. Hekmat Alrouh, both of WCM-Q, Dr. Albert B. Lowenfels of New York Medical College, Valhalla, New York, and Dr. Patrick Maisonneuve of the European Institute of Oncology, Milan, Italy.

Global health issues in Vietnam

Pre-medical students experience healthcare with a different cultural and economic base.

The students learned about healthcare challenges in Vietnam.

WCM-Q students gained an international perspective of healthcare when they visited Vietnam as part of a Global Health Service Learning Program (GHSLP).

Ten first-year pre-medical students spent 12 days in Ho Chi Minh City, where they volunteered at the Orthopedic and Rehabilitation Hospital, worked with special needs children in a daycare center, learned about treatment modalities commonly used in Vietnamese healthcare, and observed basic health checks, patient care and hospital duties conducted by the healthcare teams in their designated areas.

The students also spent time learning about Vietnamese culture and history, as well as reflecting on what it means to be a global citizen and a healthcare professional in a world in which resources are unevenly distributed, leaving many people without access to high-quality healthcare.

The program, which offers a unique global health learning opportunity, is directed by Dr. Rachid Bendriss, assistant dean, student recruitment and outreach, and Dr. Sohaila Cheema, director of WCM-Q's Institute for Population Health, which organized the GHSLP.

Dr. Cheema said: "Visiting Vietnam was a powerful and enriching experiential learning opportunity for the students. They got to experience the unique Vietnamese culture and to discover how that culture affects the way healthcare is delivered. Additionally, the program allows the students to develop a sense of civic engagement and a global perspective."

In the Orthopedic and Rehabilitation Hospital, the students observed basic healthcare duties like taking blood pressure measurements, mixing medicines and removing acupuncture needles, all under the supervision of trained professionals. They also observed physicians cleaning and dressing wounds, repairing fractured bones and damaged nerves in the operating theater, and using massage and other physiotherapy techniques to relieve pain and increase the range of motion in patients' joints. In the daycare center, they worked closely with children with cerebral palsy, Down's syndrome and ADHD, helping out at mealtimes and keeping the children entertained with games and songs.

In addition, the students learned about some of the healthcare challenges facing Vietnam, a lower-middle income country, which includes a high incidence of motorcycle accidents, stroke and cardiovascular diseases.

The students were impressed by the informal, friendly atmosphere of the hospital, the strong bonds between doctors, nurses, patients and their families, and the way this aided the healing process and facilitated communication, helping the hospital to run extremely efficiently, despite its modest resources.

In preparation for their visit to the hospital, the student spent a few days learning about Vietnamese culture and history, including some basic language skills, how to cook some popular Vietnamese dishes, and the legacy of the Vietnam War. Accompanied by WCM-Q's Dr. Mange Manyama, assistant professor of anatomy in radiology, and Raji Anand, administration manager for the Institute for Population Health, the students spent a day at the Mekong River delta where they explored floating markets and local restaurants.

Student Hiba Naveed found the experience inspiring. She said: "It was never quiet in the rooms as there was always chatter among the nurses, therapists and patients. There did not seem to be restrictions on visiting hours and family members and friends of patients crowded in. However, the system itself, despite so much noise and clustering, did not seem haphazard at all. It seemed as though the informality of the hospital was an aid in its own way. There was never a dull moment and this seemed integral to the healing process of the patients. This was so inspiring."

Communicating for Qatar

Faculty member appointed as Qatar's national representative to Europe's largest healthcare communications society.

Dr. Alan Weber.

Qatar's national representative to the European Association for Communication in Healthcare (EACH) has been named as Dr. Alan S. Weber, visiting professor of English at WCM-Q.

EACH is a non-profit communications society headquartered in the UK which is active in promoting research and training in language issues, provider-patient relations, medical ethics, clinical interviewing, medical humanities, and cultural sensitivity. EACH's sister organization in the US is the ACCH, and together they jointly sponsor the International Association for Communication in Healthcare. The associations also publish the peer-reviewed journal PEC.

Dr. Weber's duties will include advising the executive council on regional issues related to communications standards, training programs, research, and initiatives in Qatar's healthcare institutions and medical colleges.

Dr. Weber has been an active member of these organizations for years and regularly presents his research on humanism in medicine at their meetings. He previously taught scientific and technical writing at the Pennsylvania State University and Cornell University, and has worked in the communications industry as a radio and print journalist, scientific journal editor and technical writer for advanced robotic systems.

Speaking about his appointment, Dr. Weber said: "It is a great honor to be serving in this important capacity. A growing body of evidence, much of it originating from members of this organization, indicates that communication is a vital part of the medical experience and a key competency for all healthcare practitioners. Strong communication skills have been linked to better health outcomes through reduced medical errors and lower medical liability, higher patient compliance, and more successful follow-up care."

In his new role, Professor Weber hopes to first survey the landscape of healthcare communications in Qatar, which is currently unknown, and identify strengths and weakness. He also hopes to compile a database of researchers and educators working in the field, and keep them updated on communications developments via social media interest groups or listservs. "A regularly meeting interest group, in which participants could network, share best practices and present research, would be helpful in advancing healthcare communications in Qatar," Dr. Weber said. "With the recent international recognition of the high quality of Qatar's health systems, Qatar is rapidly becoming a regional leader in medical treatment, and these advances should be all-encompassing, embracing not only diagnosis and therapeutics, but also the people skills that are essential to patient well-being."

Dr. Weber officially began his duties in September at the EACH meeting in Porto, Portugal where he presented the first evidence-based narrative medicine research ever conducted in the Gulf region. The research project was entitled Narrative Medicine Service Learning in the Middle East Context: A Cancer Survivor Booklet Written by Medical Students in Qatar.

Raising awareness of breast cancer

The event raised money for breast cancer and dispelled some common misconceptions.

A hallway of Weill Cornell Medicine – Qatar (WCM-Q) turned pink as the college held a Breast Cancer Awareness Fundraiser.

The event was organized by third-year medical student Aya Youssef, who is also president of the WCM-Q Hematology-Oncology Interest Group.

The event, which is now in its third year, was a chance to learn more about the disease, raise awareness of the symptoms and treatment, and raise funds for Qatar Cancer Society.

Aya, who hopes to practice as a pediatric oncologist when she graduates, said: "We had great success with the event last year at Hamad Bin Khalifa University Student Center, raising 130,000QAR for Qatar Cancer Society. Following in the footsteps of that we decided to hold it again to raise awareness and provide support for Qatar Cancer Society.

"We aim to bridge the gap between students and the community and we're hoping that our students will have a positive impact on the healthcare of Qatar's population, particularly as breast cancer is the most common form of cancer in women in Qatar yet can often be cured completely if caught in its early stages."

The Breast Cancer Awareness Fundraiser hosted education stations to tell people about the symptoms of breast cancer and to debunk some medical myths about the disease. Representatives of Qatar Cancer Society were also in attendance to spread the message about diagnosis, treatment and prognosis, and a number of vendors were selling a variety of products, with each business agreeing to donate a percentage of their takings to Qatar Cancer Society.

Lab experience for students

Program offers undergraduates the chance to learn practical skills along with teaching principles of management and administration.

Alaa Abdeen, a third-year student at Newcastle University in the UK, learned key lab skills this summer on WCM-Q's Research Internship for College Students program.

College students with ambitions to pursue careers in biomedical science were welcomed to WCM-Q this summer to learn essential research skills.

The Research Internship for College Students program, administered by WCM-Q's Research Division, gives students aged 18 and over the opportunity to join working laboratories and learn from senior biomedical researchers in a challenging and dynamic environment.

Each of the students learned practical laboratory skills, as well as completing modules focused on a set of key research management competencies, including research operation, laboratory management, grants management, research compliance, clinical management, and professional skills. Students can choose to take a four-week internship or an intensive eight-week internship; those who complete all of the taught modules and practical training elements on either internship are awarded a certificate of completion.

This year, three students completed the program. Alaa Abdeen, who is in her third year studying biomedical genetics at Newcastle University in the UK, spent four weeks at WCM-Q working in the lab of Dr. Khaled Machaca, professor of physiology and biophysics & associate dean for research.

Alaa said: "I have had a fantastic experience and wish I could have stayed longer. The most valuable thing is that I have been able to spend a lot of time actually working in the lab and helping with a real research project. It has been very hands-on and I feel it has given me a really good boost for starting my career when I graduate."

Christy Poppe, senior research training specialist at WCM-Q, said: "The internship gives college students a solid grounding in research skills and an understanding of research management. More than that, it gives them an insight into the life of an employee who works day-to-day in the laboratory, which many interns find to be extremely inspiring, as well as helping them to work out what sort of position will suit them best when they graduate."

The Research Internship for College Students program targets students who are 18 years old and above.

Alumni honored by WCM-Q

Former students receive college titles with many hoping to one day return as a faculty member.

Dr. Robert Crone (center), with faculty, staff members and some of WCM-Q's alumni.

WCM-Q celebrated the appointment of 16 of its alumni to its non-faculty academic staff.

The celebration saw the 16 graduate doctors congratulated for their hard work and their new appointments. All 16 are currently continuing their training on a variety of residency courses at Hamad Medical Corporation (HMC) and have been given one of three titles by their former college: fellow, clinical associate or senior clinical associate.

Dr. Sara Al Khawaga, from the Class of 2014, has been made a clinical associate in dermatology. Alongside her work at HMC, she is pursuing her PhD in biological and biomedical science at Hamad Bin Khalifa University. The focus of her PhD thesis is on using human pluripotent stem cells, including embryonic stem cells and induced pluripotent stem cells, to study the role of a specific pancreatic transcription factor.

Dr. Al Khawaga said: "WCM-Q always felt like home, and it is so thrilling to come back and hopefully prepare to become a future faculty member participating in the education of the next generation of medical students and physicians.

"WCM-Q has been always a hub for world-class education and research, and I'm very proud to be an active member of Cornell society."

The appointments recognize WCM-Q graduates who are on their second and subsequent years of postgraduate training at one of the college's affiliate hospitals in Qatar and honor their primary involvement in clinical training and service.

Dr. Robert Crone, vice dean for clinical & faculty affairs and professor of clinical pediatrics and clinical anesthesia, said it was a pleasure to see so many familiar faces and added that it was heartening that so many of the college's alumni are working with a view to becoming a WCM-Q faculty member.

Dr. Crone said: "For many of our alumni who are practicing in Qatar, this will be their first step towards become an affiliated faculty member of WCM-Q. They will then find themselves in the privileged position of teaching, advising and mentoring the next generation of doctors, as they themselves were once taught by senior physicians.

"In doing so, WCM-Q has helped to fulfil the creation of a knowledge hub within the region, and a sustainable and self-perpetuating national healthcare sector."

Back to School with Your Health First

Campaign returns for the second year running to educate children about the importance of healthy lifestyles.

Your Health First distributed items that reminded children about healthy lifestyles.

WCM-Q's Sahtak Awalan - Your Health First campaign worked with the Ministry for Education and Higher Education for the second year running to ensure children returned to school with an understanding about the importance of health.

As part of the Ministry's Back to School program, Your Health First distributed school bags, lunchboxes, water bottles, and activity books to children preparing for their first day back at school after the long summer holiday vacation.

The activity books explained the health benefits of a variety of different foods, helping parents and children plan meals to ensure they are nutritionally beneficial, while the water bottles remind children to stay sufficiently hydrated.

All of the gifts distributed had the Sahtak Awalan – Your Health First branding, which has become synonymous with high-impact health initiatives like Khayr Qatarna, the Color Run, Project Greenhouse and Yalla Natural. The campaign is run by WCM-Q with support from its strategic partners; Qatar Foundation, the Ministry of Public Health, the Ministry of Education and Higher Education, the Ministry of Environment and Municipality, Occidental Petroleum, ExxonMobil, and the Supreme Committee for Delivery and Legacy.

Mansour Hazae Al Shahwani was one of the parents at the Mall of Qatar where the initiative was run.

He said: "I am really happy that my children are participating in the Back to School campaign. Hopefully these events will be organized more than once a year as they really contribute immensely to raising children's awareness, preparing them for the academic year, and encouraging them to adopt healthy lifestyles. I have heard about Project Greenhouse, organized by the Sahtak Awalan campaign, and I think it has succeeded in encouraging children to eat healthy and fresh food."

Iman Saleh, a board member for Qatar Cultural Center for the Deaf, was also there.

She said: "We participate in the Back to School campaign each year. My children join the campaign's awareness activities, they have fun and get prepared for the new academic year. I hope it will be organized more, as it encourages Qatari society in general, and children in particular, to adopt healthy lifestyles."

Sahtak Awalan was launched in 2012, and aims to change unhealthy habits into healthy behaviors, and educate a generation about the importance of diet and exercise, creating a healthy nation in line with Qatar National Vision 2030.

Nesreen Al-Refai, chief communications officer at WCM-Q, said: "The Ministry of Education has been an invaluable strategic partner of Sahtak Awalan – Your Health First and we are pleased to be able to support their Back to School campaign.

"Educating children about how lifestyle choices can affect their health in later years is incredibly important. By providing them with the knowledge now, we can help our children avoid the problems associated with obesity and diabetes in later life and we fully support the mission and vision of the Ministry of Education."

Kids on campus

Children of faculty and staff help prepare med students for their toughest patients.

Twenty-seven children took part, aged from four months to six years.

Medical students at WCM-Q had the chance to hone their skills by performing basic clinical examinations for children at the college's annual Cornell Stars event.

Faculty and staff brought their children to WCM-Q's Clinical Skills and Simulation Lab so that students could learn how to interact with children and family members and develop the creative skills that pediatricians use to approach children. They also experimented with different techniques to keep the youngsters relaxed, engaged and contented for long enough to conduct a physical examination.

The event forms an important part of the students' introduction to WCM-Q's clinical clerkships and courses. The students, who are all heading into the third year of the medical curriculum, were tasked with performing a basic physical examination of children of various ages, under the supervision of WCM-Q faculty and doctors from Hamad General, Al Wakra and Sidra hospitals.

The examination involved checking the child's reflexes, examining their ears and eyes, listening to their heartbeat and breathing using a stethoscope, and assessing whether normal developmental milestones have been reached.

Dr. Amal Khidir, associate professor of pediatrics, and organizer of the Cornell Stars program, said: "Cornell Stars is a wonderful opportunity for the students to gain some practical experience of working with young children, learning how to approach them and their families, engage them, keep them at ease, using distraction techniques where needed so that a basic but comprehensive physical exam can be carried out.

"We are very grateful to our young volunteers and their parents for being so patient and generous with their time for the benefit of our students."

Dr. Khidir explained that with adults, examinations usually proceed systematically from head to toe, but with children it is an opportunistic but complete examination. The physicians must be prepared to adapt the order, often while the examination is in progress. Usually a doctor will start at the heart and lungs of a young child and go on to the abdomen, before examining the ears and finally the nose and throat so as to minimize distress. They need to be flexible so as to examine the child in their parent's lap if needed. They also need to use their senses and refine their observation skills to be able to gather the information needed to take care of or treat the child.

This year, 27 children aged four months to six years took part in Cornell Stars, along with 40 third-year students. The doctors who took part were Drs. Mehdi Adeli, Mohamed Omer, Barbara Blackie, Wail Said Ali Seleem, Shabina Khan, Samar Osman, Sohair Elsiddig, Manasik Kamil Tarkooni Hassan, Robert Crone and Amal Khidir.

Student Huda Alalami said: "I found it a really helpful exercise. I had never examined a child before and I was a little bit concerned that it would be very tricky and the child might get upset. But the supervisors showed us some really useful techniques that helped to keep the children calm."

The Cornell Stars of 2018.

Caring for oneself

WCM-Q hosts wellness course to tackle modern health challenges and encourage personal responsibility for health.

Ways to enhance self-care, personal health and wellness were explored during a six-day, two-part immersion course hosted by WCM-Q's Institute for Population Health.

WCM-Q invited The Wellness Enhancement Learning Course (TheWEL), a health and wellness organization based in Glasgow, Scotland, to Doha to help participants manage stress, nurture their own happiness and wellbeing, practice self-compassion, and promote good physical health.

Designed and delivered by Dr. David Reilly, an internationally recognized physician, academic and teacher, the course helps participants to understand and overcome the personal challenges they face in their day-to-day lives, helping them to cope more effectively and then flourish. The course, which takes a holistic view of wellness, also aims to empower people to make healthy lifestyle choices in terms of food, exercise and sleep, to manage their social relationships, and to find peace of mind through meditation and mindfulness practices.

A total of 14 people took part in the course, which was held at Doha's Hilton Hotel. The course will enable the participants to embark on a wellness enhancement journey to see how they can begin to make meaningful change in their lives. After the conclusion of the two-part course, the hope is that participants will be able to make sustained change for the betterment of their physical and emotional well-being.

Dr. Reilly said: "TheWEL is predicated on the acknowledgment that the current model of healthcare, while it has made incredible advances over the years, is not proving sufficient in the face of the rising modern epidemic of non-communicable diseases, such as chronic stress, obesity, diabetes and heart disease. TheWEL aims to address this gap by empowering people with the ability to create self-sustaining growth in compassion-based self-care. These are very powerful attributes which, if developed, provide a strong foundation upon which we can all build our own health and wellness, giving us the opportunity to flourish and experience joy in our lives."

Dr. Sohaila Cheema, director of the Institute for Population Health (IPH), was influential in bringing the program to Doha. She also completed the course herself.

Dr. Cheema said: "This IPH initiative provides participants with an opportunity to stop and examine some of the emotional and lifestyle-related factors in their lives which might be leading to poor health and wellness. The course material and the exercises practised are extremely effective at encouraging participants to think clearly about the changes they can make to bring about positive changes and to then act upon those ideas in their day-to-day lives."

Dr. David Reilly.

Research carried out by TheWEL indicates that 88 percent of participants report long-term benefits in the five years after the course. Participants also report enhanced ability to deal with health problems, improved capacity to cope with challenges, and improved self-compassion.

Dr. Ravinder Mamtani, senior associate dean for population health and capacity building, said: "We are very pleased to have been able to welcome Dr. Reilly to Doha to deliver this extremely beneficial course to our participants, all of whom have given us very positive feedback. This innovative course encourages participants to unlock their own potential to make healthy choices in the long-term, giving each of us the best possible chance of avoiding conditions like obesity, diabetes, stress and heart disease."

WCM-Q helps set arthritis guidelines

The new management guidelines mean that doctors will have knowledge of the most up-to-date management therapies to treat the condition.

Dr. Thurayya Arayssi.

WCM-Q has collaborated with regional and international experts to adapt international guidelines for the management of rheumatoid arthritis in the Eastern Mediterranean region.

The project brought together experts from 24 institutions across the region, the USA and Canada to adapt the guidelines of the American College of Rheumatology (ACR) to suit local circumstances. The ultimate aim of the project is to ensure rheumatoid arthritis patients across the Eastern Mediterranean region receive the very best care possible.

Rheumatoid arthritis is characterized by painful inflammation and progressive immobility of the joints, particularly in the hands, feet and cervical spine. While there is currently no cure for rheumatoid arthritis, if treated correctly symptoms can be alleviated and progression of the disease slowed.

The guideline adaptation project was conducted under the guidance of Dr. Thurayya Arayssi, WCM-Q's senior associate dean for medical education and a practicing rheumatologist, in partnership with Dr. Elie Akl, professor of medicine and director of the American University of Beirut (AUB) GRADE Center, and director of the Clinical Research Institute at AUB.

Dr. Arayssi said: "Because rheumatoid arthritis cannot be cured, treatment focuses on long-term management of the disease. As such, it is very important that rheumatologists have access to the most up-to-date treatment guidelines so their patients receive the best possible care. To that end, we have been working with colleagues across the Eastern Mediterranean countries to adapt the guidelines of the ACR so that they suit the local healthcare systems, cultures and economic circumstances."

Dr. Arayssi has been working with fellow clinicians and epidemiologists to systematically analyze each of the treatment guidelines of the ACR and tailor them to the Eastern Mediterranean region. This process of adaptation and development of guidelines (known in the medical world as 'adolopment') follows an established protocol that considers factors such as cost, impact on health equities, balance of benefits and harms, and acceptability. Adolopment is considered to be far more efficient in terms of time and expense than creating new or 'de novo' guidelines from scratch.

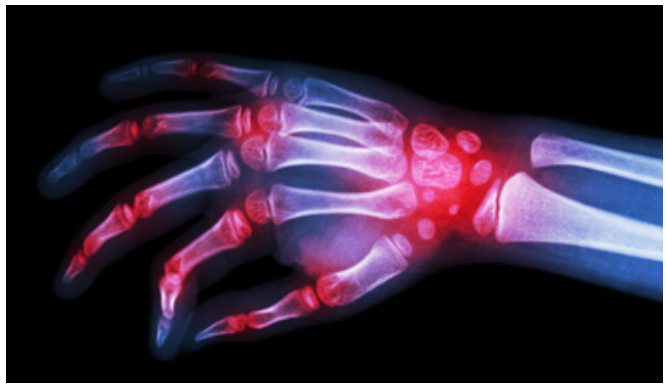
The working group adapted the ACR guidelines in two separate waves, eventually producing 16 recommendations for the management of early and established rheumatoid arthritis in the Eastern Mediterranean region.

Dr. Akl said: "The group led by Dr. Arayssi has done pioneering work in terms of a regional approach to guideline adaptation. Other groups, from as far away as Brazil, for example, are learning from our experience to adapt the same guidelines to their own contexts. I believe that the existing regional network of experts as well as the willingness of the ACR to support this project were key factors for success."

The results of this process have now been documented in a research paper entitled 'Recommendations for the management of rheumatoid arthritis in the Eastern Mediterranean region: an adolopment of the 2015 American College of Rheumatology guidelines', which has been published in *Clinical Rheumatology*, a leading medical journal. The group has also published its methodology in Health and Quality of Life Outcomes, another leading journal.

The Qatar National Research Fund's Conference & Workshop Sponsorship Program and Weill Cornell Medical College in Qatar funded the first wave of adaptation. The International League of Associations for Rheumatology (ILAR) funded the second wave of adaptation.

The research paper can be viewed at https://www.ncbi.nlm.nih.gov/pubmed/30097896 and the methodology paper can be viewed at https://www.ncbi.nlm.nih.gov/pubmed/28934978.



Rheumatoid arthritis is characterized by painful inflammation of the joints.

Teaching the teachers

WCM-Q hosts regional UNESCO ethics teacher training course.

The course attracted 25 participants from Qatar and the wider region.

WCM-Q hosted a regional teacher training course on the subject of ethics in collaboration with the UNESCO Office for the Gulf States and Yemen, UNESCO Beirut and the Qatar National Commission for UNESCO.

Twenty-five participants from Qatar and the wider region convened at WCM-Q for the four-day Regional Ethics Teacher Training Course, which is designed to advance pedagogical capacity for ethics teaching and improve the quality of ethics education around the world. The course forms part of a multifaceted capacity-building strategy designed to help UNESCO member states address ethical issues arising from rapid progress in medical and life sciences.

The program was opened by Dr. Ibrahim bin Saleh Al-Nuaimi, undersecretary of the Ministry of Education and Higher Education, Dr. Khaled Machaca, WCM-Q associate dean for research, and Dr. Anna Paolini, director of the UNESCO Doha office.

The course, which was jointly hosted by WCM-Q's Division of Continuing Professional Development and the Research Division, taught participants the principle methods and methodologies for the teaching of ethics, identified key learning resources, and provided assessment and feedback on the teaching skills of each participant, under the guidance of experienced teachers. The highly interactive course featured lectures, group work, individual demonstrations, and group discussions, led by trainers of the UNESCO bioethics team. Among the topics addressed by the course were patient rights, privacy, confidentiality and informed consent; the UN Universal Declaration on Bioethics and Human Rights; dignity and ethics for professional educators; and bioethics teaching in the Arab World.

Speakers at the event included Dr. Paolini; Dr. Mohammed Ghaly, professor of Islam and biomedical ethics at the Research Center for Islamic Legislation & Ethics; and UNESCO program specialist for social and human sciences Dr. Seiko Sugita. Three UNESCO training specialists delivered the course content: Dr. Mohamed Salah Ben Ammar, Dr. Marie Genevieve Pinsart and Mr. Alan Leroux. Participants included university professors, researchers, and supervisors at the Ministry of Education and Higher Education engaged in ethics teaching, among others.

"Qatar has experienced extraordinary growth in its healthcare and biomedical research sectors in recent years, establishing itself as a leading research hub in the region. During this period of rapid growth, Qatar has shown resolute commitment to ensuring the rights and dignity of those using the healthcare system and those generous individuals who chose to participate in human subject research for the greater good. This important course will contribute significantly to enhancing and facilitating the ethical issues at play."

Dr. Thurayya Arayssi, WCM-Q senior associate dean for medical education and continuing professional development, said: "Ethical behavior demonstrates our commitment as physicians, researchers and healthcare professionals to always act in the very best interests of patients and research subjects. As such, a sound understanding and a solemn appreciation of ethics is absolutely fundamental to the correct practice of medicine and biomedical research. WCM-Q is therefore delighted to be able to host this vitally important UNESCO training course to help enhance the teaching of ethics in Qatar and the wider region."

Dr. Machaca gave the welcome address at the event. He said: "Qatar has experienced extraordinary growth in its healthcare and biomedical research sectors in recent years, establishing itself as a leading research hub in the region. During this period of rapid growth, Qatar has shown resolute commitment to ensuring the rights and dignity of those using the healthcare system and those generous individuals who chose to participate in human subject research for the greater good. This important course will contribute significantly to enhancing and facilitating the ethical issues at play."

Dr. Anna Paolini, director for UNESCO Doha office, stated: "Ensuring the equitable distribution of the benefits of science as well as 'health wealth' to address inequalities within and among nations, is a central challenge to achieving the 2030 Development Agenda. In the Arab region, while bioethics is gaining recognition as an effective means to address ethical conflicts in medical treatments and research, actual interpretation and implementation of universal principles in practice differ and are influenced by cultural aspects. This requires further reflection on social norms and the economic context in each country. Capacity development of national stakeholders, academic and policy-making mechanisms is the core of UNESCO's support to our member states."

Delegates took part in lectures, demonstrations and group discussions.

Promoting immunization in Qatar

Institutions combine forces to deliver lessons about the importance of vaccines.

Dr. Amal Khidir.

Topics discussed included the importance of vaccines in preventing the spread of diseases.

WCM-Q lent its support to a continuing professional development symposium on the topic of immunization attended by more than 60 nurses from Qatar's Primary Health Care Centers.

The event, hosted by the University of Calgary in Qatar (UCQ), featured a presentation about basic immunology and vaccine-preventable diseases by guest speaker Dr. Amal Khidir, WCM-Q associate professor of pediatrics.

The symposium was the first of an ongoing series of continuing professional development opportunities that the UCQ, in partnership with WCM-Q, has launched at the invitation of Primary Health Care Corporation. By the end of the year, 250 primary care nurses will have participated in this series on vaccination.

Topics presented and discussed at the symposium included the importance of vaccines in preventing illness and disease from spreading, how vaccines activate an immune response, how vaccines are developed and rigorously tested for safety, and the safe storage and handling of vaccines. Qatar's National Immunization Guidelines and immunization schedule, along with strategies for health promotion to improve immunization rates in Qatar, were also carefully reviewed and discussed.

Dr. Khidir said: "Qatar is blessed with a very diverse multicultural context of health providers, patients and its population in general. This diversity brings with it many competencies but also leads to complexity and variability in the approach to immunization and the advice shared with patients. For this reason, it is great to work alongside other health professionals to unify and standardize immunization-related practices. These modules are very hands-on and they address knowledge, skills and attitudes towards immunization, making them both effective and practical. I am honored to part of this team."

Dr. Deborah White, dean of the University of Calgary in Qatar, said: "The curriculum we are using was guided by immunization competencies for health care providers developed by the Canadian Public Health Agency. These were then adapted to meet the standards of the Qatar National Immunization Guidelines for vaccine providers that was released in 2017.

"This subject is very important because we need to make sure vaccine providers receive ongoing competency education. It's a public health responsibility to ensure that health care providers are trained how to give vaccines and that they provide appropriate and timely information to the public."

Strategies for containing disease

Seminar outlines how to control the spread of pathogens like ebola

Containing the ebola virus was one of the topics discussed.

A visiting expert outlined key strategies for containing diseases such as ebola and MERS at two seminar sessions hosted by WCM-Q.

Sean G. Kaufman, a US-based expert and trainer in behavioral sciences, infectious disease control, emergency preparedness and risk communication, led healthcare professionals from institutions all over Qatar through a series of presentations, practical demonstrations and Q&A sessions to provide them with crucial knowledge about disease containment.

The program explained the history of infection control, the human risk factors involved in the spread of disease, strategies to mitigate contamination risk, and how to set up an effective isolation unit. The same seminar was offered on two separate days, allowing more than 160 delegates to attend in total.

The event, entitled Clinical Containment Strategies for Emerging Infectious Disease, also covered important standard operating procedures (SOPs) for work in an isolation unit. These covered practical measures such as how to safely clean up spills, clinical medical surveillance, how to respond to needle-stick injuries and how to safely remove gloves to minimize the risk of inadvertent contamination.

Kaufman emphasized that the key to success in contamination depends upon rigorous training, comprehensive knowledge of disease, demonstration of competency in relevant standard operating procedures, and clearly established protocols.

He said: "In order for us to have appropriate protocols and training we actually have to be able to classify where a patient goes when we know what they have, and what transmission risk they present. For example, if a patient has CCHF (Crimean-Congo hemorrhagic fever) then they go to this particular area and these specific protocols are activated. If they have MERS (Middle East respiratory syndrome) or SARS (severe acute respiratory syndrome) then these particular protocols are activated in this particular location.

"Once you diagnose what your patient has then you have specific protocols and training for the nurses and doctors who will be treating these patients."

Sara Taleb, a laboratory technician at Hamad Medical Corporation, attended the event. She said: "I found the seminar very useful, particularly the practical demonstrations like the correct technique for removing gloves, which is a simple but very important measure for managing risk."

Tom Doyle, WCM-Q's director of environmental health, safety and security at the time of the seminar, said: "We are extremely pleased that so many people attended to hear our expert speaker's extremely pertinent insights into disease containment. Adopting tried and tested protocols such as those discussed by Sean not only protects the wellbeing of patients affected by disease but also society as a whole."

Sean G. Kaufman.

Happenings
Clubfest

Clubfest 2018 was a chance for WCM-Q's numerous extracurricular clubs to recruit some new members from the incoming student body.


CLUB FEST
A CASE STUDY
Psyche me

Happenings
International Night

Traditional food, music and dance from a host of different countries was on show as WCM-Q students joined with other campuses around Education City for International Night.

Happenings
Orientation

Orientation week allows students who are new to WCM-Q the chance to get to know their peers, discover the multitude of opportunities open to them, and become familiar with college life.

Happenings
Goodbye Nerida Dimasi

Friends and colleagues of Nerida Dimasi, formerly WCM-Q's manager, education administration, came together to say good bye and wish her well for the future.

Happenings
Goodbye to Kevin Smith

After more than a decade with WCM-Q, Kevin Smith, visiting associate professor of organic chemistry, and assistant dean for premedical education, decided to leave for Canada, with the best wishes of his friends and colleagues.

Happenings
Qatar National Day at WCM-Q

Students and staff joined together to celebrate Qatar National Day and Qatari culture.

Happenings
DeLib Open House

DeLib opened its doors to faculty and staff to remind them of the services available.

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