معاً للوقاية من السكري

Preventing Diabetes Together

وزارة الصحة العامة
Ministry of Public Health
State of Qatar • دولة قطر

THIRD QATAR DIABETES & OBESITY RESEARCH SYMPOSIUM

THURSDAY, 2ND MAY 2024

SHERATON GRAND DOHA RESORT & CONVENTION HOTEL

معاً للوقاية من السكري

Preventing Diabetes Together

وزارة الصحة العامة
Ministry of Public Health
State of Qatar • دولة قطر

THIRD QATAR DIABETES & OBESITY RESEARCH SYMPOSIUM

Thursday, 2nd May 2024

Sheraton Grand Doha Resort & Convention Hotel

Activity Code : HGI-02-MED-P985

Target Audience: Physicians, nurses, allied health professionals, pharmacists, and researchers

PROGRAM AGENDA

7.00-7.45am	**Registration and Coffee**
7.45-8.00am	**Welcome Address** **Prof. Shahrad Taheri**, Chair of the Diabetes Research Sub-Committee, National Diabetes Strategy
8.00-8.10am	**Opening Remarks** **Dr. Sheikh Mohamed Al -Thani**, Director, Non-Communicable Diseases Prevention Programs, Ministry of Public Health (MoPH)
8.10-8.50am	**Kisspeptin and its Role in Physiology and Disease** **Dr. Ali Abbara**, Faculty of Medicine, Department of Metabolism, Digestion and Reproduction, Clinical Senior Lecturer in Diabetes and Endocrinology, Imperial College London, UK **Learning Objective:** Explore the Mechanism of Action and Evaluate the Potential Therapeutic Applications of Kisspeptin Across Diverse Medical Conditions
8.50-9.10am	**National STEPWise Survey on Non-Communicable Diseases** **Dr. Sheikh Mohamed Al -Thani**, Director, Non-Communicable Diseases Prevention Programs, Ministry of Public Health (MoPH) **Learning Objective:** Introduce the Preliminary Finding of the 2023 Qatar National STEPWise Survey
9.10-9.30am	**Coffee Break**
Session 1 – Type 1 Diabetes Research **Learning Objective:** Gain Insights into Current Advances in Research on Type 1 Diabetes (T1D) Pathogenesis, Screening, Monitoring, and Management	
Moderators	**Dr. Dabia Al-Mohanadi** Sr. Consultant, Endocrinology, Division Head of Endocrinology, Deputy Director of Qatar Metabolic Institute (QMI), Assistant Chair for Education - Department of Medicine, Hamad Medical Corporation (HMC) **Dr. Mohamed Aghar Elrayess** Director of Basic Research, Health Sector, Qatar University (QU)
9.30-10.10am	**Type 1 Diabetes Immunology** **Prof. Parth Narendran**, Professor of Diabetes Medicine, Honorary Consultant Physician, Institute of Immunology and Immunotherapy, University of Birmingham, UK
10.10-10.30am	**Automated Insulin Delivery for Safe Fasting and Exercise During Ramadan in T1DM** **Dr. Khaled Baagar**, Consultant Endocrinologist, Hamad Medical Corporation (HMC)
10.30-10.50am	**DIA-MENA: Type 1 Diabetes Islet Autoantibody Screening Initiative in the Middle East and North Africa** **Dr. Ammira Al-Shabeeb Akil**, Principal Investigator, Genetics and Metabolic Disorders Program Lead, Head, Precision Medicine of Diabetes Prevention laboratory, Sidra Medicine

Session 2 – Obesity Research **Learning Objective:** Understand Interventions and Therapeutic Targets in Obesity Management and Care		
Moderators	**Dr. Tariq Chukir** Assistant Professor of Medicine, Weill Cornell Medicine-Qatar (WCM-Q)	**Dr. Kholoud Al Mutawaa** Co-Chair, National Diabetes Committee, Ministry of Public Health (MoPH)
10.50-11.30am	**Interventions to Prevent Obesity through Maternal Health** **Prof. Jodie Dodd**, Professor Obstetrics and Gynaecology, University of Adelaide, Robinson Institute, Australia	
11.30-11.50am	**Endocannabinoid System as Targets for Obesity Treatment** **Dr. Abdella Mohammed Habib**, Assistant Professor of Biochemistry, Qatar University (QU)	
11.50am-12.10pm	**Prayer time and Coffee**	
Session 3 – New Discoveries **Learning Objective:** Explore Precision Medicine, and Emerging Concepts in Diabetes and Obesity Research		
Moderators	**Prof. Shahrad Taheri,** Chair of the Diabetes Research Sub-Committee, National Diabetes Strategy	**Dr. Abdelilah Arredouani** Senior Scientist, Diabetes Research Center, Qatar Biomedical Research Institute (QBRI), Associate Professor, College of Health & Life Science, Hamad Bin Khalifa University (HBKU)
12.10-12.50pm	**Precision Bariatric Surgery** **Prof. Francois Pattou**, Professor of Surgery, Faculty of Medicine, Lille University, France	
Young Researchers' Presentations		
12.50-1.00pm	**Covid-19 and Obesity – Survey Data** **Ms. Hawra Al-Saygh**, Clinical Research Officer, Hamad Medical Corporation (HMC)	
1.00-1.10pm	**Early Corneal Nerve Loss in Children with Obesity and Diabetes** **Dr. Hoda Gad**, Clinical Research Specialist, Weill Cornell Medicine-Qatar (WCM-Q)	
1.10-1.20pm	**Investigating Molecular Pathways of Cellular Senescence in Preadipocytes** **Dr. Aisha Madani**, Postdoctoral Associate in Microbiology and Immunology, Weill Cornell Medicine-Qatar (WCM-Q)	
1.20-1.30pm	**Enhanced Generation of Functional Stem Cell-Derived Pancreatic Beta Cells** **Dr. Idil Ahmed**, Postdoctoral Fellow, Sidra Medicine	
1.30-1.40pm	**The Metabolic Switch of Physical Activity in Non-Obese Insulin Resistant Individuals** **Ms. Shamma Almuraikhy**, Senior Research Assistant, Qatar University (QU)	
1.40-1.50pm	**UHRF1, an E3 Ubiquitin-Protease Ligase, Regulates Adipogenesis in Preadipocytes** **Dr. Muneera Vakayil**, Postdoctoral Associate in Microbiology & Immunology, Weill Cornell Medicine-Qatar (WCM-Q)	
1.50-2.00pm	**Q&A**	
2.00-2.40pm	**Genetics of Type 2 Diabetes** **Prof. Inga Prokopenko**, Professor e-One Health and Head of Statistical Multi-Omics, Academic and Research Department, University of Surrey, UK	
2.40-2.50pm	**Discussion – Reflections** **Prof. Shahrad Taheri**, Chair of the Diabetes Research Sub-Committee, National Diabetes Strategy	
2.50-3:30pm	**Lunch**	

The Eighth Qatar Diabetes, Endocrinology and Metabolic Conference (QDEM-8) and Third Qatar Diabetes and Obesity Research Symposium is an Accredited Group Learning Activity Category 1 as defined by the Ministry of Public Health's Department of Healthcare Professions - Accreditation Section and is approved for a maximum of _18_ hours.

The scientific planning committee has reviewed all disclosed financial relationships of speakers, moderators, facilitators, and/or authors in advance of this CPD activity and has implemented procedures to manage any potential or real conflicts of interest.

CONTENTS

NOTES

WELCOME ADDRESS

Welcome to the Third Qatar Diabetes & Obesity Research Symposium. The annual research symposia are a key initiative by the Qatar National Diabetes Strategy Research Sub-Committee and aim to highlight key research activities in diabetes and obesity in Qatar and to foster greater collaboration nationally and internationally to tackle the health challenges of diabetes and obesity. The symposia are complemented by regular webinars to reach a wider audience of researchers, physicians, nurses, and allied health care professionals. The webinars continue to be successful with nearly 2000 attendees/session. The symposium and webinars owe their success to the efforts of key health care and research institutions and leaders in Qatar and the dedication of the Qatar National Diabetes Strategy Research Sub-Committee and the Scientific Planning Committee.

Both diabetes and obesity pose significant health and societal challenges globally. Here in Qatar, we are keenly aware of the growing impact of diabetes and obesity and a roadmap for research in these areas has been set by the Diabetes and Cardiovascular Disease Risk Factors Research Agenda. Following this roadmap will set research in the direction to provide public health and clinical impact to improve the health of the population.

The first two research symposia successfully highlighted the priority given to diabetes and obesity research in Qatar and have significantly facilitated researcher collaboration and engagement. The symposia attract a diverse group of participants – researchers from Qatar and abroad, healthcare professionals, and experts in the field. This unique blend of perspectives promises an enriching experience for all.

This booklet contains the abstracts that are going to be presented during the event. The booklet also provides a comprehensive overview of the current state of diabetes and obesity research in Qatar, highlighting ongoing projects across institutions with potential implications for the future. The booklet also contains the list of published articles from all institutions in Qatar during 2023-24.

This year, the symposium covers three major thematic areas: Type 1 Diabetes, Obesity, and New Discoveries. The topics reflect the commitment to exploring a comprehensive range of solutions for screening, prevention, diagnosis, treatment and reversal of diabetes and obesity in Qatar. We will also hear young researchers from Qatar sharing their novel research findings. Research in Qatar has the potential for making a significant contribution to finding solutions for diabetes and obesity that extends beyond Qatar.

On behalf of the organising committee, the Qatar National Diabetes Strategy Research Sub-Committee, and the Qatar National Diabetes Strategy Committee, we are delighted with your active participation and commitment to research, and hope that the symposium will be a strong springboard to advance diabetes and obesity research in Qatar. Let's continue to all work together to provide the evidence to build a healthier vibrant population.

Professor Shahrad Taheri

Chair, Qatar National Diabetes Strategy Research Sub-Committee

SYMPOSIUM SCIENTIFIC AND PLANNING COMMITTEE

Prof. Shahrad Taheri	Chair of the Scientific and Planning Committee, Qatar Metabolic Institute, Hamad Medical Corporation
Dr. Dabia Al-Mohanadi	Hamad Medical Corporation
Mrs. Mariam Nooh Al – Mutawa	Hamad Medical Corporation
Dr. Kholoud Al Mutawaa	Ministry of Public Health
Dr. Mohamed Ahmed Syed	Primary Health Care Corporation
Dr. Amany Salama Dahir	Ministry of Public Health
Dr. Ammira Al-Shabeeb Akil	Sidra Medicine
Ms. Katie Nahas	Qatar Diabetes Association
Dr. Tariq Chukir	Weill Cornell Medicine-Qatar
Prof. Mohamed Aghar Elrayess	Qatar University
Dr. Abdelilah Arredouani	Qatar Biomedical Research Institute
Dr. Odette Chagoury	Qatar Metabolic Institute, Hamad Medical Corporation
Dr. Amit Mishra	Ministry of Public Health
Ms. Ioanna Skaroni	Ministry of Public Health, Qatar Metabolic Institute, Hamad Medical Corporation

SYMPOSIUM ORGANISING COMMITTEE

Prof. Shahrad Taheri	Chair of the Organising Committee, Qatar Metabolic Institute, Hamad Medical Corporation
Dr. Odette Chagoury	Qatar Metabolic Institute, Hamad Medical Corporation
Dr. Amit Mishra	Ministry of Public Health
Ms. Ioanna Skaroni	Ministry of Public Health, Qatar Metabolic Institute, Hamad Medical Corporation
Ms. Hamda Alkorbi	Ministry of Public Health
Ms. Iman Abutayyem	Ministry of Public Health
Ms. Lama Malas	Ministry of Public Health

OPENING REMARKS

Diabetes and obesity are global threats. Millions live with diabetes, with projections indicating a sharp rise. Here in Qatar, the gravity of these conditions cannot be understated. In Qatar, a significant portion of our population grapples with these burdens. Diabetes and obesity cast a long shadow, impacting not just the physical wellbeing and quality of life of individuals but also straining healthcare systems. Both conditions have a strong genetic component but are fueled by environmental factors.

Given this alarming prevalence, we, as researchers and healthcare professionals, have a critical responsibility. Our focus must be multi-dimensional: preventing, diagnosing, and treating these conditions, while deepening our understanding of their underlying causes and risk factors.

In this symposium, we celebrate the power of research – the very weapon with which we will forge a healthier future. This symposium is a testament to our unwavering commitment to finding solutions.

Exciting research avenues exist in this area - from exploring the pathophysiology of metabolic diseases to developing personalised approaches for prevention and treatment. Advancements in technology like genomics allow us to identify high-risk individuals and tailor interventions.

This symposium aligns with the goals of the National Diabetes Strategy and Research Agenda developed by MoPH to foster diabetes and risk factors research in Qatar. The first two symposia in 2022 and 2023 paved the way for prioritising research in this area. I am confident that this third symposium will solidify research collaboration, knowledge sharing and ignite young researchers to explore innovative research ideas to tackle this growing burden.

In this symposium, we will have the privilege of learning from some of the most distinguished minds in the field. Renowned national and international experts will grace this stage, sharing their groundbreaking research on the prevention, diagnosis, and treatment of diabetes and obesity. We will delve into the latest advancements, exploring the intricacies of these conditions and the promising avenues for intervention.

Together, let's leverage this platform to accelerate progress against diabetes and obesity.

Dr. Sheikh Mohamed Al-Thani

Director of Non-Communicable Diseases Prevention Programs
Ministry of Public Health

OPENING SESSION: Speaker Bios & Abstracts

Dr. Ali Abbara

Faculty of Medicine, Department of Metabolism, Digestion and Reproduction, Clinical Senior Lecturer in Diabetes and Endocrinology, Imperial College London, UK

Dr. Ali Abbara is an NIHR Clinician Scientist/Clinical Senior Lecturer/Honorary Consultant in Reproductive Endocrinology at Imperial College London and Imperial College Healthcare NHS Trust. He graduated with honours from St Bartholomews' and the Royal London Medical School in 2004. As well as completing clinical training in Endocrinology, he has been awarded several fellowships and grants from the UK NIHR, MRC, and the Wellcome Trust to undertake research in reproductive endocrinology. He completed his PhD in reproductive neuroendocrinology at Imperial College London in 2014.

He has been awarded more than twenty post-graduate prizes and is currently supported by an NIHR Clinician Scientist Award. He continues to conduct research in reproductive endocrinology with a particular focus on the translational use of the hypothalamic neuropeptide kisspeptin to improve diagnosis and treatment of reproductive disorders. He has published more than one hundred peer-reviewed academic articles including on in vitro fertilisation (IVF) treatment, polycystic ovary syndrome (PCOS), functional hypothalamic amenorrhoea, and hypogonadotrophic hypogonadism. He has a particular interest in deciphering the neuroendocrine mechanisms of reproductive disorders and the impact of obesity.

"Kisspeptin and its Role in Physiology and Disease"

Kisspeptin acts in the hypothalamus to stimulate gonadotropin releasing hormone (GnRH) neurons, and in turn, the remainder of the hypothalamic-pituitary-gonadal (HPG) endocrine axis. Several reproductive disorders are caused by hypothalamic dysfunction. Due to its mechanism of action, kisspeptin can be used to evaluate hypothalamic function and aid in the diagnosis of reproductive and pubertal disorders. Circulating kisspeptin levels are dramatically elevated during healthy pregnancy, and kisspeptin has shown potential as a predictive biomarker of pregnancy complications.

Additionally, kisspeptin can be used therapeutically to restore reproductive health in conditions where hypothalamic function is reduced such as in functional hypothalamic amenorrhoea (FHA). Moreover, kisspeptin is the natural instigator of ovulation, and it can be used during in vitro fertilisation (IVF) treatment to induce a more physiological degree of ovarian stimulation that minimises the risk of the dangerous complication 'ovarian hyperstimulation syndrome' (OHSS). Collectively, kisspeptin has shown significant potential to improve patient-care by advancing the diagnosis and treatment of reproductive disorders.

Dr. Sheikh Mohamed Bin Hamad Al Thani

Director of Non-Communicable Diseases Prevention Programs, Ministry of Public Health, Qatar
Associate Professor of Clinical Population Health Sciences (Courtesy), Weill Cornell Medicine-Qatar and Qatar University

Dr. Sheikh Mohamed Bin Hamad Al Thani is a distinguished figure in the world of public health, renowned for his exceptional leadership and diverse contributions. As the Director of the Department of NCDs Prevention Programs at the Ministry of Public Health in Qatar, Dr. Al Thani has been instrumental in driving forward national health policies and programs, focusing on enhancing the well-being of the population.

A visionary in public health strategy, Dr. Al Thani excels in strategic leadership, policy development, and program execution. His dynamic approach has significantly shaped Qatar's public health landscape, aligning it with both national priorities and international best practices. He is known for his adept skill in formulating policies that prioritize population health, backed by his strong commitment to evidence-based decision-making.

In addition to his leadership roles, Dr. Al Thani is deeply involved in academia. He holds the esteemed positions of Professor at Qatar University and Associate Professor of Clinical Healthcare Policy and Research at Weill Cornell Medical College. His academic endeavors focus on healthcare policy, health systems management, and healthcare quality improvement, reflecting his dedication to nurturing the next generation of healthcare professionals.

Dr. Al Thani's influence extends beyond national borders through his active participation in international forums and his role as a representative of Qatar in the World Health Assembly. He is also an integral member of the Health Ministers' Council for Gulf Cooperation Countries and has played a pivotal role in the Public Health Implementation Group (PHIG) and the Qatar Steering COVID-19 Committee. His contributions to the Scientific Reference and Research Taskforce (SRRT) further underscore his commitment to evidence-based public health interventions.

A prolific researcher, Dr. Al Thani has published over 70 scientific articles in prestigious journals, contributing significantly to the global discourse on public health. His research not only showcases his expertise but also his pursuit of advancing public health knowledge.

Dr. Sheikh Mohamed Bin Hamad Al Thani's career is marked by a passion for improving healthcare outcomes and a dedication to public service. His leadership, academic contributions, and research endeavors make him a true asset to the field of public health, both in Qatar and on the international stage.

"National STEPWise Survey on Non-Communicable Diseases"

The WHO STEPwise approach to surveillance (STEPS) is a globally comparable, standardised, and integrated surveillance tool to collect, analyse and disseminate core information on noncommunicable diseases (NCDs) and their risk factors.

The findings from first Qatar STEPwise survey 2012 showed that more than 50% of participants had three or more of the NCDs risk factors including Current smokers: 16.4%, Obese (BMI ≥30 kg/m^2): 41.4%, Raised BP or currently on medication for raised BP: 32.9% and Fasting blood glucose or currently on medication for raised blood glucose: 16.7%.

The second cycle of National Stepwise survey was conducted in 2023-24 to help record prevalence, trend, and distribution of NCDs and risk factors such as smoking, lack of physical activity, unhealthy nutrition, obesity, hypertension, increased blood glucose and increased blood lipids, to make evidence-based public health decisions and to predict expected future demands for health services.

The survey participants between the age of 15 -69 years from both Qatari and Non-Qatari population were selected by 2- stage random cluster sampling. The survey was conducted for more than 8800 participants in 3-STEPs including STEP 1 – questionnaire (household interviews), STEP 2 – physical measurements (height, weight, blood pressure, heart rate and waist circumference), STEP 3 – blood samples (Fasting Blood Glucose, lipid profile, HBA1c, and urine for Sodium and creatinine level).

The data collection phase has been completed and survey findings in form of Country Fact Sheet will be available by end of May 2024 and detailed report by the end of August 2024.

SESSION 1 – TYPE 1 DIABETES RESEARCH: Moderator Bios

Dr. Dabia Al-Mohanadi MD, FRCPC

Sr. Consultant, Endocrinology, Division Head of Endocrinology, Deputy of Qatar Metabolic institute (QMI)
Assistant Chair for Education -Department of Medicine, Hamad Medical Corporation (HMC)

Dr. Dabia earned her undergraduate degree from King Faisal University, KSA in 2000. She embarked on her medical journey by joining HMC for her internship year and subsequently pursued her residency at the Royal College of Physicians, University of Toronto, Canada. After completing her residency, she further honed her expertise through a Fellowship in Endocrinology and Diabetes at the University of Ottawa.

In 2010, Dr. Dabia rejoined HMC, this time as a consultant within the same specialty. From 2015 onwards, she has led the Diabetes Technology Program and assumed the role of Head of the Technology and Diabetes Unit. Additionally, Dr. Dabia holds a significant position at the National Diabetes Centre, actively participating in the Qatar National Diabetes Committee. Notably, she was recently appointed as the Head of the Division of Endocrine and Deputy of the Qatar Metabolic Institute.

In addition to her clinical commitments, Dr. Dabia has emerged as a driving force in the realm of medical education. She commenced her journey as the Deputy Program Director for the Internal Medicine Residency Program in 2010, subsequently ascending to the position of Program Director. In 2018, she assumed the additional mantle of overseeing the Endocrine Fellowship Program. Dr. Dabia plays an indispensable role in the oversight and evaluation of both residents and fellows, ensuring that the highest benchmarks in training are upheld within the Department of Medicine at HMC. Since the inception of 2020, she has held the esteemed position of Assistant Chair for Education within the Department of Medicine, underscoring her unwavering commitment to the field of medical education.

Furthermore, she serves as the Chair of the Examination Sub-Committee for the Qatari Board of Medical Specialties and stands as the representative for medicine from Qatar at the Arab Board of Health Specializations.

Dr. Mohamed Aghar Elrayess

Director of Basic Research, Health Sector, Qatar University (QU)

Dr. Mohamed Elrayess is the director of basic research at Qatar University's Health Cluster. He has a PhD in cardiovascular genetics from University College London, United Kingdom, in 2003. He worked as a postdoctoral fellow at the Cardiovascular Medicine unit at University College London (2003-2004) and as a scientist at Eisai (2004-2012), a top international pharmaceutical company, where he developed skills in drug discovery and development, mainly focusing on stem cell therapy. He then spent the following 7 years (2012-2019) working as a senior scientist at Anti-Doping Lab Qatar, an international testing laboratory for doping abuse in elite athletes, using various OMICS approaches for the identification of novel biomarkers of insulin resistance and diabetes and investigating genetics and metabolomics of elite athletes. Dr. Elrayess joined Qatar University in 2019 as a Research Associate Professor at the Biomedical Research Center, spearheading the OMICS research group. His work centers on exploring novel biomarkers and therapeutic targets in insulin resistance and diabetes through Pharmacometabolomics and Pharmacogenomics approaches. He has over 80 publications, supervised 3 PhD students and a number of MSc students and raised more than 4 million USD research funding.

SESSION 1 – TYPE 1 DIABETES RESEARCH: Speaker Bios & Abstracts

Prof. Parth Narendran

Professor of Diabetes Medicine, Honorary Consultant Physician, Institute of Immunology and Immunotherapy, University of Birmingham and The Queen Elizabeth Hospital Birmingham, UK

Parth Narendran is based at the University of Birmingham and at Queen Elizabeth Hospital, Birmingham. He qualified from King's College London and undertook his post-graduate clinical training in Manchester, Bristol and London. He conducted his PhD studies on the immune mechanisms underlying the development of type 1 diabetes whilst at Bristol. He was subsequently awarded a JDRF post-doctoral fellowship in Melbourne, Australia.

Parth's clinical interests focus on type 1 diabetes, and he supports the type 1 services at the Queen Elizabeth Hospital, Birmingham. These includes the Dose Adjustment for Normal Eating (DAFNE) programme, the adolescent transition, insulin pump, glucose sensing and islet/pancreas transplant services. Supporting patients to exercise is a core interest of the service.

Parth's research interests also focus on type 1 diabetes. He has a long-standing interest in preserving the function of insulin producing pancreatic beta cells in type 1 diabetes. With recent advances in immunotherapy delaying the onset of type 1 diabetes, he has become involved in national initiatives to explore how best to identify people who will benefit from such therapy.

"Type 1 Diabetes Immunology"

Type 1 diabetes (T1D) is an immune mediated disease with metabolic consequences. Whilst it has been traditional to approach the management of T1D as purely that of managing glucose, appreciating the immune nature to this condition will allow us to manage our patients more effectively. This lecture is clinically focussed and will explore how understanding the immunology of T1D facilitates the prediction, diagnosis, management and potentially even the prevention of this condition. It will describe the autoantibodies used to predict and diagnose T1D, how genetics can help with prediction, and the role of C peptide in prediction and defining T1D. The lecture will also describe how new therapies are now licensed for prevention of T1D and how they can be used in our clinic.

Dr. Khaled Ahmed Baagar M.B.B.Ch, CABM, FRCP, FACE

Consultant Endocrinologist, Endocrine Department, Hamad Medical Corporation (HMC)
Assistant Professor of Clinical Medicine, Weill Cornell Medicine-Qatar (WCM-Q)

Dr. Khaled joined HMC as a resident in the Internal Medicine department then he pursued his fellowship training in Diabetes and Endocrinology. In 2018, Dr. Khaled received the Fellowship of the American College of Endocrinology (FACE). In 2020, He was elected for the Fellowship of the Royal College of Physicians (FRCP, London).

Dr. Khaled has many research activities with publications and serves as a journal peer reviewer. He is actively participating in medical students, residents, and fellows teaching, and he has been awarded from WCM-Q for his commitment and dedication to teaching, and also from Endocrine fellowship training Program (HMC) by "Best Teacher Award 2019". He is a member of different regional, American, and European Endocrine Societies.

Dr. Khaled has a special interest in the use of insulin pump and continuous glucose monitoring in diabetes management and he received the "Rising Star Award 2018" among the team of Technology and Diabetes Unit (TADU), HMC, awarded by Her Excellency Minister of Public Health and managing director of HMC. Also, he is interested in managing diabetes and endocrine disorders in pregnancy and he received the "Rising Star Award 2019" among the team of Diabetes in Pregnancy Unit, HMC.

"Automated Insulin Delivery for Safe Fasting and Exercise During Ramadan in T1DM"

Background and Aims: Evidence on exercise's effect on glycemic outcomes in type 1 diabetes (T1D) during Ramadan fasting is lacking. We aimed to assess the safety of moderate-intensity exercise (MIE) in Ramadan in individuals with T1D using MiniMed 780G.

Methods: In this prospective, single-arm study, we recruited adults with T1D using MiniMed 780G. We compared time below range (TBR) and time in range (TIR) between Ramadan (fasting) and Shawal, the month after Ramadan (non-fasting). Patients performed MIE (brisk walking >100 steps/minute; Tudor-Locke et al. 2018) for 30 minutes/day, 5 days/week, during eating hours in Ramadan and at any time in Shawal, with activation of the 780G's "Temp target" feature. Patients wore an activity-detecting device for step counting and monitoring compliance through an online platform. Diabetes Treatment Satisfaction Questionnaire (DTSQ-status) was conducted.

Results: We enrolled 35 individuals (19 females), aged 27.9±8.4 years, with T1D duration of 15.5±7.3 years. HbA1C, TIR, and TBR were 7.7±1.4%, 64±15%, and 1.8±1.6%, respectively. The compliance to fasting was 90.5%, and to exercise in Ramadan and Shawal was 84.4% and 88%, respectively. TIR [Mean (SD) of 66.9±12.3% vs. 63.2±14.8%, P=0.0134], and time above range [Mean (SD) of 31.2±12.7% vs. 35.4±15%, P=0.0088] were better in Ramadan versus Shawal. TBR [Mean (SD) of 1.82±1.89% vs. 1.47±1.46%, P=0.2107], HbA1c [Mean (SD) of 7.6±1.2% vs. 7.6±1.4%, P=0.98], and DTSQ satisfaction score [Mean (SD) of 31.8±3.9 vs. 32.7±3.6, P=0.30] had no significant differences. No severe hypoglycemia or DKA was reported.

Conclusions: Adults with T1D using Minimed 780G and fasting in Ramadan can safely do MIE during eating hours.

Dr. Ammira Al-Shabeeb Akil

Principal Investigator, Genetics and Metabolic Disorders
Program Lead, Head, Precision Medicine of Diabetes Prevention laboratory, Sidra Medicine

Dr. Akil assumes the leadership role within Sidra Medicine's Genome 2 Cure (G2C) clinical research program, specialising in the study of genetic and metabolic diseases. Furthermore, she oversees the operations of the Precision Medicine of Diabetes Prevention lab at Sidra Medicine in Doha, Qatar, and holds the position of the lab's Lead Principal Investigator. Dr. Akil's profound contributions to clinical genomic research, particularly in the domains of complex metabolic which strengthened by her experience in population-based research, cohorts design and the development of screening initiatives. Her collaborative efforts extend to working closely with clinical and research colleagues at Sidra Medicine and Qatar Precision Health Institute, Hamad Medical Corporation, as well as other collaborating partners within Qatar and on an international scale.

Dr. Akil plays a pivotal role in advancing the development of genomic sequencing programs for newborn screening in Qatar, with the primary objective of detecting and addressing treatable disorders encompassing both monogenic and polygenic diseases. Driven by innovation, her strategic approach seamlessly merges the application of cutting-edge research technology with a profound commitment to nurturing the research landscape in Qatar, all while maintaining a committed focus on precision medicine. Significantly, Dr. Akil leads initiatives that utilise Genetic and Polygenic Risk Scores for the screening of diseases of national significance, notably exemplified by her work in the realm of type 1 diabetes. Her pioneering research endeavors consistently attract significant attention and funding, cementing her position as a prominent in the fields of genomics and precision medicine.

Dr. Akil's remarkable contributions have secured over $7 million in research grants from various funding organisations. Her dedication to advancing knowledge in her field is further underscored by her active membership in prestigious professional organisations, including the American Diabetes Association, the International Society for Pediatric and Adolescent Diabetes (ISPAD), the International Diabetes Society (IDS), the European Association for the Study of Diabetes (EASD), and the INNODIA.

"DIA-MENA: Type 1 Diabetes Islet Autoantibody Screening Initiative in the Middle East and North Africa"

Islet autoantibodies (IAbs) serve as crucial markers for identifying individuals at risk of developing type 1 diabetes (T1D), often manifesting years before clinical diagnosis. Detecting IAbs in individuals at high risk before symptoms appear could potentially decrease morbidity and medical costs associated with clinical onset and open avenues for preventive therapy. However, the age of IAb development varies across geographic regions and populations, posing challenges for cross-sectional screening initiatives that may miss cases seroconverting after assessment or those developing hyperglycemic T1D before screening.

An alternative approach involves identifying high-risk babies at birth and longitudinally monitoring their IAb levels. Historically, this was achieved by monitoring close relatives of T1D patients or newborns with high-risk HLA alleles for T1D.

Currently, the number of islet autoantibodies combined with glucose tolerance factors forms the basis of T1D risk staging. Despite the effectiveness of this pre-clinical staging system in directing monitoring and enrollment for prevention clinical trials, longitudinal studies have revealed significant heterogeneity in progression rates among individuals within defined clinical stages. Accurately identifying fast-progressing individuals is crucial for risk assessment, clinical trial design, and future treatment eligibility.

However, there is a notable absence of T1D screening initiatives or studies in the general population or high-risk individuals in Qatar and the broader Middle East. This presents an opportunity in regions with rapidly changing T1D incidence rates to enhance understanding of T1D risk and progression. Leveraging complementary data such as age, genetic risk, and family history alongside IAbs status could enable better prediction of future T1D risk in children.

SESSION 2 – OBESITY RESEARCH: Moderator Bios

Dr. Tariq Chukir

Assistant Professor of Medicine, Weill Cornell Medicine -Qatar (WCM-Q)

Dr. Tariq Chukir is an Assistant Professor of Medicine at Weill Cornell Medicine-Qatar (WCM-Q) and an endocrinology consultant at the Qatar Metabolic Institute. He has a clinical interest in obesity and preventive medicine. He is American Board-certified in Internal Medicine, Endocrinology, Obesity Medicine and Clinical Lipidology. Dr. Chukir is the co-director of the Internal Medicine and Anesthesia & Critical Care Clerkship at WCM-Q. Dr. Chukir is currently the chair of the WCM-Q Grand Rounds committee.

Dr. Kholoud Al-Mutawaa BSc, M.D, RTPCM, PHD, Executive MBA – HEC PARIS University

Senior Consultant Public Health, Head Of Non-Communicable Diseases in the Ministry of Public Health
World Health Organization Award Winner 2023

Dr. Al-Mutawaa is a Senior Consultant in public health and head of non-communicable diseases in the MoPH since 2012 and diabetes prevention program manager since 2019. She is the Co-Chair of the National Diabetes Committee (MoPH), A member in the National Screening Programs Committee, represent the ministry in the National Drug Addiction Prevention Committee and The Liaison Officer for The Sustainable Development Goals in the State of Qatar. Dr Kholoud is highly involved in the implementation of health promotion programs including diabetes projects, tobacco cessation, mental and addiction, accidents, oral health, vision, and trauma, as well as public health-related research. She is responsible for both the Community medicine resident's rotation as well as Qatar University public health students' rotation at the NCD section in the MoPH.

She is leading many national programs, improving the governance/management model for Non-Communicable Diseases and she is the Non- Communicable Diseases national focal point in WHO Geneva as well as a national member in the Gulf Cooperation Council (GCC) Diabetes Committee.

She was appointed in 2021 as a chair of EMRO Bureau of the Protocol to Eliminate Illicit Trade in Tobacco Products in WHO Geneva as well as a WHO FCTC (WHO framework convention on tobacco control) focal point since 2014.

SESSION 2 – OBESITY RESEARCH: Speaker Bios & Abstracts

Prof. Jodie Dodd

Professor of Obstetrics & Gynaecology, The University of Adelaide, Robinson Research Institute, Australia

Professor Jodie Dodd is an obstetrician, maternal fetal medicine specialist and Practitioner Fellow at the Women's and Children's Hospital and a clinical researcher at the University of Adelaide. She leads a multi-disciplinary research group including students and is an international authority on obesity during pregnancy and early life approaches to obesity prevention.

Professor Dodd's research is driven to ensure that care for women and their infant's is effective, and that treatment benefits outweigh harms. Randomised trials, systematic reviews and meta-analyses remain the gold standard research methodology for establishing the effects of different forms of care.

Professor Dodd currently holds a NHMRC Practitioner Fellowship, and prior to that a Neil Hamilton Fairley Fellowship, which enabled post-doctoral work to be undertaken through the University of Toronto, Canada. She is editor for the Pregnancy and Childbirth Group of the Cochrane Collaboration and past Chair of the South Australian Maternal and Neonatal Clinical Network.

In recognition of her outstanding contributions to the field, Professor Dodd was awarded an L2 Investigator Grant from the NHMRC (2021-2025) for her project "Healthy diet and weight management in pregnancy: evidence to ease a hefty clinical burden".

" Interventions to Prevent Obesity through Maternal Health"

Approximately 50% of women in developed countries enter pregnancy with a BMI above 25.0kg/m^2. Overweight and obesity in pregnancy is associated with many well documented adverse outcomes in pregnancy both for the woman and her infant. This presentation will focus on considering some pregnancy related interventions which have been proposed as strategies to tackle overweight and obesity, including the impact on longer-term childhood health and wellbeing.

Dr. Abdella Mohammed Habib

Assistant Professor of Biochemistry, Qatar University (QU)

Dr. Abdella M Habib was appointed as an Assistant Professor of Biochemistry at the College of Medicine (CMED) at QU in 2017; and is also a visiting researcher/lecturer in Metabolism and Experimental Therapeutics at University College London, U.K.

Before joining CMED, he undertook post-doctoral training at the University of Cambridge and University College London and post-graduate training at Cold Spring Harbor Laboratory, USA. He holds a Ph.D. in Clinical Biochemistry from the University of Cambridge and a bachelor's degree from Imperial College London, U.K.

His research activities relate primarily to the nutrient-sensing endocrine cells in the intestine and the genetics of damage-sensing neurons, particularly in the context of pain, diabetes, appetite regulation, critical illness, and aging. Dr. Habib has co-authored in top-tier scientific journals including Nature Medicine, Cell Metabolism and Brain, with more than 7400 citations to date (source: Google Scholar).

His most recent research, which was published in the neurology journals Brain (2023 and 2018) and the British Journal of Anaesthesia (2019), result from work studying families with rare Mendelian pain disorders in which two novel pain insensitivity genes were discovered, ZFHX2 and FAAH-OUT. These discoveries attracted worldwide media attention, including being featured in The New York Times, BBC and Aljazeer. He aims to translate the identification of novel drug targets into therapies for obesity and chronic pain disorders.

"Endocannabinoid System as Targets for Obesity Treatment"

Introduction: Millions of people worldwide suffer from chronic pain, obesity and type-2 diabetes, necessitating urgent progress in treatment methods. Endocannabinoid signalling regulates pain, feeding and metabolic processes and is linked to obesity development. The endocannabinoid, anandamide (AEA), is an endogenously occurring fatty acid derivative which activates cannabinoid receptor type-1 (CB1) and stimulates Glucagon-like Peptide-1 (GLP-1) and Gastric Inhibitory Polypeptide (GIP) secretion. Fatty acid amide hydrolase (FAAH) is the primary degradative enzyme for AEA. Previously we have reported the expression of endocannabinoid receptors in GLP-1 and GIP hormone-secreting enteroendocrine cells. In this study, we assessed the expression of Faah in both L-cells and K-cells in mice, and explored how FAAH expression is regulated in humans using CRISPR-Cas9 approaches by targeting a novel long non-coding RNA, FAAH-OUT.

Methods: L-cells were isolated by enzymatic digests of the upper small intestine and colon from GLP1-Venus mice. Venus-positive single cells were FACS purified and the relative expression of Faah was determined by quantitative RT-PCR. In a parallel study, we used CRISPR interference and CRISPR activation approaches to down- and up-regulate the expression of FAAH-OUT.

Results: Here we report that FAAH is expressed in both L-cells and K-cells. FAAH-OUT (which is found in the human genome but not in rodents) was shown to regulate in cis the expression of FAAH.

Conclusions: Given FAAH's importance in regulating feeding, insulin sensitivity and GLP-1 secretion this new mechanistic insight of FAAH-OUT's regulatory role provides a platform for the future potential development of novel FAAH-OUT-targeted therapies to regulate weight gain.

SESSION 3 – NEW DISCOVERIES: Moderator Bios

Prof. Shahrad Taheri

Chair of the Diabetes Research Sub-Committee, National Diabetes Strategy, Ministry of Public Health (MoPH)
Senior Consultant, Endocrinology, Hamad Medical Corporation (HMC)
Professor of Medicine, Weill Cornell Medicine (WCM)
Professor of Diabetes and Endocrinology, University of Leicester, UK

Professor Taheri is a graduate of University of Oxford, graduated with honours in Medicine from University of London and obtained his PhD from Imperial College London, followed by post-doctoral research training at Stanford University as a Howard Hughes Research Associate. He has extensive experience in leading large multi-disciplinary clinical and research teams. He has over 200 publications, is recognised as within the top 2% of scientists worldwide and has won several awards for his research and clinical care. Over the years, his research has attracted over $90M. Professor Taheri's research was one of the first to show that sleep duration is associated with obesity, increasing recognition of sleep as an important lifestyle factor. Recently, his internationally acclaimed research in Qatar, and the first clinical trial aiming at reversing diabetes in the Middle East, showed that it is possible to reverse type 2 diabetes in a significant number of patients through intensive lifestyle intervention.

Professor Taheri has over 25 years' experience in managing people with obesity and bariatric surgery and led the largest obesity centre in the UK National Health Service before coming to Qatar in 2013 as Professor of Medicine at Weill Cornell Medical College-Qatar (WCM-Q) and Senior Consultant in Endocrinology at Hamad Medical Corporation (HMC). He is Editor In Chief of Clinical Obesity and has been a member of the Clinical Care Committee of the World Obesity Federation. Professor Taheri is passionate about patient care and research to improve patient care and services.

Dr. Abdelilah Arredouani

Senior Scientist, Diabetes Research Center, Qatar Biomedical Research Institute (QBRI)
Associate Professor, College of Health & Life Sciences Hamad Bin Khalifa University (HBKU)

Dr. Abdelilah Arredouani obtained a master's degree in biotechnology management, option molecular biology, and a Ph.D. in biomedical sciences, option cell physiology, both from Belgium. He then worked in the Netherlands at the Erasmus Medical Center in Rotterdam, in the UK at Oxford University, and in Qatar at Cornell Medical College. He is currently a Senior Scientist at Qatar Biomedical Research Institute (QBRI) and Associate Professor at Hamad Bin Khalifa University (HBKU). His research focuses mainly on identifying new biomarkers for early diagnosis and prediction of prediabetes and type 2 diabetes. He is also interested in understanding the mechanisms that underly the beneficial effect of the glucagon-like peptide-1 receptor agonists on non-alcoholic fatty liver disease. He has published in high impact peer-reviewed journals, including diabetes, nature chemical biology, nature, current biology, JBC, Journal of translational medicine, and scientific reports.

SESSION 3 – NEW DISCOVERIES: Speaker Bios & Abstracts

Prof. François Pattou

Professor of General Surgery, Lille University, Lille, France
Head, General and Endocrine Surgery, University Hospital, Lille, France
Director, Translational research on Diabetes, Univ Lille, CHU Lille, Pasteur Institute

François Pattou is professor of Surgery at the University of Lille since 2002, and head of the Department of General and Endocrine Surgery at Lille University Hospital since 2005. François Pattou also leads a research unit devoted the clinical development of biotherapies for treating diabetes (Inserm U1190), and is a funding member of the European Genomic Institute for Diabetes (EGID) in Lille, France.

François Pattou's research is devoted to the surgical treatment of endocrine and metabolic diseases and focused on cell therapy for type 1 diabetes and metabolic surgery for type 2 diabetes. He has authored more than 400 peer-reviewed articles which received > 37,000 citations (h-Index of 95 by Google scholar). François Pattou has conducted multiple clinical trials in islet cell transplantation and metabolic surgery as principal investigator. He also coordinates RHU-Precinash a private-public consortium for the study of non alcoholic steato- hepatitis. The recipient of numerous research grants from national and international institutions (Pro- gramme d'Investissements d'Avenir, European Commission, Innovative Medicine Initiative, Agence Na- tionale de la Recherche, Juvenile Diabete Research Fundation, Fondation Francophone pour le Re- cherche sur le Diabète, Fondation de l'Avenir, Fondation de la Recherche Médicale), François Pattou has been awarded by several scientific prizes. (National Academy of Medicine, Rachmine Levine scientific achievement award, Matmut award, Fondation de la recherche Médicale, Fondation Line Renaud-Loulou Gaste).

" Precision Bariatric Surgery"

Weight loss trajectories after bariatric surgery vary widely between individuals, and predicting weight loss before the operation remains challenging. We aimed to develop a model using machine learning to provide individual preoperative prediction of 5-year weight loss trajectories after surgery. In this multinational retrospective observational study we enrolled adult participants (aged ≥18 years) from twelve prospective cohorts in Europe, the Americas, and Asia, with a 5 year follow- up after Roux-en-Y gastric bypass, sleeve gastrectomy, or gastric band. Patients with a previous history of bariatric surgery or large delays between scheduled and actual visits were excluded. The primary outcome was BMI at 5 years. Among 10 231 participants in all 12 cohorts, 7701 (75·3%) were female, 2530 (24·7%) were male. Among 434 baseline attributes available in the training cohort, seven variables were selected: height, weight, intervention type, age, diabetes status, diabetes duration, and smoking status. At 5 years, across external testing cohorts the overall median absolute deviation (MAD) of BMI was 2·8 kg/m^2 (95% CI 2·6–3·0) and root mean squared error (RMSE) of BMI was 4·7 kg/m^2 (4·4–5·0), and the mean difference between predicted and observed BMI was −0·3 kg/m^2 (SD 4·7). Overall, we developed a machine learning-based model, which is internationally validated, for predicting individual 5-year weight loss trajectories after three common bariatric interventions. This model is incorporated in an easy to use and interpretable web-based prediction tool to help inform clinical decision before surgery.

Young Researchers

Ms. Hawra Al-Saygh

Clinical Research Officer, Hamad Medical Corporation (HMC)

Hawra graduated from Carnegie Mellon University with a Bachelor's of Science in Biological Sciences. She then worked as a Research Extern in a Immunoregulation Research Laboratory at Sidra Medicine. Currently she is working as a Clinical Research Officer at Hamad Medical Corporation with a focus in Diabetes Research. Areas of interest include: Translational Medicine and Genetics and Genetic Counseling.

"The Impact of the COVID-19 Pandemic on Lifestyle and Weight in Individuals Seeking Treatment for Obesity"

Background: The COVID-19 pandemic resulted in significant changes in everyday lifestyle habits. The impact of COVID-19 on people seeking treatment for obesity in Qatar has not been investigated.

Objectives: To examine the effect of the COVID-19 pandemic on people seeking treatment for obesity in Qatar, focusing on weight control, nutritional habits, physical activity, and psychological aspects.

Methods: A cross-sectional study was conducted at the National Obesity Treatment Center (Hamad Medical Corporation) in Qatar. Data were collected through an anonymous online survey completed by patients with eligibility criteria of BMI >27kg/m², age ≥18y, and understanding English or Arabic. Data was analysed using SPSS using Fisher Exact tests, t-tests and logistic regression.

Results: The results were obtained from 1004 collected surveys, with responses for analysis derived from 590 surveys. 63% of participants originated from the Middle East, 65% were women, and 29% had diabetes. 56% gained weight during the COVID-19 pandemic. Compared those who maintained or decreased their weight, those who gained weight during COVID-19 reported difficulty eating a healthy diet (53% Vs 34%; P<0.000), ordering more home food delivery (38% Vs 18%; P=0.000), reduced water intake (17% Vs 9%; P=0.007), and sitting more (70% Vs 46%; P= P=0.000). A greater number of people who gained weight slept ≤ 6h (51% Vs 36%; P=0.041) and had greater anxiety (78% Vs 60%; P=0.000). Using logistic regression, factors related to weight gain included lifestyle factors (food intake, water intake, and sedentariness). Whilst the majority were satisfied with remote medical consultation, those who had difficulty accessing medication were more likely to gain weight (21% Vs 13%; P=0.02).

Conclusions: The study highlights the impact of the COVID-19 pandemic on lifestyle habits of individuals with obesity in Qatar. COVID-19 was a vulnerable period for those seeking weight management. The outcomes of our findings can be utilized to educate patients with obesity about managing their weight and adapting to the consequences of future pandemics.

Dr. Hoda Gad

Clinical Research Specialist, Weill Cornell Medicine-Qatar (WCM-Q)

Dr. Gad studied Pharmacy at Qatar University in Doha, Qatar, and graduated with a BSc in 2013. She then specialized in Clinical Pharmacy at the University College London, UK, and earned her MSc in 2014. While working as a Clinical Research Coordinator at WCM-Q, she took her scientific career to the next level and received her PhD in 2023 from the Faculty of Science and Engineering at Manchester Metropolitan University, UK.

Dr. Gad's main focus of research is the use of corneal confocal microscopy (CCM) for the early detection of neuropathy in the pediatric population. She has already used this technique successfully in previous research projects where she assessed neuropathy in children with type 1 or type 2 diabetes, obesity, autism, and celiac disease. Due to her committed publication activity with more than 10 first authorships, Dr. Gad has gained a scientific reputation in the field of corneal nerves and CCM and has contributed to more than 40 original articles and systematic reviews, primarily in the research field of nerve loss in diabetes and other systemic diseases.

"Early Corneal Nerve Loss in Children with Obesity and Diabetes"

Background: Obesity is highly prevalent in the MENA region, especially in children and has been associated with neurodegeneration. We have undertaken corneal confocal microscopy (CCM) to assess for evidence of neurodegeneration in children with simple obesity and monogenic obesity (MC4R gene mutation) and further assessed the effect of GLP-1 therapy.

Methods: Participants and healthy controls without symptoms of neuropathy and normal vibration perception, underwent corneal confocal microscopy. Corneal nerve fiber density (CNFD), corneal nerve branch density (CNBD), and corneal nerve fiber length (CNFL) were quantified using ACCMetrics software.

Results: 126 children and adolescents with obesity (normoglycemic n=50, prediabetes n=14, T2DM n=20) (age 14 (13.8-15) years, BMI 31.9 (29.9-34.7) kg/m^2) and 20 healthy controls (HC) underwent CCM and neuropathy assessments. CNFD was comparable in obese children without diabetes (28.9±8.3, P=0.99), showed a trend for being lower in obese children with prediabetes (25.7±6.15, P=0.99) and T2DM (25.6±6.99, P=0.99) compared to HC (27.8±7.11). CNBD was significantly lower in obese children without diabetes (37.5 (33.3 – 41.6), P=0.005), prediabetes (29.2 (21.8-35.4), P<0.001) and T2DM (33.8 (25-43.7), P=0.011) compared to healthy controls (48.9 (43.8-66.2)). CNFL was significantly lower in obese children without diabetes (17.5±3.5, P=0.035), prediabetes (15.8±2.8, P=0.006) and T2DM (15.7±3.9, P=0.001) compared to healthy controls (20.5±4.5). Of this cohort, 5 children aged 13.8±2.05 years, weight 101.8±7.8 kg with normal HbA1c, and lipids were treated with once daily S.C. liraglutide. After 3 months of treatment, weight did not change, but CNFD (P=0.02) and CNFL (P=0.046) increased significantly with no change in CNBD. Another 7 children, aged 16.0±1.9 years, weight 130.1±34.1 kg with normal HbA1c, and lipids were treated with once weekly 1mg S.C. semaglutide. After 3 months of treatment, weight did not change, but CNFD (P=0.03) and CNFL (P=0.03) increased significantly with no change in CNBD. Two siblings carrying a heterozygous missense variant c.508A>G, p.Ille170Val in the MC4R gene showed evidence of corneal nerve fibre degeneration. Treatment with once weekly 1mg S.C. semaglutide for 6

months was associated with no change in weight. However, there was evidence of nerve regeneration with an increase in corneal nerve fiber density (CNFD) (child A (13.9%), child B (14.7%)), corneal nerve branch density (CNBD) (child A (110.2%), child B (58.7%)) and corneal nerve fiber length (CNFL) (child A (21.5%), child B (44.0%)).

Conclusion: CCM identified early corneal nerve degeneration in children with both simple and monogenic obesity and treatment with liraglutide and semaglutide was associated with nerve regeneration.

Dr. Aisha Madani

Postdoctoral Associate in Microbiology and Immunology,
Weill Cornell Medicine-Qatar (WCM-Q)

Dr. Aisha Madani earned her PhD degree in Biological and Biomedical Sciences in 2021 from Hamad Bin Khalifa University (HBKU) where she worked under the supervision of Dr. Nayef Mazloum at Weill Cornell Medicine- Qatar on investigating the molecular pathways of cellular senescence in preadipocytes. She earned her master's and bachelor's degrees in Biomedical Sciences from Qatar University. Her research interests lies in the identification of cellular mechanisms that promote inflammation and tissue dysfunction in metabolic disorders including obesity and Type 2 Diabetes, which are the major health concern in Qatar.

"Investigating Molecular Pathways of Cellular Senescence in Preadipocytes"

Diet-induced obesity (DIO) in animals is thought to promote premature aging and consequent dysfunction of the white adipose tissue through the accumulation of cellular senescence. The burden of senescent WAT has been linked to inflammation, insulin resistance, and type 2 diabetes (T2D) like states. However, there is limited knowledge of the critical factors that drive this robust pro-inflammatory secretory phenotype in obesity, and their role in advancing T2D is not well understood. Here, we describe a robust and physiologically relevant in vitro system to induce senescence in preadipocytes. Besides, following our novel transcriptomics and pathway analysis comparing proliferating vs. senescent mouse preadipocytes, we discovered the up regulation of secreted component, chemokine CXCL10. Besides p53, STAT1 was among the most significantly up-regulated transcription targets. Using CRISPR Cas9 technology, STAT1 KO revealed a significant reduction in inflammation characterized by CXCL10 reduction. Finally, the KO experiments revealed a strict requirement of STAT1 to drive STING activity under stress conditions. Taken together, these findings uncover STAT1 as an essential regulator of inflammation via induction of SASP.

Dr. Idil Ahmed

Postdoctoral Fellow, Stem Cell Laboratory Division, Sidra Medicine

Idil completed her bachelor's and master's degrees at Qatar University before earning her Ph.D. in Biological and Biomedical Sciences from Hamad Bin Khalifa University in 2021, under the supervision of Dr. Essam Abdelalim. Her doctoral thesis focused on investigating key transcription factors influencing pancreatic beta cell generation and the development of diabetes. She is currently working as a postdoctoral fellow within the stem cell division at Sidra Medicine. Her research interests revolve around the use of pluripotent stem cells to explore disease models, particularly focusing on diabetes.

"Enhanced Generation of Functional Stem Cell-Derived Pancreatic Beta Cells"

Human pluripotent stem cell (hPSC)-derived pancreatic β-cells could potentially serve as an alternative source for cellular therapy and disease modeling of diabetes. Several studies reported the generation of insulin-expressing hPSC-β cells using stepwise differentiation protocols that employed a cocktail of signaling cues adapted from developmental signals involved during in vivo β-cell development. However, one of the significant drawbacks in utilising the generated hPSC-β cells is the heterogeneity of the generated cells with the lack of sufficient pure populations of functional insulin-secreting hPSC-β. Differentiation protocols aiming to generate functional β-cells in vitro using hPSC-β, have demonstrated that the expression of NKX6.1 in PDX1+ multipotent pancreatic progenitor cells (MPCs) is a prerequisite for functional hPSC-β-cells.

In our study, we examined the effect of the chemical inhibition of p53 on the generation of MPCs co-expressing PDX1+/NKX6.1+ cells during pancreatic β-cell differentiation. Our study showed that inhibition of p53 during MPC differentiation enhances the generation of MPCs co-expressing PDX1 and NKX6.1 and favors the pancreatic β-cell lineage. Also, we report that NKX6.1-mediated p53 inhibition is a novel mechanism involved in controlling the generation of functional monohormonal β- cells from MPCs.

Ms. Shamma Almuraikhy

Senior Research Assistant, Qatar University (QU)

Shamma is a PhD student in her final year at Groningen University. She completed her Master's degree at Bristol University. Currently, she is working as a research assistant with Dr. Mohamed Elrayess at Qatar University on different projects. Her doctoral thesis focused on the study of the effect of exercise on modulating the molecular mediators of insulin resistance and type 2 diabetes mellitus.

"The Metabolic Switch of Physical Activity in Non-Obese Insulin Resistant Individuals"

Healthy non-obese insulin resistant (IR) individuals are at higher risk of metabolic syndrome. In this study, the common metabolic signatures of insulin sensitive (IS) and (IR) in active and sedentary individuals were determined. Data from 305 young, aged 20–30, non-obese participants from Qatar biobank, were analyzed. Participants were classified into four groups: Active IS (n = 30), Active IR (n = 20), Sedentary IS (n = 21) and Sedentary IR (n = 23). Differences in the levels of 1000 metabolites were compared. The study indicated significant differences in fatty acids between individuals with insulin sensitivity and insulin resistance who engaged in physical activity, including monohydroxy, dicarboxylate, medium and long chain, mono and polyunsaturated fatty acids. The sedentary group showed changes in carbohydrates, specifically glucose and pyruvate. Both groups exhibited alterations in 1-carboxyethylphenylalanine. The study revealed different metabolic signature in IR individuals depending on their physical activity status. Specifically, the active group showed changes in lipid metabolism, while the sedentary group showed alterations in glucose metabolism. These metabolic discrepancies demonstrate the beneficial impact of moderate physical activity on high risk IR healthy non-obese individuals by flipping their metabolic pathways from glucose based to fat based, ultimately leading to improved health outcomes.

Dr. Muneera Vakayil

Postdoctoral Associate in Microbiology & Immunology,
Weill Cornell Medicine-Qatar (WCM-Q)

Muneera holds a bachelor's degree in microbiology from Calicut University and a Master's degree in microbiology from Aligarh Muslim University, India. She completed her PhD in Genomics and Precision Medicine from HBKU under the guidance of Dr Nayef Mazloum in 2023. Currently, she works as a postdoctoral Associate in Microbiology and Immunology at WCM-Q, focusing on researching the mechanisms of adipogenesis and metabolic disorders linked to obesity.

"UHRF1, an E3 Ubiquitin-Protease Ligase, Regulates Adipogenesis in Preadipocytes"

The obesity epidemic is a global public health problem, and obese patients are at a higher risk of developing conditions like Type 2 Diabetes (T2D), cardiovascular disorders, and cancer, among many illnesses. Increased fat mass and the abnormal expansion of white adipose tissue (WAT), such as an increase in the size and number of fat cells (adipocytes), have been closely associated with metabolic dysfunctions. Therefore, identifying molecular components that regulate adipogenesis is critical for developing new therapeutic strategies targeting obesity and related co-morbidities. The E3 ubiquitin-protease UHRF1 is a critical epigenetic regulator coordinating DNA methylation and histone modifications. However, little is known about its functional role in adipogenesis. Therefore, here, we aimed to understand the role of UHRF1 in adipogenesis by studying Uhrf1 loss in functional cells. We used CRISPR/Cas9 and shRNA strategies to mediate gene silencing in cells. Bioinformatics and downstream analyses of transcriptomics changes revealed suppression of key adipogenesis regulators and expression of higher levels of inflammatory markers. In conclusion, our data highlight the possibility of UHRF1 and its targets to have clinical applications in treating obesity and linked metabolic disorders.

SESSION 3 – NEW DISCOVERIES: Speaker Bios & Abstracts cont.

Prof. Inga Prokopenko MSc, PhD

Vice Chancellor's Distinguished Chair, Professor of e-One Health, Head of Section of Statistical Multi-Omics at the University of Surrey, UK
Co-Director of Surrey People-Centred AI institute
Leader of "Introduction into the statistical analyses of Genome-Wide Association Studies" course

Prof. Inga Prokopenko is a Head of Statistical Multi-Omics at the School of Biosciences, Faculty of Health and Medical Sciences, University of Surrey, UK. The Section established in 2019 is targeting the University's interest in omics technologies, crucial for utilising large high-dimensional datasets in human and animal health (One Health – One Medicine approach). She is leading the Faculty's of Health and Medical Sciences interest in AI as the Co-Director within the Pan-University People-Centred AI institute. The Section of Statistical Multi-Omics focuses on method development and application for analyses of big data from novel omics technologies on a newly established high-performance computing (HPC) cluster. This HPC cluster is setting the University's capacity and research in health and omics Big Data analytics and AI. The section is leading on several UK biobank projects using whole-exome/-genome sequencing and genome-wide imputed and imaging data, hundreds of health-related clinical and laboratory variables. She and her group tightly collaborate with the Estonian and Finnish (FinnGen) Biobanks, Northern Finland Birth Cohorts 1966 and 1986, datasets from ATLAS BIOMED, Ukrainian LUCAR and GIWU-CF, Italian Brisighella and German SORBS studies, to name some, using their respective (epi)genomic, metabolomic and epidemiological data. Prof Prokopenko has led and supervised development of innovative approaches, implementing AI among other, for the analyses of human multi-omics large-scale datasets.

Prof. Prokopenko obtained PhD in Pharmacoepidemiology and Pharmacoeconomics at the University of Pavia, Italy. For several years, she worked in Psychiatry Translational Medicine & Genetics R&D of GlaxoSmithKline, Verona, Italy, and subsequently has undertaken her research at the Wellcome Trust Centre for Human Genetics, University of Oxford, UK. As Associate Professor in Human Genomics at Imperial College London, UK, she contributed to the activities of Diabetes Network of Excellence. As part of teaching activities, she developed modules, coordinated assessments, and lectured at multiple postgraduate courses, including MScs in Genomic Medicine, Human Molecular Genetics, Applied Omics, Molecular Epidemiology, Cancer Biology and Immunology. As a Co-director of AI institute, she contributes to training of postgraduates within MSc in AI and online MSc in People-Centred AI courses.

Prof. Prokopenko's scientific research spans over more than past two decades. Her major scientific contributions are to the genetics of type 2 diabetes, glycaemic traits and early growth. These brought discoveries of dozens of DNA variants affecting individual variability in/susceptibility to these phenotypes. Her recent work highlighted the causal effects of depression on susceptibility to type 2 diabetes as well as that of high glucose levels in type 2 diabetes on lung dysfunction, which should be considered as a complication of this disease. She led the efforts on sex-dimorphism of fasting glycaemic trait genetic effects and on random glucose with large-scale GWAS meta-analyses. Her research highlighted that variation in GLP1R gene might define diverse response to GLP-1R agonist drugs. This includes identification of genetic relationships between susceptibility to type 2 diabetes and circadian rhythms through genetic variability within the receptor of melatonin 1b gene or MTNR1B, which received wide media coverage upon publication. She is an active leader of major international efforts within DIAGRAM, MAGIC, ENGAGE and EGG genome-wide association studies consortia. She

co-authored over 220 peer-reviewed publications, and is a leading/senior author on 40 of them, her H-index (Jan 2024) is 96 by Google Scholar (over 65k citations). She is a member of the European Human Exposome network funded through the EU H2020 programme and is leading the University of Surrey efforts within the LONGITOOLS project tackling exposome of cardiometabolic traits and disease.

Her current research focuses on method development for the high-dimensional multi-omics data analyses. The innovative approaches use machine learning approaches and AI as well as tackle dissection of the longitudinal multi-omics effects. From the applied perspective, Prof Prokopenko's focus is on the improved profiling, prevention and progression tracking, evaluation of trajectories in pathogenesis of human diseases. Her major interest is in metabolic and early growth phenotypes, type 2 diabetes, its major comorbidities, perinatal maternal health and dissection of multimorbidity through the life span.

" Genetics of Type 2 Diabetes"

Diabetes has become a global epidemic, with an estimated 537 million adults affected worldwide. Approximately 80% of these cases are type 2 diabetes (T2D). In Qatar, T2D prevalence was around 7.0% in 2021, projected to double by 2050.

T2D is a complex polygenic condition to which genetic, lifestyle and environment factors contribute. While obesity and sedentary lifestyle increase the risk of T2D, the trajectory to this disease development as well as its complications and comorbidities represent a multifaceted interplay of relationships. Genome-wide association studies (GWAS), large-scale sequencing efforts, multiomic and trans-ancestry efforts enable better understanding of T2D pathophysiology.

In my lecture, I will bring your attention to several highlights from recent studies. We will explore the journey of T2D GWAS from WTCCC 2007 GWAS analysis of 2000 cases/3000 UK controls, through DIAGRAM/DIAMANTE GWAS meta-analyses to the latest trans-ethnic effort in 2.5 million individuals. I will demonstrate, how GWAS meta-analyses of related cardiometabolic traits and outcomes helped characterising the main biological processes involved in T2D pathogenesis. GWAS meta-analyses of continuous glycaemic traits were instrumental in bridging the T2D pathophysiology with recent successes of drug development, such as incretin analogue GLP-1 receptor agonists. The T2D complications, including pulmonary dysfunction, and T2D comorbidities, such as hypertension, depression, and human malignancies have shared DNA variability and are dissected through polygenic scores, deep whole-genome sequencing, and multiomic approaches. Scientific progress, underpinned by individual genetic profiles and comprehensive health records, will pave the way for optimised diabetes care.

INSTITUTIONAL ACHIEVEMENTS ON DIABETES AND OBESITY RESEARCH

1. HAMAD BIN KHALIFA UNIVERSITY (HBKU)

QBRI
معهد قطر لبحوث الطب الحيوي
Qatar Biomedical Research Institute
جامعة حمد بن خليفة
HAMAD BIN KHALIFA UNIVERSITY

The College of Health and Life Sciences has been working mostly on the genetics/genomics aspect of Diabetes in Qatar along identifying some biomarkers. These efforts were led by Professor Omar Albagha as follows:

Published the first population-based study to determine the genetic spectrum and estimate the prevalence of Maturity-onset diabetes of the young (MODY) in the Middle East. Using whole-genome sequencing (WGS) of ~14,000 subjects from the population-based Qatar biobank (QBB) cohort, the study identified 22 mutations in 67 subjects previously reported in the Human Genetic Mutation Database as disease-causing or likely disease causing for MODY. The study also identified 28 potentially novel MODY-causing mutations, which were predicted to be among the top 1% most deleterious mutations in the human genome, and showed complete (100%) disease penetrance in 34 subjects. We estimated that MODY accounts for around 2.2-3.4% of diabetes patients in Qatar.

As part of the Genetic Risk in Diabetes (GRID) project (Which is part of the Qatar Diabetes Prevention Program (QDPP) funded by a cluster grant from QNRF), we have performed the largest genome wide association study of type 2 diabetes in the region and identified a novel risk locus. Additionally, assessing polygenic risk scores derived from European- and multi-ancestries in the Qatari population showed higher predictive performance of the multi-ancestry panel compared to the European panel.

Performed a comprehensive circulating miRNA profiling of ischemic stroke patients with or without type 2 diabetes mellitus, an important risk factor associated with worse clinical outcomes in stroke. The study identified five circulating miRNAs differentially regulated in stroke patients without diabetes compared to those with diabetes. Hsa-miR-361-3p and -664a-5p were downregulated, whereas miR-423-3p, -140-5p, and -17-3p were upregulated. We also explored the gene targets of these miRNAs and investigated the downstream pathways associated with them to decipher the potential pathways impacted in stroke with diabetes as comorbidity. Overall, our novel findings provide important insights into the differentially regulated miRNAs, their associated pathways and potential utilization for clinical benefits in ischemic stroke patients with diabetes.

2. HAMAD MEDICAL CORPORATION (HMC)

Diabetes and obesity are two interconnected health challenges that pose significant burdens on individuals and healthcare systems worldwide. At Hamad Medical Corporation (HMC), research into diabetes and obesity is a priority area aimed at addressing the complex factors contributing to these conditions with a view on improving patient outcomes.

HMC's research efforts in diabetes and obesity encompass a multidisciplinary approach that integrates clinical care, epidemiology, genetics, lifestyle interventions, and public health strategies. Researchers at HMC are engaged in a wide range of studies to better understand the underlying mechanisms, risk factors, and complications associated with diabetes and obesity, as well as to develop effective prevention and management strategies.

HMC researchers are exploring the genetic basis of diabetes and obesity. This research contributes to the development of personalized approaches to diabetes and obesity management, including risk prediction, early detection, and tailored treatment strategies.

Furthermore, HMC is actively involved in clinical trials and intervention studies to evaluate the efficacy of various interventions for preventing and managing diabetes and obesity. These interventions may include lifestyle modifications, such as diet and exercise programs, pharmacological treatments, and surgical interventions.

In summary, research into diabetes and obesity at HMC encompasses a broad spectrum of activities to advance the understanding, prevention, and treatment of these prevalent and complex health conditions. Through collaborative efforts involving clinicians, scientists, and public health experts, HMC is at the forefront of efforts to mitigate the impact of diabetes and obesity on the health and well-being of the Qatari population and beyond.

ACADEMIC HEALTH SYSTEM (AHS)

مؤسسة حمد الطبية
Hamad Medical Corporation
HEALTH · EDUCATION · RESEARCH صحة · تعليم · بحوث
Hamad

النظام الصحي الأكاديمي
Academic Health System

The Academic Health System (AHS) at HMC is a comprehensive framework that integrates healthcare, education, and research. It is designed to provide high-quality patient care while simultaneously fostering medical education and advancing medical research. The AHS is a major collaboration between HMC and academic and research institutions in Qatar.

The AHS, encompassing multiple institutes, promotes research and innovation in healthcare. It supports various research initiatives and projects aimed at advancing medical knowledge, improving patient outcomes, and addressing healthcare challenges.

Overall, the academic health system at Hamad Medical Corporation plays a crucial role in advancing healthcare in Qatar and the region, by integrating patient care, education, and research to create a synergistic environment that benefits patients, healthcare professionals, and the community.

HMC CLINICAL TRIALS UNIT (CTU)

Hamad Medical Corporation has set up the first comprehensive clinical trials unit in Qatar to serve the population to bring the best evidence into clinical practice and facilitate access to the latest treatments available. The HMC Clinical Trials Unit, situated in the Medical Care and Research Center (MCRC) on the Hamad Doha campus, aims to develop, support, advance, and promote clinical trials to make a significant impact on the health and wellbeing of people in Qatar. The vision is to be an internationally recognised centre of excellence for the design, delivery, dissemination and implementation of clinical trials, and the training of researchers in clinical trials. The CTU will foster collaboration within HMC and across Qatar with research institutions.

QATAR DIABETES RESEARCH CENTER (QDRC)

مركز قطر لأبحاث السكري
Qatar Diabetes Research Center

Her Excellency Dr. Hanan Mohamed Al Kuwari, the Minister of Public Health, inaugurated the Qatar Diabetes Research Center at HMC in January 2024, marking a significant milestone in the nation's fight against diabetes. The inauguration coincided with the launch of the groundbreaking Qatar Diabetes Prevention Program, the largest research-based initiative of its kind in the region.

Situated at HMC's Doha campus next to the Surgical Specialty Center, the Qatar Diabetes Research Center is equipped with state-of-the-art facilities, including multiple examination and procedure rooms staffed by a team of over 30 research assistants, physicians, and research coordinators. The center will launch the Qatar Diabetes Prevention Program, which aims to enroll approximately 4,000 subjects selected through the National Diabetes Screening Program conducted by Primary Healthcare Centers as part of the Qatar National Diabetes Strategy.

QATAR METABOLIC INSTITUTE (QMI)

المعهد الوطني للسكري والسمنة وأمراض الأيض
Qatar Metabolic Institute

The Qatar Metabolic Institute (QMI) has been conducting research across several themes to advance research in metabolic diseases in Qatar. These include lifestyle interventions and remote patient management, gestational diabetes, and disease biomarkers. QMI is also actively involved in policy, education and engagement to bring value to patient and population health. Because of the COVID-19 pandemic work was carried out to improve the care of patients with diabetes during the pandemic and there has been ogoing research to study the impact of COVID-19.

Gestational diabetes mellitus and metabolic disease during pregnancy

- Gestational diabetes is the second most common type of diabetes in Qatar. It is associated with increased risk to the mother, the pregnancy, and the offspring. Women with gestational diabetes and their offspring have increased risk of future type 2 diabetes and obesity.
- Research by QMI investigators has identified the prevalence of gestational diabetes in Qatar (affecting over 1 in 4 pregnancies in early analyses, but as high as 40% in recent analyses), and methods for screening and stratification for gestational diabetes. This work has already been incorporated into Qatar national guidelines.

Biomarkers of disease and disease mechanisms: The aim of this theme is to identify biomarkers that can be used for disease diagnosis, classification and management, and understanding disease mechanisms. The plan is to extend this work directly into patient care.

- QMI has successfully established the insulin clamp technique for the first time in Qatar. Insulin Clamp studies have identified variations in insulin sensitivity amongst the Arab population and metabolic markers of insulin sensitivity.
- QMI researchers have identified novel biomarkers of gestational age, birth weight, gestational diabetes, and pre-term-delivery.
- QMI researchers have identified several metabolic markers associated with type 2 diabetes and polycystic ovary syndrome. These include the use of multiomic markers to sub-classify type 2 diabetes.
- QMI researchers have conducted research to identify biomarkers in multiple diseases.

3. MINISTRY OF PUBLIC HEALTH (MOPH)

وزارة الصحـــــة العامـــــة
Ministry of Public Health
State of Qatar • دولـــة قطـــر

Health Research Regulatory Department plays a major role in achieving the strategy of the Ministry of Public Health, through contributing effectively to the implementation of the Ministry of Public Health strategy. It also implements policies, guidelines, and regulations in the field of research, and establishes policies on basic vital biomedical, translational, and pre-clinical research along with policies and frameworks that define the national strategic path of health research.

4. PRIMARY HEALTH CARE CORPORATION (PHCC)

مؤسسة الرعاية الصحية الأولية
PRIMARY HEALTH CARE CORPORATION

The Primary Health Care Corporation (PHCC) is an innovative, community-centered organization with more than 7,000 employees, including 5130 clinical staff of which 997 are physicians, all of whom are responsible for providing accessible, high-quality, comprehensive, and affordable health care services to residents, citizens or visitors to the state of Qatar. PHCC operates 30 health centers spread all over the State of Qatar and are distributed in three health regions: Northern, Western and Central. All health centers work to provide primary health care services to the population in health facilities close to their areas of residence. It provides a wide range of preventive, diagnostic and curative services, which includes many specialized and family medicine clinics.

PHCC collaborates with numerous organisations such as the Ministry of Public Health, Hamad Medical Corporation, Qatar University, Hamad Bin Khalifa University, University of Doha for Science and Technology, Qatar Biobank, Sidra Medicine, University of Calgary - Qatar and Weil Cornell. The areas of collaboration are numerous and not limited to scientific and technical aspects. They include cooperation in the field of training, development and research. PHCC has signed several research collaboration agreements with individual institutions. It has also signed a national institutional review board reliance agreement to facilitate collaborative research across five institutions in Qatar.

A key role of PHCC is to conduct research. PHCC's publication of research findings in peer reviewed journals has been increasing year on year. They cover various topics across public health and primary care. This includes studies related to diabetes and obesity. These country-specific studies are essential to help develop disease related action plans, policies and interventions. Summaries of key studies are provided below.

Ongoing studies

- Burden of uncontrolled diabetes mellitus and the barriers and facilitators of its management Qatari primary care settings: Approximately 18 % of the population registered with PHCC has type 2 diabetes mellitus (T2DM). Of these a large number have uncontrolled T2DM which in the long terms can result in significant complications. PHCC is undertaking a study to understand burden of uncontrolled T2DM by age, gender and nationality. Furthermore, the study will explore healthcare providers and patients' perspectives on understanding the barriers and facilitators of managing uncontrolled diabetes and how they can be addressed.
- Impact of COVID-19 restrictions on diabetes mellitus management in Qatari primary care settings: In 2019, Coronavirus Diseases 2019 (COVID-19) emerged as a pandemic making diabetic patients among the most vulnerable to this virus. Previous studies showed contradicting evidence for the impact of "lockdown" on the management of diabetic patients. New models of service delivery were introduced in Primary Health Care Corporation (PHCC) (Qatar's largest primary care provider) to ameliorate the risk of infection to both patients and health care workers including converting face to face chronic disease appointments (NCD, antenatal, and preventive visits) to telephone and video consultations. This study aims to compare access and outcomes of PHCC registered diabetics pre-COVID and during the COVID-19 lockdown period.

5. QATAR BIOBANK (QBB)

قطر بيوبنك
qatarbiobank
for medical research للبحوث الطبية
عضو في مؤسسة قطر
Member of Qatar Foundation

Qatar Biobank (QBB) is a research enterprise platform acting as Qatar's National Repository Centre for biological samples and health information. QBB aims to recruit 60,000 participants adults (age≥18years), Qataris or long-term residents (live in Qatar ≥ 15years). At present QBB population counts more than 37,000 participants. QBB collects data from questionnaires, clinical assessments, and the participants' medical records. This data includes clinical and medical data, data on lifestyle and exposure as well as -omics data (Genomics, proteomics, metabolomics, transcriptomics etc.). QBB follows national and international best practices to ensure the high quality of services (ISO accreditation for Quality Management 9001:2015, Information Security Management System 27001:2013, and Biotechnology-Biobanking-General Requirements for Biobanking 20387:2018), as well as QBB laboratories are CAP accredited.

As a component of the Qatar Precision Health Institute, QBB plays a foundational role through its longitudinal deep profiling of its participants. This deep profiling contributes critical evidence for assessing disease risk at the individual level, facilitating the early detection of preclinical conditions. Consequently, this allows for the proactive initiation of preventive strategies within the healthcare system, thereby enhancing disease prevention and management.QBB referrals back to the health care is a tangible example of QBB impact on the prevention arm of precision health, for instance around 19% of QBB participants have diabetes (out of them 2% were newly diagnosed), as well as 20% were prediabetics. Moreover, the prevalence of Overweight (BMI 25-29.9kg/m^2) was 35% and Obese (BMI ≥30.00kg/m^2) about 41%. QBB has an extensive network engaging different stakeholders developing a coordinated and comprehensive framework with the local authorities and research entities to work together towards the discovery and development of evidence-based novel healthcare interventions toward the implementation of precision health. More than 60 research projects and 20 publications related to metabolic disorders including diabetes used data and/or samples from QBB. QBB is an asset for the health care infrastructure in Qatar aiming to provide adequate clinical or research biobanking services under an ethical frame, capable of producing the biological samples and annotated data for precision health.

6. QATAR BIOMEDICAL RESEARCH INSTITUTE (QBRI)

There are three research teams in the Diabetes Research Center at QBRI: Dr. Abdelilah Arredouani Dr. Heba Al-Siddiqi, and Dr. Prasanna Kolatkar.

Human induced-pluripotent stem cell-derived beta cell research

Dr. Al-Siddiqi group focus on the generation of pancreatic insulin-positive beta cells from both human embryonic and induced-pluripotent stem cells and studying the development and role of mitochondria in the generation and maturation of stem cell-derived pancreatic beta cells. And recently the generation of cardiac cells from human stem cells that can be used as an in vitro cell-based model to study cardiomyocytes under a diabetic-induced conditions. Dr. Prasanna focuses on mechanisms involving transcription factors in pancreatic development.

Research on diabetes prevention

Dr. Abdelilah and his team, in collaboration with Dr. Halima Bensmail (Qatar Computing Research Institute) and Qatar Biobank, developed a risk score, PRISQ, to diagnose prediabetes using only routine clinical measures. A collaboration with Qatar Primary Health Care Corporation was established to validate PRISQ in real-life clinical settings.

Research on diabetes complications

QBRI runs an interdisciplinary research program in diabetes that involve multiple investigators across QBRI in collaboration with Hamad Medical Corporation. As part of this research program, Dr. Omar Albagha leads the work related to circulating microRNA in stroke patients with diabetes which resulted in the identification of many dysregulated circulating microRNA and multiple published papers. Dr. Abdelilah leads the metabolomic work in diabetes patients with and without cognitive decline and the outcome of this work was recently published.

Graduate student training, internships, and work-shadowing activities

DRC investigators mentor and teach the next generation of diabetes researchers – Masters and doctoral students in association with HBKU CHLS. DRC investigators also provide opportunities to undergraduate and school students to introduce diabetes research through internships and work-shadowing activities.

RESEARCH PROJECTS

Investigator Name	Project title	Funding Source
Dr. Abdelilah Arredouani	Investigation of the relationship between salivary α -amylase activity and cardio-metabolic risk factors, cardiovascular and low-grade inflammation markers in a high-risk cohort of overweight/obese Qatari individuals: a cross-sectional study	QBRI
Dr. Abdelilah Arredouani	Evaluation of the prevalence of metabolically healthy obesity in Qatar and investigation of the underlying mechanisms using an integrated multi-omics approach: a cross-sectional study in the QBB cohort	QBRI
Dr. Abdelilah Arredouani	Development and validation of the prediabetes Risk score in Qatar	QBRI
Dr. Abdelilah Arredouani	Investigation of the mechanisms underlying the protective effect of Glucagon-Like Peptide-1 Receptor agonists on Non-alcoholic Fatty Liver Disease in mice	QRDI (ARG1)
Dr. Prasanna Kolatkar	Sox transcription factors: balancing pancreatic development and dysfunction in cancer	QBRI
Dr. Prasanna Kolatkar	Therapeutic potential of DNAJB3/HSP-40 as a novel biomarker for obesity-induced insulin resistance and diabetes.	NPRP
Dr. Heba H. Al-Siddiqi	Generation of functional pancreatic beta-cells from human pluripotent stem cells.	QBRI -startup fund
Dr. Heba H. Al-Siddiqi	Role of Mitochondria in the maturation and functionality of human pluripotent stem cell-derived pancreatic beta cells.	QBRI
Dr. Heba H. Al-Siddiqi	MAFA and MAFB gene expression profiling and role during directed differentiation of human pluripotent stem cells to insulin producing pancreatic beta cells	ECRA02-005-3-004

7. QATAR COMPUTING RESEARCH INSTITUTE (QCRI)

QCRI
معهد قطر لبحوث الحوسبة
Qatar Computing Research Institute
جامعة حمد بن خليفة
HAMAD BIN KHALIFA UNIVERSITY

Qatar Computing Research Institute, Hamad Bin Khalifa University, has been conducting research on type 2 diabetes and obesity. The research focuses on multi-omics and wearable data using Artificial Intelligence (AI) approaches. Multi-omics projects are used to study obesity in collaboration with HMC and focus on analyzing differentially expressed microRNAs, transcriptomic signatures including protein coding genes, and metabolomics profiles, to elucidate the dysregulated metabolic pathways in obesity with metabolic complications. The data suggest that metabolic pathways, along with their various dysregulated elements, identified via home-developed integrative bioinformatics pipeline, can potentially differentiate the obese patients without metabolic disorders from those with metabolic complications. The study will help to understand the prognosis of healthy obesity to unhealthy obesity. Genomics and metabolomics data have been also studied at QCRI to study the interplay between type 2 diabetes and cardiovascular diseases, with the aim to build polygenic and metabolomics risk scores for better disease prediction.

Moreover, AI approaches and systems are being developed within the Qatar Diabetes Prevention Program to study lifestyle and activity data for type 2 diabetes patients using wearable devices such as smart watches, and continuous glucose monitoring devices. The aim of the project is to identify data-driven lifestyle intervention approaches to reverse diabetes and/or help with treatment options.

8. QATAR DIABETES ASSOCIATION (QDA)

مؤسسة قطر
Qatar Foundation

الجمعية القطرية للسكري
Qatar Diabetes Association

QDA participates in various observational and clinical trials conducted by leading health institutions in the country with the aim of advancing diabetes care and prevention and determining priorities for interventions.

As part of its mission in increasing public awareness on diabetes prevention, QDA research efforts focus on assessing diabetes risk in different population groups (adults and youths) and identifying priority areas to guide public awareness efforts.

QDA most recent research addressed the rising risk of type 2 diabetes in youth, confirming the association of maternal obesity and paternal diabetes with adolescent type 2 diabetes risk. In addition to obesity and overweight, frequent snacking and late-night eating stood out as potentially modifiable habits associated with increased risk.

Managing diabetes in special circumstances is another focus of QDA research, specifically during the month of Ramadan, where data is collected on patients' experiences to assess fasting habits, identify challenges faced, and generate results that would help in shaping safe Ramadan fasting recommendations to the medical and patient communities.

Research Projects

- Assessment of diabetes risk in Qatari and non-Qatari youth- Protocol #: 14-00004
  Funded by QDA March 2018- January 2020
- Public Awareness and Attitudes towards Diabetes (In collaboration with Qatar University Social and Economic Survey Research Institute)
  Funded by QDA May 2017- June 2018

9. SCIENTIFIC RESEARCH PROGRAMS OFFICE, QATAR RESEARCH DEVELOPMENT AND INNOVATION COUNCIL (QRDI)

مجلس قطر
للبحوث
والتطوير
والابتكار
QRDI COUNCIL

Diabetes is one of the most common types of non-chronic diseases in Qatar and around the world that causes one of the highest numbers of mortalities. Diabetes is top priority research theme in Qatar biomedical and health pillar according to NDS3 and QRDI 2030 strategy. Accordingly, the Scientific Research Programs Office in QRDI funded many diabetes' research projects as priority in its funding grants since its inception focusing on prevention, prediction, diagnosis, management, and treatments.

According to the latest statistical analysis, diabetes and obesity related research grants comprised the highest percentage of funds from all biomedical and health-related projects. The Scientific Research Programs Office in QRDI has funded more than 160 projects on Diabetes and obesity related research in all its funding programs including the NPRPs. More than 67 of the funded NPRP standard award projects are related to diabetes and metabolic disorders, and one cluster titled Qatar Diabetes Prevention Program (QDPP). These funded projects resulted in more than 220 publications related to diabetes and approximately 124 publications related to metabolic disorders in general. The total outcome in capacity building from these awarded projects resulted in more than 105 graduate students, post-docs, and early career scientists. The top beneficiary institutions in Qatar for diabetes research are HMC, WCM-Q, QU, HBKU and Sidra Medicine, respectively.

Several diabetes research projects have been funded through the NPRP in the latest years. For example, one project investigated the genetic factors contributing to developing type 2 diabetes in Qatari populations. Another project explored using artificial intelligence to improve diabetes management and treatment. The impact of the outcomes of many of these funded projects is translational and has been directly applied to the clinical care of diabetic patients. Example of these; two projects; NPRP8-912-3-192 and NPRP10-0213-170456 found that Type 2 diabetes could be reversed in more than 60% of participants through dietary change, physical activity, and behavior change, and without medication or weight loss surgery. Because of this success, a diabetes reversal Clinic was established at HMC. Other funded NPRP projects lead to better management and treatments for diabetic complications such as tackling diabetic foot ulcer and improvement of the speed of wound healing. Another project led to the development of a novel stimulator sock (SmartSox) to improve balance and the speed of wound healing.

Overall, the Research Programs Office in QRDI has played an important role in funding diabetes research in Qatar. Its support has helped advance our understanding of the disease and develop new strategies for prevention and treatment.

10. QATAR UNIVERSITY (QU)

Qatar University Overview: Qatar University, established in 1973, stands as the premier public research institution in Qatar, situated on the outskirts of Doha. Initially founded as the College of Education with 150 students, it now hosts over 20,000 students across ten colleges. The university offers courses in Arabic and English, boasting a diverse student body of over fifty nationalities, with women constituting about 70% of the population. Its alumni network surpasses 30,000 graduates.

Research Infrastructure and Centers: The university boasts a robust research infrastructure, featuring cutting-edge laboratories, a marine research vessel, and a library housing rare manuscripts. Key research centers include the Center for Advanced Materials (CAM), Environmental Science Center, Gas Processing Center, Laboratory Animal Research Center, and Biomedical Research Center.

Research Pillars and Priorities: Qatar University has established itself as a hub of academic and research excellence, strategically aligning its research pursuits with national objectives. The university's research endeavors are anchored in several key pillars, including Energy and Environment, Health and Biomedical Sciences, Information and Communication Technology, and Social Sciences and Humanities.

Among the Research Pillars and Priorities, Qatar University spearheads groundbreaking research on diabetes and obesity, addressing significant health challenges prevalent in the region through multifaceted approaches. The Biomedical Research Center conducts in-depth investigations into metabolic signatures and biomarkers associated with these conditions, providing valuable insights into diabetes susceptibility among individuals affected by obesity. Moreover, the Laboratory Animal Research Center focuses on exploring the cardiovascular implications of obesity, contributing to the understanding of related diseases. Public health initiatives prioritize preventive measures, early diagnosis, and effective treatment strategies, supported by epidemiological studies demonstrating the efficacy of interventions. Educational programs and collaborative efforts underscore the university's holistic approach to addressing health issues. Students actively participate in research activities, reflecting Qatar University's dedication to nurturing emerging talent in the field. Overall, Qatar University's endeavors play a pivotal role in combating the high prevalence of diabetes and obesity in Qatar and the broader Middle East region.

Academic and International Standing: Internationally recognized for its academic prowess, Qatar University ranks #173 in the QS World University Rankings for 2024 and 11th in the MENA region. It maintains strong ties with public and private sectors, fostering collaborations and enhancing research and student learning through Professional Chair positions.

In essence, Qatar University stands as a leading educational institution in the GCC, known for its comprehensive academic offerings and dedication to research that addresses regional needs.

Grant ID	Lead Principal Investigator (LPI)	Title
ARG01-0420-230007	Dr. Mohamed Elrayess	Investigating gut metabolite markers and potential protective probiotic intervention in non-obese, apparently healthy individuals with insulin resistance
PPM 06-0516-230030	Dr. Mohamed Elrayess	Integrating metabolomics, microbiomics, and pharmacogenomics for personalized metformin treatment in Qatari type 2 diabetes patients
PPM 06-0530-230047	Dr. Kholoud Abdulla	Exploring the Interplay of Pharmaco-genomics, Metabolomics, and Microbiomics: As a novel Precision Medicine Approach for SSRIs in Qatari with Depression
ARG01-0531-230440	Dr. MD Anwarul Hasan	A Novel Electrowriting 3D-Bioprinted VEGF-A/mRNA Releasing Angiogenic and Antibiofilm Patch for Diabetic Wound Healing
ARG01-0601-230451	Prof. Abdelali Agouni	In silico-guided synthesis of novel thieno-coumarin derivatives targeting Protein Tyrosine Phosphatase 1B (PTP1B) against diabetes and its cardiovascular complications

11. SIDRA MEDICINE

Sidra Medicine is the main pediatric diabetes center in Qatar. Childhood diabetes has emerged as a major area of research interest in the little time Sidra Medicine has been in existence, utilizing the expertise in the clinical and research divisions, which has resulted in numerous fruitful partnerships and research discoveries:

Clinical trial on T1D technology: The first randomized clinical trial demonstrates that T1D patients using a customized fixed carbohydrate amount and a hybrid closed loop device do not require the obligatory carbohydrate counting that is a standard of diabetes therapy. This strategy can alter how T1D is treated and lessen the burden of the condition.

Type 1 Diabetes prediction and combined screening: This includes employing a novel MENA-Genetic Risk Score (MENA-GRS) model utilizing Whole Genome Sequencing data (WGS) and an advanced TYPE1 Chip based on QChip array for screening children for T1D risk from newborn life, specifically applied to the Pan Arab population. Our objective is to establish an islet autoantibody testing program, known as DIA-MENA, in Qatar. This program will utilize cutting-edge assays to screen for Type 1 Diabetes. Through the integration of islet autoantibodies and genetic risk testing, we aim to estimate the prevalence of early-stage Type 1 Diabetes in this region. Additionally, we will educate and monitor high-risk children for autoimmunity and early-stage Type 1 Diabetes development, while also designing strategies for monitoring and providing parent education and counseling plans. These projects are anticipated to establish a unique research framework suitable for subsequent mechanistic and therapeutic investigations.

Polygenic Risk Score (PRS): Our research highlights the capacity of Polygenic Risk Score (PRS) models to pinpoint individuals in the population at heightened risk of developing Type 2 Diabetes (T2D) and its related complications. Employing multi-trait PRS and machine learning (ML) models for risk prediction could facilitate early interventions, potentially identifying T2D patients who could benefit the most based on their unique genetic risk profile.

Monogenic Diabetes: Childhood diabetes has been linked to several genetic mutations that cause diabetes in children from Qatar. Precision medicine initiatives will result in improvement of clinical outcomes for all individuals with antibody-negative diabetes.

Physiology and genetics of mitochondrial diabetes: To design a mitochondrial respirometry analysis test with the aim of enabling quick and affordable diagnosis of mitochondrial linked diabetes to identify the mitochondrial dysfunction associated with pediatric diabetes cases.

Precision nutrition research for T1D: Understanding how nutrition affects the gut microbiota and gene activity in pediatric T1D patients will pave the way to applying a personalized diet and pro- and pre-biotic therapy as an adjuvant line of treatment for T1D-related renal problems.

Obesity-related diabetes research and genetics of childhood severe obesity: Identification of genes associated with human obesity may lead to the discovery of new therapeutic weight loss targets. We identified a considerable number of novel and uncommon homozygous gene variations that could be prospective therapeutic for obesity and associated illnesses.

Animal models: Zebrafish and mice model systems applied and used successfully for analysis of many of the pathologies associated with diabetes including, obesity, retinopathy, and cardiac diseases, in addition to xenotransplantation model that allows the study of human cells in the zebrafish system.

Research funding: More than 12 million riyals in government funds and 1.3 million in grant money from international funding has been invested in diabetes research at Sidra Medicine. Sidra Medicine contributed an additional six million riyals to support clinical research into diabetes.

Scientific publications: More than 45 research articles have been published in journals like Translational Medicine, iScience, Frontiers in Nutrition, Diabetes, Diabetes Care and New England Journal of Medicine.

12. UNIVERSITY OF DOHA FOR SCIENCE AND TECHNOLOGY (UDST)

جـامـعـة الـدوحـة
للعـلـوم والـتـكـنـولـوجـيـا
UNIVERSITY OF DOHA
FOR SCIENCE & TECHNOLOGY

The University of Doha for Science and Technology (UDST) offers the only Master of Science in Diabetes Care and Patient Education (MScDCPE) program in the State of Qatar and Gulf Region. UDST's MScDCPE is a specialized graduate degree program, initiated in response to an urgent need to develop competent diabetes education specialists capable of providing advanced, comprehensive, collaborative patient-centered Diabetes Self – Management Education (DSME). The curriculum is in line with the latest national and international diabetes care and education practice guidelines. The program ensures alignment with the Human Development pillar outlined in the prestigious Qatar National Vision 2030 and highlights UDST vision of promoting excellence in applied education and research, contributing to innovation and the sustainable development of the State of Qatar and the global community (UDST, 2023).The program was designed to fullfill the goals and associated objectives outlined in the pillars of Qatar National Diabetes Strategy, namley, awareness and prevention, patient empowerment, care delivery, human capability and capacity building, information management and research. Advancing the diabetes care research agenda is critical to the MScDCPE program. Notable highlights in Academic Year 2023 - 2024 include but are not limited to:

1. MScDCPE Students' Theses and Professional Projects

Theses and professional projects being developed address key diabetes care and education areas such as (1) The Effect of Semaglutide (Ozempic) in Treating Type 2 Diabetes and Weight Reduction; (2) Association between Metabolic Syndrome Components and Bone Mineral Density in Men and Women; (3) Relationship between Trace Minerals (Zinc, Copper, Iron and Magnesium) and Blood Sugar Metabolism in People living with Diabetes and Prediabetes; (4) Status of Homocysteine, Folate, B12 among Adults with Type 2 Diabetes: A Systematic Review; and (5) Diabetes Prevalence/Incidence and its Future Direction in View of Climate Change Scenarios and Factors.

2. The 2nd Symposium on Diabetes Care - World Diabetes Day 2023: Empowering Global Health Through Life-Changing Research

The University of Doha for Science and Technology hosted the 2nd Symposium on Diabetes Care: Empowering Global Health through Life-Changing Research, in support of the World Diabetes Day (WDD) 2023, the world's largest diabetes awareness campaign planned annually by the International Diabetes Federation. This celebration was remarkable as it marked 100 years since the Canadian scientists Frederick Banting and John MacLeod were awarded the 1923 Nobel Prize in Physiology or Medicine for the discovery of insulin.

The symposium sessions and exhibition were organized in collaboration with several esteemed healthcare institutions in the State of Qatar including the Ministry of Public Health (MoPH) National Diabetes Strategy, Qatar Metabolic Institute, Hamad Medical Corporation (HMC), Primary Health Care Corporation (PHCC), Sidra Medicine, Qatar Diabetes Association (QDA), Wellcare Pharmacy Group and Novo Nordisk.

The Scientific Sessions included reputable speakers and renowned experts in the field of Diabetes and Endocrinology such as Prof. Abdul-Badi Abou-Samra Co-Chair, National Diabetes Committee (MoPH) and Director, Qatar Metabolic Institute (HMC); Prof. Shahrad Taheri, Chair, Diabetes Research Sub-Committee National Diabetes Strategy (MoPH) and

Assistant Director, Qatar Metabolic Institute (HMC); and Dr. Rayana Ahmed Bou Haka, official representative of the World Health Organization (WHO) office in Qatar. A multitude of researchers, distinguished guests, faculty and students were also present. The sessions aimed to enrich healthcare professionals' understanding and expertise in diabetes care, prevention and education, as well as facilitate the exchange of the latest diabetes innovation trends in the State of Qatar.

13. WEILL CORNELL MEDICINE IN QATAR (WCM-Q)

Weill Cornell Medicine-Qatar

The research program at Weill Cornell Medicine in Qatar (WCM-Q) focuses on clinical issues important for Qatar and the region including diabetes and obesity. The program tackles these problems at all levels from the basic cellular and molecular, through translational research, to clinical and epidemiological research efforts. The faculty at WCM-Q have been exceptionally successful making an impact through publications in high tier Journals over the past decade. The focus on the program is on deep omic phenotyping of local cohorts at the genomics, proteomics, transcriptomics, epigenomic, miRNA and other omics to obtain insights into disease causing factors. This has led to important insights from multiple Labs into factors that affect diabetes and obesity. We invite you to explore these findings at our website: https://qatar-weill.cornell.edu/research/research-faculty

DIABETES AND OBESITY RESEARCH PUBLICATIONS FROM QATAR (2023-2024)

1. Mohammed LI, Zakaria ZZ, Benslimane FM, Al-Asmakh M. Exploring the role of oral microbiome dysbiosis in cardiometabolic syndrome and smoking.Exp Lung Res. 2024;50(1):65-84. doi: 10.1080/01902148.2024.2331185. Epub 2024 Mar 27.

2. Khan A, Zahid MA, Mohammad A, Agouni A. Structure-guided engineering and molecular simulations to design a potent monoclonal antibody to target aP2 antigen for adaptive immune response instigation against type 2 diabetes.Front Immunol. 2024 Mar 8;15:1357342. doi: 10.3389/fimmu.2024.1357342. eCollection 2024.

3. Al-Bkoor T, Ata F, Bint I Bilal A, Abdulgayoom M, Cherif H, Surchi H. Post-Thymectomy Autoimmune Flare-Up With New-Onset Type 1 Diabetes Mellitus.JCEM Case Rep. 2024 Mar 22;2(3):luae039. doi: 10.1210/jcemcr/luae039. eCollection 2024 Mar.

4. Bhutta ZA, Akhtar N, Pathan SA, Castren M, Harris T, Ganesan GS, Kamran S, Thomas SH, Cameron PA, Azad AM, Puolakka T. Epidemiological profile of stroke in Qatar: Insights from a seven-year observational study.J Clin Neurosci. 2024 Mar 21;123:30-35. doi: 10.1016/j.jocn.2024.03.014. Online ahead of print.

5. AlBurno H, Schneider F, de Vries H, Al Mohannadi D, Mercken L. Determinants of adherence to insulin and blood glucose monitoring among adolescents and young adults with type 1 diabetes in Qatar: a qualitative study. F1000Res. 2024 Feb 20;11:907. doi: 10.12688/f1000research.123468.2. eCollection 2022.

6. Al-Mohannadi AS, Farooq A, Salman A, Ghram A, Al-Harahsheh ST, Majed L, Sayegh S, Cardinale M. The effects of the first wave of COVID-19 restrictions on physical activity: a longitudinal study from "step into health" program in Qatar.Front Public Health. 2024 Mar 6;12:1333546. doi: 10.3389/fpubh.2024.1333546. eCollection 2024.

7. Saracoglu A, Abdallah BM, Saracoglu KT. Double-edge sword in airway management for morbid obese patients outside the OR: time to intubate all?.Minerva Anestesiol. 2024 Mar 20. doi: 10.23736/S0375-9393.24.18080-7. Online ahead of print.

8. Alsabaani NA, Amawi K, Eleawa SM, Nabeel Ibrahim W, Aldhaban W, Alaraj AM, Alkhalaf B, Sami W, Alshaikhli H, Alkhateeb MA. Nrf-2-dependent antioxidant and anti-inflammatory effects underlie the protective effect of esculeoside A against retinal damage in streptozotocin-induced diabetic rats.Biomed Pharmacother. 2024 Mar 18;173:116461. doi: 10.1016/j.biopha.2024.116461. Online ahead of print.

9. Ahmed MB, Doi SA, Habib AM, Glass GE, Hammouda A, Alyazji ZTN, Al-Mohannadi FS, Khoogaly H, Syed A, Alsherawi A, Badran S. Bioelectrical Impedance Analysis Detects Body Fat Changes After Surgical Subcutaneous Fat Removal.Metab Syndr Relat Disord. 2024 Mar 18. doi: 10.1089/met.2023.0223. Online ahead of print.

10. Musa OAH, Syed A, Khatib MA, Hamdan A, Hub Allah A, Almahdi H, Onitilo AA, Sheehan MT, Beer SF, Bashir M, Abou-Samra AB, Doi SA. Time to Move Beyond a Binary Criterion for Gestational Diabetes?.Reprod Sci. 2024 Mar 14. doi: 10.1007/s43032-024-01514-x. Online ahead of print.

11. von Schnurbein J, Zorn S, Nunziata A, Brandt S, Moepps B, Funcke JB, Hussain K, Farooqi IS, Fischer-Posovszky P, Wabitsch M. Classification of Congenital Leptin Deficiency.J Clin Endocrinol Metab. 2024 Mar 12:dgae149. doi: 10.1210/clinem/dgae149. Online ahead of print.

12. Hermassi S, Ketelhut S, Konukman F, Sellami M, Al-Marri S, Nigg CR, Schwesig R. Comparative Analysis of Physical Activity, Performance-Related Health, and Academic Achievements in 11-to-13-Year-Old Schoolchildren in Qatar. Healthcare (Basel). 2024 Mar 4;12(5):588. doi: 10.3390/healthcare12050588.

13. Ata F, Khan AA, Khamees I, AlKodmani S, Al-Sadi A, Yaseen KB, Muthanna B, Godwin A, Beer SF, Bashir M. Prevalence and prognosis of fulminant type 1 diabetes mellitus in The Middle East: a comparative analysis in a 5-year nationwide cohort.BMC Endocr Disord. 2024 Mar 11;24(1):33. doi: 10.1186/s12902-024-01559-8.

14. Mohamed AA, Elmotaleb Hussein MA, Nabil Hanna I, Japer Nashwan AJ, Saleh M, Abdel Wahed WY, Mohamed Mansour AM, Ezz Al Arab MR, Fawzy N, Sakr Y, Shalby H, AlHussain E, Kamal Darwish M, El-Osaily H, Naguib M, Mohamed AA, Farouk Mohamed W, Hafez W. The potential impact and diagnostic value of inflammatory markers on diabetic foot progression in type II diabetes mellitus: A case-control study.Med Clin (Barc). 2024 Mar 7:S0025-7753(24)00081-2. doi: 10.1016/j.medcli.2024.01.009. Online ahead of print.

15. Navti OB, Pavord S. Venous thromboembolism in pregnant obese Individuals.Best Pract Res Clin Obstet Gynaecol. 2024 Feb 16;94:102471. doi: 10.1016/j.bpobgyn.2024.102471. Online ahead of print.

16. Akhtar N, Singh R, Kamran S, Joseph S, Morgan D, Uy RT, Treit S, Shuaib A. Association between serum triglycerides and stroke type, severity, and prognosis. Analysis in 6558 patients.BMC Neurol. 2024 Mar 5;24(1):88. doi: 10.1186/s12883-024-03572-9.

17. Ratter-Rieck JM, Shi M, Suhre K, Prehn C, Adamski J, Rathmann W, Thorand B, Roden M, Peters A, Wang-Sattler R, Herder C. Omentin associates with serum metabolite profiles indicating lower diabetes risk: KORA F4 Study. BMJ Open Diabetes Res Care. 2024 Mar 4;12(2):e003865. doi: 10.1136/bmjdrc-2023-003865.

18. Sokary S, Almaghrbi H, Bawadi H. The Interaction Between Body Mass Index Genetic Risk Score and Dietary Intake on Weight Status: A Systematic Review.Diabetes Metab Syndr Obes. 2024 Feb 27;17:925-941. doi: 10.2147/DMSO.S452660. eCollection 2024.

19. Taheri S. Type 2 diabetes remission: weight maintenance in the spotlight.Lancet Diabetes Endocrinol. 2024 Apr;12(4):216-217. doi: 10.1016/S2213-8587(24)00036-6. Epub 2024 Feb 28.

20. Aqel S, Ahmad J, Syaj S, Daoud MN, Araiqat B. Qatar's Silent Epidemic: A Comprehensive Meta-analysis on the Prevalence of Metabolic Syndrome.Curr Diabetes Rev. 2024 Feb 28. doi: 10.2174/0115733998286706240129074153. Online ahead of print.

21. Gerber LM, Whitcomb BW, Verjee MA, Sievert LL. Bothersome symptoms at midlife in relation to body fat percentage.Am J Hum Biol. 2024 Feb 29:e24054. doi: 10.1002/ajhb.24054. Online ahead of print.

22. Al-Akl NS, Khalifa O, Ponirakis G, Parray A, Ramadan M, Khan S, Chandran M, Ayadathil R, Elsotouhy A, Own A, Al Hamad H, Decock J, Alajez NM, Albagha O, Malik RA, El-Agnaf OMA, Arredouani A. Untargeted Metabolomic Profiling Reveals Differentially Expressed Serum Metabolites and Pathways in Type 2 Diabetes Patients with and without Cognitive Decline: A Cross-Sectional Study.Int J Mol Sci. 2024 Feb 13;25(4):2247. doi: 10.3390/ijms25042247.

23. Hermassi S, Ketelhut S, Konukman F, Ayari MA, Al-Marri S, Al Rawahi N, Bouhafs EG, Nigg CR, Schwesig R. Differences in Physical Activity, Sedentary Behavior, Health-Related Physical Performance Indices and Academic Achievement: A Comparative Study of Normal-Weight and Obese Children in Qatar.J Clin Med. 2024 Feb 13;13(4):1057. doi: 10.3390/jcm13041057.

24. Abushanab D, Chbib S, Kaddoura R, Al Hail M, Abdul Rouf PV, El Kassem W, Shah J, Ravindran Nair RK, Al-Badriyeh D. Cost-effectiveness of add-on dapagliflozin for heart failure with reduced ejection fraction patients without diabetes.J Med Econ. 2024 Jan-Dec;27(1):404-417. doi: 10.1080/13696998.2024.2322258. Epub 2024 Mar 11.

25. Salagre D, Navarro-Alarcón M, Villalón-Mir M, Alcázar-Navarrete B, Gómez-Moreno G, Tamimi F, Agil A. Chronic melatonin treatment improves obesity by inducing uncoupling of skeletal muscle SERCA-SLN mediated by CaMKII/AMPK/PGC1α pathway and mitochondrial biogenesis in female and male Zücker diabetic fatty rats.Biomed Pharmacother. 2024 Mar;172:116314. doi: 10.1016/j.biopha.2024.116314. Epub 2024 Feb 22.

26. Petrucci G, Buck GA, Rocca B, Parish S, Baigent C, Hatem D, Mafham M, Habib A, Bowman L, Armitage J, Patrono C. Thromboxane biosynthesis and future events in diabetes: the ASCEND trial.Eur Heart J. 2024 Feb 22:ehad868. doi: 10.1093/eurheartj/ehad868. Online ahead of print.

27. Imam YZ, Chandra P, Singh R, Hakeem I, Al Sirhan S, Kotob M, Akhtar N, Kamran S, Al Jerdi S, Muhammad A, Haroon KH, Hussain S, Perkins JD, Elalamy O, Alhatou M, Ali L, Abdelmoneim MS, Joseph S, Morgan D, Uy RT, Bhutta Z, Azad A, Ayyad A, Elsotouhy A, Own A, Deleu D. Incidence, clinical features, and outcomes of posterior circulation ischemic stroke: insights from a large multiethnic stroke database.Front Neurol. 2024 Feb 7;15:1302298. doi: 10.3389/fneur.2024.1302298. eCollection 2024.

28. Al Zoubi MS, Al Kreasha R, Aqel S, Saeed A, Al-Qudimat AR, Al-Zoubi RM. Vitamin B(12) deficiency in diabetic patients treated with metformin: A narrative review.Ir J Med Sci. 2024 Feb 21. doi: 10.1007/s11845-024-03634-4. Online ahead of print.

29. Al-Saidi A, Alzaim IF, Hammoud SH, Al Arab G, Abdalla S, Mougharbil N, Eid AH, El-Yazbi AF. Interruption of perivascular and perirenal adipose tissue thromboinflammation rescues prediabetic cardioautonomic and renovascular deterioration.Clin Sci (Lond). 2024 Mar 6;138(5):289-308. doi: 10.1042/CS20231186.

30. Petrovski G, Campbell J, Pasha M, Hussain K, Khalifa A, Umer F, Almajaly D, Hamdar M, Heuvel TVD, Edd SN. Twelve-Month Follow-up from a Randomized Controlled Trial of Simplified Meal Announcement Versus Precise Carbohydrate Counting in Adolescents with Type 1 Diabetes Using the MiniMed™ 780G Advanced Hybrid Closed-Loop System.Diabetes Technol Ther. 2024 Mar;26(S3):76-83. doi: 10.1089/dia.2023.0429.

31. Naja K, Anwardeen N, Malki AM, Elrayess MA. Metformin increases 3-hydroxy medium chain fatty acids in patients with type 2 diabetes: a cross-sectional pharmacometabolomic study.Front Endocrinol (Lausanne). 2024 Feb 2;15:1313597. doi: 10.3389/fendo.2024.1313597. eCollection 2024.

32. Daneshmand M, Kashefizadeh M, Soleimani M, Mirzaei S, Tayim N. Network analysis of depression, cognitive functions, and suicidal ideation in patients with diabetes: an epidemiological study in Iran.Acta Diabetol. 2024 Feb 16. doi: 10.1007/s00592-024-02234-z. Online ahead of print.

33. Burgess J, de Bezenac C, Keller SS, Frank B, Petropoulos IN, Garcia-Finana M, Jackson TL, Kirthi V, Cuthbertson DJ, Selvarajah D, Tesfaye S, Alam U. Brain alterations in regions associated with end-organ diabetic microvascular disease in diabetes mellitus: A UK Biobank study.Diabetes Metab Res Rev. 2024 Feb;40(2):e3772. doi: 10.1002/dmrr.3772.

34. Bashir M, Fagier Y, Ahmed B, C Konje J. An overview of diabetes mellitus in pregnant women with obesity.Best Pract Res Clin Obstet Gynaecol. 2024 Mar;93:102469. doi: 10.1016/j.bpobgyn.2024.102469. Epub 2024 Feb 10.

35. Alhmoud EN, Saad MO, Omar NE. Efficacy and safety of insulin glargine 300 units/mL vs insulin degludec in patients with type 1 and type 2 diabetes: a systematic review and meta-analysis.Front Endocrinol (Lausanne). 2024 Jan 19;14:1285147. doi: 10.3389/fendo.2023.1285147. eCollection 2023.

36. Kumar MA, Baba SK, Sadida HQ, Marzooqi SA, Jerobin J, Altemani FH, Algehainy N, Alanazi MA, Abou-Samra AB, Kumar R, Al-Shabeeb Akil AS, Macha MA, Mir R, Bhat AA. Extracellular vesicles as tools and targets in therapy for diseases.Signal Transduct Target Ther. 2024 Feb 5;9(1):27. doi: 10.1038/s41392-024-01735-1.

37. Dakroub A, Dbouk A, Asfour A, Nasser SA, El-Yazbi AF, Sahebkar A, Eid AA, Iratni R, Eid AH. C-peptide in diabetes: A player in a dual hormone disorder?.J Cell Physiol. 2024 Feb 3. doi: 10.1002/jcp.31212. Online ahead of print.

38. Rabbani N, Thornalley PJ. Hexokinase-linked glycolytic overload and unscheduled glycolysis in hyperglycemia-induced pathogenesis of insulin resistance, beta-cell glucotoxicity, and diabetic vascular complications.Front Endocrinol (Lausanne). 2024 Jan 16;14:1268308. doi: 10.3389/fendo.2023.1268308. eCollection 2023.

39. Abed Alah M, Abdeen S, Bougmiza I, Selim N. COVID-19 lockdowns weigh heavily on youth: an analysis of the impact on BMI for Age Z scores in children and adolescents.J Public Health (Oxf). 2024 Jan 30:fdad287. doi: 10.1093/pubmed/fdad287. Online ahead of print.

40. Ojurongbe TA, Afolabi HA, Oyekale A, Bashiru KA, Ayelagbe O, Ojurongbe O, Abbasi SA, Adegoke NA. Predictive model for early detection of type 2 diabetes using patients' clinical symptoms, demographic features, and knowledge of diabetes.Health Sci Rep. 2024 Jan 25;7(1):e1834. doi: 10.1002/hsr2.1834. eCollection 2024 Jan.

41. Sebastian A, Elharrouss O, Al-Maadeed S, Almaadeed N. GAN-Based Approach for Diabetic Retinopathy Retinal Vasculature Segmentation.Bioengineering (Basel). 2023 Dec 21;11(1):4. doi: 10.3390/bioengineering11010004.

42. Gad H, Kalra S, Pinzon R, Gracia RN, Yotsombut K, Coetzee A, Nafach J, Lim LL, Fletcher PE, Lim V, Malik RA. Earlier diagnosis of peripheral neuropathy in primary care: A call to action.J Peripher Nerv Syst. 2024 Mar;29(1):28-37. doi: 10.1111/jns.12613. Epub 2024 Jan 24.

43. Vazhiyelethil J, Minisha F, Al Obaidly S, AlQubaisi M, Salama H, Ali N, Khenyab N, Mohan S, Pallivalappil AR, Al-Dewik N, Al Rifai H, Farrell T. Impact of bariatric surgery on maternal gestational weight gain and pregnancy outcomes in women with obesity: A population-based cohort study from Qatar.Qatar Med J. 2024 Jan 22;2024(1):2. doi: 10.5339/qmj.2024.2. eCollection 2024.

44. Minisha F, Khenyab N, Abu Yaqoub S, Al Obaidly S, AlQubaisi M, Salama H, Olukade T, Pallivalappil AR, Al Dewik N, Al Rifai H, Farrell T. Perinatal outcomes in women with class IV obesity compared to women in the normal or overweight body mass index categories: A population-based cohort study in Qatar.Obes Sci Pract. 2023 Nov 20;10(1):e698. doi: 10.1002/osp4.698. eCollection 2024 Feb.

45. Sayed Ahmed HA, Abdelsalam NE, Joudeh AI, Abdelrahman AG, Eldahshan NA. Association of treatment satisfaction and physician trust with glycemic control among primary care patients with type 2 diabetes in Egypt.Diabetol Int. 2023 Aug 18;15(1):67-75. doi: 10.1007/s13340-023-00653-x. eCollection 2024 Jan.

46. Debes WA, Sadaqa M, Németh Z, Aldardour A, Prémusz V, Hock M. Effect of Resistance Exercise on Body Composition and Functional Capacity in Older Women with Sarcopenic Obesity-A Systematic Review with Narrative Synthesis.J Clin Med. 2024 Jan 13;13(2):441. doi: 10.3390/jcm13020441.

47. Ahmad A, Lim LL, Morieri ML, Tam CH, Cheng F, Chikowore T, Dudenhöffer-Pfeifer M, Fitipaldi H, Huang C, Kanbour S, Sarkar S, Koivula RW, Motala AA, Tye SC, Yu G, Zhang Y, Provenzano M, Sherifali D, de Souza RJ, Tobias DK; ADA/EASD PMDI; Gomez MF, Ma RCW, Mathioudakis N. Precision prognostics for cardiovascular disease in Type 2 diabetes: a systematic review and meta-analysis.Commun Med (Lond). 2024 Jan 22;4(1):11. doi: 10.1038/s43856-023-00429-z.

48. Sokary S, Bawadi H, Zakaria ZZ, Al-Asmakh M. The Effects of Spirulina Supplementation on Cardiometabolic Risk Factors: A Narrative Review.J Diet Suppl. 2024 Jan 22:1-16. doi: 10.1080/19390211.2023.2301366. Online ahead of print.

49. Badi S, Suliman SZ, Almahdi R, Aldomah MA, Marzouq ME, Ibrahim EEM, Ahmed M, Ahmed MH, Elkheir HK, Ibrahim MIM. The Impact of Clinical Pharmacist Diabetes Education on Medication Adherence in Patients with Type 2 Diabetes Mellitus: An Interventional Study from Khartoum, Sudan.J Pers Med. 2024 Jan 8;14(1):74. doi: 10.3390/jpm14010074.

50. Kerkadi A, Raïq H, Prince MS, Bader L, Soltani A, Agouni A. A cross-sectional analysis of zinc and copper levels and their relationship to cardiovascular disease risk markers in Qatar biobank participants.Front Cardiovasc Med. 2024 Jan 5;10:1305588. doi: 10.3389/fcvm.2023.1305588. eCollection 2023.

51. Alkadi MM. A new era in the management of diabetic kidney disease.Qatar Med J. 2024 Jan 17;2023(4):26. doi: 10.5339/qmj.2023.26. eCollection 2023.

52. Al-Absi HRH, Pai A, Naeem U, Mohamed FK, Arya S, Sbeit RA, Bashir M, El Shafei MM, El Hajj N, Alam T. DiaNet v2 deep learning based method for diabetes diagnosis using retinal images.Sci Rep. 2024 Jan 18;14(1):1595. doi: 10.1038/s41598-023-49677-y.

53. De Sanctis V, Soliman AT, Daar S, Tzoulis P, Kattamis C. Can we Predict Incipient Diabetes Mellitus in Patients with Transfusion Dependent β-Thalassemia (β-TDT) Referred with a History of Prediabetes?.Mediterr J Hematol Infect Dis. 2024 Jan 1;16(1):e2024005. doi: 10.4084/MJHID.2024.005. eCollection 2024.

54. Akhtar S. Diabetes-induced peripheral neuropathy: Is prescribing physical exercise the answer?.Biomol Biomed. 2024 Jan 11. doi: 10.17305/bb.2023.10188. Online ahead of print.

55. El Nahas R, Al-Aghbar MA, Herrero L, van Panhuys N, Espino-Guarch M. Applications of Genome-Editing Technologies for Type 1 Diabetes.Int J Mol Sci. 2023 Dec 26;25(1):344. doi: 10.3390/ijms25010344.

56. Qafoud F, Kunji K, Elshrif M, Althani A, Salam A, Al Suwaidi J, Darbar D, Asaad N, Saad M. Correlations between Resting Electrocardiogram Findings and Disease Profiles: Insights from the Qatar Biobank Cohort.J Clin Med. 2024 Jan 3;13(1):276. doi: 10.3390/jcm13010276.

57. Al-Jaber H, Al-Muraikhy S, Jabr AJ, Yousuf A, Anwardeen N, Elrayess M, Al-Mansoori L. Comparing Methods for Induction of Insulin Resistance in Mouse 3T3-L1 Cells.Curr Diabetes Rev. 2024 Jan 9. doi: 10.2174/0115733998263359231211044539. Online ahead of print.

58. Aboujassoum HM, Mohamed-Ali V, Abraham D, Clapp LH, Al-Naemi HA. Relative Recovery of Non-Alcoholic Fatty Liver Disease (NAFLD) in Diet-Induced Obese Rats.Nutrients. 2023 Dec 28;16(1):115. doi: 10.3390/nu16010115.

59. Tayyem R, Zakarneh S, Al-Jayyousi GF. Investigating the association between dietary patterns and glycemic control among children and adolescents with T1DM.Open Life Sci. 2023 Dec 31;18(1):20220758. doi: 10.1515/biol-2022-0758. eCollection 2023.

60. Xue M, Irshad Z, Rabbani N, Thornalley PJ. Increased cellular protein modification by methylglyoxal activates endoplasmic reticulum-based sensors of the unfolded protein response.Redox Biol. 2024 Feb;69:103025. doi: 10.1016/j.redox.2024.103025. Epub 2024 Jan 5.

61. Mahmoud M, Mahmood R. Differences in mental health status between individuals living with diabetes, and pre-diabetes in Qatar: A cross-sectional study.Heliyon. 2023 Dec 9;10(1):e23515. doi: 10.1016/j.heliyon.2023.e23515. eCollection 2024 Jan 15.

62. Singh R, Albinali HAH. Diabetes Mellitus in Acute Myocardial Infarction Patients in Qatar.Heart Views. 2023 Oct-Dec;24(4):224-226. doi: 10.4103/heartviews.heartviews_102_23. Epub 2023 Nov 3.

63. Kanbour S, Harris C, Lalani B, Wolf RM, Fitipaldi H, Gomez MF, Mathioudakis N. Machine Learning Models for Prediction of Diabetic Microvascular Complications.J Diabetes Sci Technol. 2024 Mar;18(2):273-286. doi: 10.1177/19322968231223726. Epub 2024 Jan 8.

64. Belhiba O, Bousfiha AA, Jennane F. Prevalence of celiac disease in Moroccan children with type 1 diabetes mellitus: A 16-year cross-sectional study.Qatar Med J. 2024 Jan 6;2023(4):37. doi: 10.5339/qmj.2023.37. eCollection 2023.

65. Naja F, Abdulmalik M, Ayoub J, Mahmoud A, Nasreddine L; MINA Collaborators. Dietary patterns and their associations with postpartum weight retention: results of the MINA cohort study.Eur J Nutr. 2024 Apr;63(3):809-820. doi: 10.1007/s00394-023-03305-7. Epub 2024 Jan 5.

66. Qaraqe M, Elzein A, Belhaouari S, Ilam MS, Petrovski G. A novel few shot learning derived architecture for long-term HbA1c prediction.Sci Rep. 2024 Jan 4;14(1):482. doi: 10.1038/s41598-023-50348-1.

67. Andreoli MF, Fittipaldi AS, Castrogiovanni D, De Francesco PN, Valdivia S, Heredia F, Ribet-Travers C, Mendez I, Fasano MV, Schioth HB, Doi SA, Habib AM, Perello M. Pre-prandial plasma liver-expressed antimicrobial peptide 2 (LEAP2) concentration in humans is inversely associated with hunger sensation in a ghrelin independent manner.Eur J Nutr. 2024 Apr;63(3):751-762. doi: 10.1007/s00394-023-03304-8. Epub 2023 Dec 29.

68. Aedla NR, Mahmood T, Ahmed B, Konje JC. Challenges in timing and mode of delivery in morbidly obese women. Best Pract Res Clin Obstet Gynaecol. 2024 Feb;92:102425. doi: 10.1016/j.bpobgyn.2023.102425. Epub 2023 Nov 22.

69. Elshoeibi AM, Akomolafe A, Al-Khulaifi A, Metwally O, Al-Khayarin R, Al Abiad AR, Al-Naemi L, Chivese T, Farooqui H. The Association Between Short Sleep Duration and Metabolic Syndrome: A Case-Control Study.Diabetes Metab Syndr Obes. 2023 Dec 20;16:4157-4167. doi: 10.2147/DMSO.S438054. eCollection 2023.

70. Al-Saei ANJM, Nour-Eldine W, Rajpoot K, Arshad N, Al-Shammari AR, Kamal M, Akil AA, Fakhro KA, Thornalley PJ, Rabbani N. Validation of plasma protein glycation and oxidation biomarkers for the diagnosis of autism.Mol Psychiatry. 2023 Dec 22. doi: 10.1038/s41380-023-02357-9. Online ahead of print.

71. Jiang K, Zhang Y, Xie C, Wang T, Zhao L, Zhao W, Shi Z, Sharma M, Zhao Y. Association between body weight misperception and snacking patterns among adolescents: a population-based cross-sectional study.BMC Public Health. 2023 Dec 21;23(1):2550. doi: 10.1186/s12889-023-17316-w.

72. Algaly G, Abdelrahman A, Ahmed SMI. Euglycemic diabetic ketoacidosis in a pregnant woman.J Am Coll Emerg Physicians Open. 2023 Dec 19;4(6):e13089. doi: 10.1002/emp2.13089. eCollection 2023 Dec.

73. Taheri S. Type 2 Diabetes Remission: A New Mission in Diabetes Care.Diabetes Care. 2024 Jan 1;47(1):47-49. doi: 10.2337/dci23-0062.

74. Shaheen N, Shaheen A, Diab RA, Saad AM, Abdelwahab OA, Soliman S, Hefnawy MT, Ramadan A, Meshref M, Nashwan AJ. Association of serum leptin and ghrelin levels with smoking status on body weight: a systematic review and meta-analysis.Front Psychiatry. 2023 Dec 4;14:1296764. doi: 10.3389/fpsyt.2023.1296764. eCollection 2023.

75. Abbas A, Hammad AS, Al-Shafai M. The role of genetic and epigenetic GNAS alterations in the development of early-onset obesity.Mutat Res Rev Mutat Res. 2023 Dec 14;793:108487. doi: 10.1016/j.mrrev.2023.108487. Online ahead of print.

76. Mir FA, Abdesselem HB, Cyprian F, Iskandarani A, Doudin A, Samra TA, Alkasem M, Abdalhakam I, Taheri S, Abou-Samra AB. Inflammatory protein signatures in individuals with obesity and metabolic syndrome.Sci Rep. 2023 Dec 13;13(1):22185. doi: 10.1038/s41598-023-49643-8.

77. Waheed MA, Al Mannai L, Khudadad H, Alenbawi J, Mansaray MA, Al Abdulla S. Assessment of Qatar's Health Care Community Call Center Efficacy in Addressing COVID-19 Pandemic Health Care Challenges: Cross-Sectional Study.JMIR Form Res. 2024 Jan 18;8:e42753. doi: 10.2196/42753.

78. Jabbour G, Iancu HD. Anaerobic and aerobic contributions to repeated supramaximal cycling exercises and their adaptation to high-intensity interval training in obese perimenopausal and postmenopausal women.Menopause. 2024 Jan 1;31(1):39-45. doi: 10.1097/GME.0000000000002284. Epub 2023 Dec 12.

79. Al Awaidy S, Tohme RA, Al Romaihi HE, Ezzikouri S, Mahomed O. Elimination of Mother-to-Child Transmission of Hepatitis B Virus in Gulf Cooperation Council Countries: Current Status and Future Prospects.Am J Trop Med Hyg. 2023 Dec 11;110(1):32-35. doi: 10.4269/ajtmh.23-0587. Print 2024 Jan 3.

80. Abid AR, El-Menyar A, Singh R, Gomaa M, Habib S, Abdelrahman AS, Asaad N, AlQahtani A, Al-Thani H, AlBinali H, Al Suwaidi J. Patterns and Outcomes of Obesity Using Body Mass Index in Patients Hospitalized with Acute Cardiovascular Disorders: A Retrospective Analysis of 7284 Patients in a Middle Eastern Country.J Clin Med. 2023 Nov 23;12(23):7263. doi: 10.3390/jcm12237263.

81. Ali R, Alhaj Sulaiman A, Memon B, Pradhan S, Algethami M, Aouida M, McKay G, Madhusudan S, Abdelalim EM, Ramotar D. Altered Regulation of the Glucose Transporter GLUT3 in PRDX1 Null Cells Caused Hypersensitivity to Arsenite.Cells. 2023 Nov 22;12(23):2682. doi: 10.3390/cells12232682.

82. Musa S, Al-Dahshan A, Singh R. Prevalence of Obesity and Lifestyle Risk Factors Following Two Years' COVID-19 Related Service Closure at Wellness Center, Primary Health Care.Diabetes Metab Syndr Obes. 2023 Nov 29;16:3851-3868. doi: 10.2147/DMSO.S433978. eCollection 2023.

83. De Sanctis V, Daar S, Soliman A, Tzoulis P, Yassin M, Kattamis C. A retrospective study of glucose homeostasis, insulin secretion, sensitivity/resistance in non- transfusion-dependent β-thalassemia patients (NTD- β Thal): reduced β-cell secretion rather than insulin resistance seems to be the dominant defect for glucose dysregulation (GD).Acta Biomed. 2023 Dec 5;94(6):e2023262. doi: 10.23750/abm.v94i6.15001.

84. De Sanctis V, Soliman AT, Daar S, Tzoulis P, Karimi M, Saki F, Di Maio S, Kattamis C. A prospective guide for clinical implementation of selected OGTT- derived surrogate indices for the evaluation of β- cell function and insulin sensitivity in patients with transfusion-dependent β- thalassaemia.Acta Biomed. 2023 Dec 5;94(6):e2023221. doi: 10.23750/abm.v94i6.15329.

85. Chaari A, Büsselberg D, Miled N. Editorial: Health benefits of flavonoids in diabetes and obesity: from experimental approaches to clinical use.Front Nutr. 2023 Oct 30;10:1312635. doi: 10.3389/fnut.2023.1312635. eCollection 2023.

86. Goudswaard LJ, Smith ML, Hughes DA, Taylor R, Lean M, Sattar N, Welsh P, McConnachie A, Blazeby JM, Rogers CA, Suhre K, Zaghlool SB, Hers I, Timpson NJ, Corbin LJ. Using trials of caloric restriction and bariatric surgery to explore the effects of body mass index on the circulating proteome.Sci Rep. 2023 Nov 29;13(1):21077. doi: 10.1038/s41598-023-47030-x.

87. Soliman N, Almishal R, Elsayed B, Ahmed A, Al-Amri S, Al-Kuwari A, Al-Muhannadi S, Nadeer M, Chivese T. Association between Diabetes and Levels of Micronutrients in Qatar-A Case-Control Study.Biomedicines. 2023 Nov 14;11(11):3045. doi: 10.3390/biomedicines11113045.

88. Mohammed I, Selvaraj S, Ahmed WS, Al-Barazenji T, Hammad AS, Dauleh H, Saraiva LR, Al-Shafai M, Hussain K. Functional Characterization of Novel MC4R Variants Identified in Two Unrelated Patients with Morbid Obesity in Qatar.Int J Mol Sci. 2023 Nov 15;24(22):16361. doi: 10.3390/ijms242216361.

89. Antonisamy B, Shailesh H, Hani Y, Ahmed LHM, Noor S, Ahmed SY, Alfaki M, Muhayimana A, Jacob SS, Balayya SK, Soloviov O, Liu L, Mathew LS, Wang K, Tomei S, Al Massih A, Mathew R, Karim MY, Ramanjaneya M, Worgall S, Janahi IA. Sphingolipids in Childhood Asthma and Obesity (SOAP Study): A Protocol of a Cross-Sectional Study. Metabolites. 2023 Nov 11;13(11):1146. doi: 10.3390/metabo13111146.

90. Belkadi A, Thareja G, Khan A, Stephan N, Zaghlool S, Halama A, Ahmed AA, Mohamoud YA, Malek J, Suhre K, Malik RA. Retinal nerve fibre layer thinning and corneal nerve loss in patients with Bardet-Biedl syndrome.BMC Med Genomics. 2023 Nov 23;16(1):301. doi: 10.1186/s12920-023-01739-w.

91. Malik RA. Is the 10 g monofilament fit for purpose for diagnosing DPN?.BMJ Open Diabetes Res Care. 2023 Nov;11(6):e003773. doi: 10.1136/bmjdrc-2023-003773.

92. Welters A, Leiter SM, Bachmann N, Bergmann C, Hoermann H, Korsch E, Meissner T, Payne F, Williams R, Hussain K, Semple RK, Kummer S. An expanded clinical spectrum of hypoinsulinaemic hypoketotic hypoglycaemia.Orphanet J Rare Dis. 2023 Nov 16;18(1):360. doi: 10.1186/s13023-023-02954-5.

93. Makhlouf M, Souza DG, Kurian S, Bellaver B, Ellis H, Kuboki A, Al-Naama A, Hasnah R, Venturin GT, Costa da Costa J, Venugopal N, Manoel D, Mennella J, Reisert J, Tordoff MG, Zimmer ER, Saraiva LR. Short-term consumption of highly processed diets varying in macronutrient content impair the sense of smell and brain metabolism in mice. Mol Metab. 2024 Jan;79:101837. doi: 10.1016/j.molmet.2023.101837. Epub 2023 Nov 17.

94. Olukade T, Salama H, Al-Obaidly S, AlQubaisi M, Al-Rifai H. Maternal Body Mass Index and Recommended Gestational Weight Gain in a Middle Eastern Setting.Matern Child Health J. 2024 Mar;28(3):524-531. doi: 10.1007/s10995-023-03816-z. Epub 2023 Nov 13.

95. Kokkorakis M, Folkertsma P, van Dam S, Sirotin N, Taheri S, Chagoury O, Idaghdour Y, Henning RH, Forte JC, Mantzoros CS, de Vries DH, Wolffenbuttel BHR. Effective questionnaire-based prediction models for type 2 diabetes across several ethnicities: a model development and validation study.EClinicalMedicine. 2023 Sep 25;64:102235. doi: 10.1016/j.eclinm.2023.102235. eCollection 2023 Oct.

96. Almuraikhy S, Doudin A, Domling A, Althani AAJF, Elrayess MA. Molecular regulators of exercise-mediated insulin sensitivity in non-obese individuals.J Cell Mol Med. 2024 Jan;28(1):e18015. doi: 10.1111/jcmm.18015. Epub 2023 Nov 8.

97. Miranda JC, Raza SA, Kolawole B, Khan JK, Alvi A, Ali FS, Chukwudi EE, Ram N, Oluwatoyin A. Enhancing Diabetes Care in LMICs: Insights from a Multinational Consensus.Pak J Med Sci. 2023 Nov-Dec;39(6):1899-1906. doi: 10.12669/pjms.39.7.8881.

98. Abushahin A, Al-Naimi A, Abu-Hasan M, Arar R, Lina Hayati M, Belavendra A, Janahi IA. Prevalence of Sleep-Disordered Breathing in Prader-Willi Syndrome.Can Respir J. 2023 Oct 26;2023:9992668. doi: 10.1155/2023/9992668. eCollection 2023.

99. Fakhroo A, Elhadary MR, Elsayed B, Al-Kuwari A, Aly R, Mesilhy R, Bakalaf A, Al-Maadhadi M, Al-Dehaimi AA, Chivese T, Rathnaiah Babu G. Association of Subclinical Hypothyroidism with Type 2 Diabetes Mellitus in Qatar: A Cross-Sectional Study.Diabetes Metab Syndr Obes. 2023 Oct 28;16:3373-3379. doi: 10.2147/DMSO.S428987. eCollection 2023.

100. Akbar Z, Fituri S, Ouagueni A, Alalwani J, Sukik A, Al-Jayyousi GF, Bassil M, Tayyem R. Associations of the MIND Diet with Cardiometabolic Diseases and Their Risk Factors: A Systematic Review.Diabetes Metab Syndr Obes. 2023 Oct 26;16:3353-3371. doi: 10.2147/DMSO.S427412. eCollection 2023.

101. Shailesh H, Bhat AA, Janahi IA. Obesity-Associated Non-T2 Mechanisms in Obese Asthmatic Individuals.Biomedicines. 2023 Oct 16;11(10):2797. doi: 10.3390/biomedicines11102797.

102. Thomas JT, Joseph B, Sorsa T, Mauramo M, Anil S, Waltimo T. Expression of advanced glycation end products and their receptors in diabetic periodontitis patients.Oral Dis. 2023 Oct 27. doi: 10.1111/odi.14769. Online ahead of print.

103. Carrillo-Larco RM, Guzman-Vilca WC, Bernabe-Ortiz A. Cardiometabolic risk profile of young and old adults with diabetes: Pooled, cross-sectional analysis of 42 national health surveys.Prim Care Diabetes. 2023 Dec;17(6):643-649. doi: 10.1016/j.pcd.2023.10.007. Epub 2023 Oct 25.

104. Ibrahim AKA, Syed Sulaiman SA, Awaisu A, Shafie AA. Impact of brief smoking cessation intervention on quitting rate and glycemic control in patients with diabetes: a randomized controlled trial.J Int Med Res. 2023 Oct;51(10):3000605231208598. doi: 10.1177/03000605231208598.

105. Kanbour S, Everett E. Addressing disparities in technology use among patients with type 1 diabetes: a review.Curr Opin Endocrinol Diabetes Obes. 2024 Feb 1;31(1):14-21. doi: 10.1097/MED.0000000000000840. Epub 2023 Oct 25.

106. Mohsen F, Al-Absi HRH, Yousri NA, El Hajj N, Shah Z. A scoping review of artificial intelligence-based methods for diabetes risk prediction.NPJ Digit Med. 2023 Oct 25;6(1):197. doi: 10.1038/s41746-023-00933-5.

107. Al Daccache M, Al-Shaar L, Sibai AM, Ismaeel H, Badr K, Nasreddine L. Psychosocial characteristics are associated with adherence to dietary, drugs and physical activity recommendations amongst cardiovascular disease patients in Lebanon.PLoS One. 2023 Oct 24;18(10):e0287844. doi: 10.1371/journal.pone.0287844. eCollection 2023.

108. Al Zein M, Zein O, Diab R, Dimachkie L, Sahebkar A, Al-Asmakh M, Kobeissy F, Eid AH. Intermittent fasting favorably modulates adipokines and potentially attenuates atherosclerosis.Biochem Pharmacol. 2023 Dec;218:115876. doi: 10.1016/j.bcp.2023.115876. Epub 2023 Oct 21.

109. Cai Z, Jiang K, Wang T, Li S, Xian J, Zhao Y, Shi Z. Influence of adolescents' and parental dietary knowledge on adolescents' body mass index (BMI), overweight/obesity in 2004-2015: a longitudinal study.Arch Public Health. 2023 Oct 23;81(1):188. doi: 10.1186/s13690-023-01197-x.

110. Adamoski D, Dias MM, Quesñay JEN, Yang Z, Zagoriy I, Steyer AM, Rodrigues CT, da Silva Bastos AC, da Silva BN, Costa RKE, de Abreu FMO, Islam Z, Cassago A, van Heel MG, Consonni SR, Mattei S, Mahamid J, Portugal RV, Ambrosio ALB, Dias SMG. Molecular mechanism of glutaminase activation through filamentation and the role of filaments in mitophagy protection.Nat Struct Mol Biol. 2023 Dec;30(12):1902-1912. doi: 10.1038/s41594-023-01118-0. Epub 2023 Oct 19.

111. Al-Oanzi ZH, Elzouki AN. Editorial: The role of vitamin D in reducing the risk of metabolic syndromes.Front Endocrinol (Lausanne). 2023 Oct 2;14:1293262. doi: 10.3389/fendo.2023.1293262. eCollection 2023.

112. De Sanctis V, Daar S, Soliman AT, Tzoulis P, Yassin M, Kattamis C. The effects of excess weight on glucose homeostasis in young adult females with β-thalassemia major (β-TM): a preliminary retrospective study.Acta Biomed. 2023 Oct 17;94(5):e2023225. doi: 10.23750/abm.v94i6.14909.

113. Abu Serhan H, Taha MJJ, Abuawwad MT, Abdelaal A, Irshaidat S, Abu Serhan L, Abu Salim QF, Awamleh N, Abdelazeem B, Elnahry AG. Safety and Efficacy of Brolucizumab in the Treatment of Diabetic Macular Edema and Diabetic Retinopathy: A Systematic Review and Meta-Analysis.Semin Ophthalmol. 2023 Oct 18:1-10. doi: 10.1080/08820538.2023.2271095. Online ahead of print.

114. Dughmosh RA, Mahmood S, Othman MM, Abune'meh EA, Islam N, Hamad NA, Al-Jayyousi GF. Evaluation of Diabetes Hotline Service Implemented During the COVID-19 Pandemic: A Dynamic Adaptation.Telemed J E Health. 2024 Mar;30(3):850-857. doi: 10.1089/tmj.2023.0080. Epub 2023 Oct 18.

115. Abushanab D, Al-Badriyeh D, Marquina C, Liew D, Al-Zaidan M, Ghaith Al-Kuwari M, Abdulmajeed J, Ademi Z. Societal health and economic burden of cardiovascular diseases in the population with type 2 diabetes in Qatar. A 10-year forecasting model.Diabetes Obes Metab. 2024 Jan;26(1):148-159. doi: 10.1111/dom.15299. Epub 2023 Oct 16.

116. Malki A, Shaik RA, Sami W. Association between metabolically healthy obesity and metastasis in lung cancer patients - a systematic review and meta-analysis.Front Endocrinol (Lausanne). 2023 Oct 3;14:1238459. doi: 10.3389/fendo.2023.1238459. eCollection 2023.

117. Al Refai F, Khalil SK, Khalil SK, Saeed L, Madani OA, Yousif ZB, Ahmed M. Acute Pancreatitis Secondary to Intragastric Balloon: A Case Report and Literature Review.Cureus. 2023 Sep 14;15(9):e45230. doi: 10.7759/cureus.45230. eCollection 2023 Sep.

118. Kilpatrick ES, Butler AE, Saeed S, Alamuddin N, Atkin SL, Sacks DB. The effectiveness of blood glucose and blood ketone measurement in identifying significant acidosis in diabetic ketoacidosis patients.Diabetol Metab Syndr. 2023 Oct 13;15(1):198. doi: 10.1186/s13098-023-01176-w.

119. Alalawneh M, Rachid O, Abdallah I, Mahfouz A, Elewa H, Danjuma MI, Mohamed AE, Awaisu A. Trends in prescribing and outcomes in obese versus non-obese patients receiving rivaroxaban therapy: an observational study using real-world data.Eur J Clin Pharmacol. 2023 Dec;79(12):1675-1685. doi: 10.1007/s00228-023-03572-7. Epub 2023 Oct 10.

120. Butler AE, Ramanjaneya M, Moin ASM, Hunt SC, Atkin SL. Clinical improvement may not reflect metabolic homeostasis normalization in subjects with and without Roux-En-Y bariatric surgery after 12 years: comparison of surgical subjects to a lean cohort.Front Endocrinol (Lausanne). 2023 Sep 21;14:1228853. doi: 10.3389/fendo.2023.1228853. eCollection 2023.

121. Sukik L, Hoque B, Boutefnouchet L, Elhadary M, Bawadi H, Shraim M. The association between screen time and depression symptoms severity among adults with diabetes: A cross-sectional study.Prim Care Diabetes. 2023 Dec;17(6):619-624. doi: 10.1016/j.pcd.2023.09.006. Epub 2023 Oct 3.

122. El Ansari W, El-Ansari K, Lock M. Mind the Overlap! Meta-Analyses That Synthesize the Findings of Primary Studies Based on Large Data Registries: the Case of Metabolic and Bariatric Surgery.Obes Surg. 2023 Nov;33(11):3689-3691. doi: 10.1007/s11695-023-06819-5. Epub 2023 Oct 5.

123. Almaghrbi H, Al-Shafai M, Al-Asmakh M, Bawadi H. Association of Vitamin D Genetic Risk Score with Noncommunicable Diseases: A Systematic Review.Nutrients. 2023 Sep 18;15(18):4040. doi: 10.3390/nu15184040.

124. Fituri S, Shi Z. Association between Dietary Patterns and Cognitive Function among Qatari Adults: A Cross-Sectional Analysis of the Qatar Biobank Study.Nutrients. 2023 Sep 19;15(18):4053. doi: 10.3390/nu15184053.

125. Sattar N, Taheri S, Astling DP, Chadwick J, Hinterberg MA, Holmes MV, Troth EV, Welsh P, Zaghloul H, Chagoury O, Lean M, Taylor R, Williams S. Prediction of Cardiometabolic Health Through Changes in Plasma Proteins With Intentional Weight Loss in the DiRECT and DIADEM-I Randomized Clinical Trials of Type 2 Diabetes Remission. Diabetes Care. 2023 Nov 1;46(11):1949-1957. doi: 10.2337/dc23-0602.

126. Elangeeb ME, Elfaki I, Elkhalifa MA, Adam KM, Alameen AO, Elfadl AK, Albalawi IA, Almasoudi KS, Almotairi R, Alsaedi BSO, Alhelali MH, Mir MM, Amle D, Mir R. In Silico Investigation of AKT2 Gene and Protein Abnormalities Reveals Potential Association with Insulin Resistance and Type 2 Diabetes.Curr Issues Mol Biol. 2023 Sep 12;45(9):7449-7475. doi: 10.3390/cimb45090471.

127. Almuraikhy S, Anwardeen N, Doudin A, Sellami M, Domling A, Agouni A, Althani AA, Elrayess MA. Antioxidative Stress Metabolic Pathways in Moderately Active Individuals.Metabolites. 2023 Aug 27;13(9):973. doi: 10.3390/metabo13090973.

128. Doshani A, Konje JC. Placental dysfunction in obese women and antenatal surveillance.Best Pract Res Clin Obstet Gynaecol. 2023 Dec;91:102407. doi: 10.1016/j.bpobgyn.2023.102407. Epub 2023 Aug 23.

129. Abdu Y, Naja S, Mohamed Ibrahim MI, Abdou M, Ahmed R, Elhag S, Saleh AO, Yassin M, Bougmiza I. Sleep Quality Among People with Type 2 Diabetes Mellitus During COVID-19 Pandemic: Evidence from Qatar's National Diabetes Center.Diabetes Metab Syndr Obes. 2023 Sep 14;16:2803-2812. doi: 10.2147/DMSO.S421878. eCollection 2023.

130. Ken-Dror G, Ajami I, Han TS, Aurelius T, Maheshwari A, Hail HA, Deleu D, Sharma SD, Amlani S, Gunathilagan G, Cohen DL, Rajkumar C, Maguire S, Ispoglou S, Balogun I, Parry A, Sekaran L, Syed H, Lawrence E, Singh R, Hassan A, Wharton C, Javaid K, Goorah N, Carr P, Abdus Sami E, Ali M, Hussein HA, Osman Abuzaid H, Sharif K, Ram Sharma S, Sylaja PN, Yousef Khan F, Prasad K, Sharma P. Diabetes mellitus and obesity among South Asians with ischemic stroke across three countries.Int J Stroke. 2024 Feb;19(2):235-243. doi: 10.1177/17474930231203149. Epub 2023 Sep 29.

131. Ata F, Khan AA, Khamees I, Mohammed BZM, Barjas HH, Muthanna B, Bashir M, Kartha A. Differential evolution of diabetic ketoacidosis in adults with pre-existent versus newly diagnosed type 1 and type 2 diabetes mellitus.BMC Endocr Disord. 2023 Sep 12;23(1):193. doi: 10.1186/s12902-023-01446-8.

132. Chaudhry H, Bodair R, Mahfoud Z, Dargham S, Al Suwaidi J, Jneid H, Abi Khalil C. Overweight and obesity are associated with better survival in STEMI patients with diabetes.Obesity (Silver Spring). 2023 Nov;31(11):2834-2844. doi: 10.1002/oby.23863. Epub 2023 Sep 10.

133. Lim JZM, Burgess J, Ooi C, Ferdousi M, Azmi S, Kalteniece A, Anson M, Cuthbertson DJ, Petropoulos IN, Malik RA, Wilding JPH, Alam U. Corneal Confocal Microscopy Predicts Cardiovascular and Cerebrovascular Events and Demonstrates Greater Peripheral Neuropathy in Patients with Type 1 Diabetes and Foot Ulcers.Diagnostics (Basel). 2023 Aug 29;13(17):2793. doi: 10.3390/diagnostics13172793.

134. Belail Hammad WA, Gupta N, Konje JC. An overview of contraception in women with obesity.Best Pract Res Clin Obstet Gynaecol. 2023 Dec;91:102408. doi: 10.1016/j.bpobgyn.2023.102408. Epub 2023 Aug 19.

135. Yousri NA, Albagha OME, Hunt SC. Integrated epigenome, whole genome sequence and metabolome analyses identify novel multi-omics pathways in type 2 diabetes: a Middle Eastern study.BMC Med. 2023 Sep 8;21(1):347. doi: 10.1186/s12916-023-03027-x.

136. Elsayed AK, Alajez NM, Abdelalim EM. Genome-wide differential expression profiling of long non-coding RNAs in FOXA2 knockout iPSC-derived pancreatic cells.Cell Commun Signal. 2023 Sep 5;21(1):229. doi: 10.1186/s12964-023-01212-2.

137. Ekanem E, Ngene NC, Moodley J, Konje J. Prevention of surgical site infection and sepsis in pregnant obese women. Best Pract Res Clin Obstet Gynaecol. 2023 Dec;91:102406. doi: 10.1016/j.bpobgyn.2023.102406. Epub 2023 Aug 19.

138. Finco MG, Najafi B, Zhou H, Hamad A, Ibrahim R, Al-Ali F. Game-based intradialytic non-weight-bearing exercise training on gait speed and balance in older adults with diabetes: a single-blind randomized controlled trial.Sci Rep. 2023 Aug 30;13(1):14225. doi: 10.1038/s41598-023-41290-3.

139. Abdelkader NN, Awaisu A, Elewa H, El Hajj MS. Prescribing patterns of antihypertensive medications: A systematic review of literature between 2010 and 2020.Explor Res Clin Soc Pharm. 2023 Aug 5;11:100315. doi: 10.1016/j.rcsop.2023.100315. eCollection 2023 Sep.

140. Naja K, Anwardeen N, Al-Hariri M, Al Thani AA, Elrayess MA. Pharmacometabolomic Approach to Investigate the Response to Metformin in Patients with Type 2 Diabetes: A Cross-Sectional Study.Biomedicines. 2023 Aug 1;11(8):2164. doi: 10.3390/biomedicines11082164.

141. Lawand G, Minisha F, Yaqoub SA, Al Dewik N, Al Rifai H, Farrell T. The impact of abnormal maternal body mass index during pregnancy on perinatal outcomes: a registry-based study from Qatar.J Perinat Med. 2023 Aug 24;51(9):1197-1205. doi: 10.1515/jpm-2023-0198. Print 2023 Nov 27.

142. Zakarneh S, Khial Y, Tayyem R. Dietary Factors Associated with Glycemic Control in Children and Adolescents with Type 1 Diabetes.Curr Pediatr Rev. 2023 Aug 22. doi: 10.2174/1573396320666230822095948. Online ahead of print.

143. Guldiken YC, Malik A, Petropoulos IN, Gad H, Elgassim E, Salivon I, Ponirakis G, Alam U, Malik RA. Where Art Thou O treatment for diabetic neuropathy: the sequel.Expert Rev Neurother. 2023 Jul-Dec;23(9):845-851. doi: 10.1080/14737175.2023.2247163. Epub 2023 Aug 21.

144. Islam Z, Diane A, Khattab N, Dehbi M, Thornalley P, Kolatkar PR. DNAJB3 attenuates ER stress through direct interaction with AKT.PLoS One. 2023 Aug 18;18(8):e0290340. doi: 10.1371/journal.pone.0290340. eCollection 2023.

145. Albinali HAH, Singh R, Al Arabi AR, Al Qahtani A, Asaad N, Al Suwaidi J. Predictors of 30-Day Re-admission in Cardiac Patients at Heart Hospital, Qatar.Heart Views. 2023 Jul-Sep;24(3):125-135. doi: 10.4103/heartviews.heartviews_91_22. Epub 2023 Jul 5.

146. Swami V, Tran US, Stieger S, Aavik T, Ranjbar HA, Adebayo SO, Afhami R, Ahmed O, Aimé A, Akel M, Halbusi HA, Alexias G, Ali KF, Alp-Dal N, Alsalhani AB, Álvares-Solas S, Amaral ACS, Andrianto S, Aspden T, Argyrides M, Aruta JJBR, Atkin S, Ayandele O, Baceviciene M, Bahbouh R, Ballesio A, Barron D, Bellard A, Bender SS, Beydağ KD, Birovljević G, Blackburn MÈ, Borja-Alvarez T, Borowiec J, Bozogáňová M, Bratland-Sanda S, Browning MHEM, Brytek-Matera A, Burakova M, Çakır-Koçak Y, Camacho P, Camilleri VE, Cazzato V, Cerea S, Chaiwutikornwanich A, Chaleeraktrakoon T, Chambers T, Chen QW, Chen X, Chien CL, Chobthamkit P, Choompunuch B, Compte EJ, Corrigan J, Cosmas G, Cowden RG, Czepczor-Bernat K, Czub M, da Silva WR, Dadfar M, Dalley SE, Dany L, Datu JAD, Berbert de Carvalho PH, Coelho GLH, De Jesus AOS, Debbabi SH, Dhakal S, Di Bernardo F, Dimitrova DD, Dion J, Dixson B, Donofrio SM, Drysch M, Du H, Dzhambov AM, El-Jor C, Enea V, Eskin M, Farbod F, Farrugia L, Fian L, Fisher ML, Folwarczny M, Frederick DA, Fuller-Tyszkiewicz M, Furnham A, García AA, Geller S, Ghisi M, Ghorbani A, Martinez MAG, Gradidge S, Graf S, Grano C, Gyene G, Hallit S, Hamdan M, Handelzalts JE, Hanel PHP, et al. Body appreciation around the world: Measurement invariance of the Body Appreciation Scale-2 (BAS-2) across 65 nations, 40 languages, gender identities, and age.Body Image. 2023 Sep;46:449-466. doi: 10.1016/j.bodyim.2023.07.010. Epub 2023 Aug 13.

147. El-Yazbi AF, Elrewiny MA, Habib HM, Eid AH, Elzahhar PA, Belal ASF. Thermogenic Modulation of Adipose Depots: A Perspective on Possible Therapeutic Intervention with Early Cardiorenal Complications of Metabolic Impairment.Mol Pharmacol. 2023 Nov;104(5):187-194. doi: 10.1124/molpharm.123.000704. Epub 2023 Aug 11.

148. Ahmed SR, Watt F, Mahfoud ZR, Korayem M, Buhmaid S, Alberry M, Ibrahim IM, Tandon SD. Examining Feasibility, Acceptability, and Preliminary Outcomes of a Culturally Adapted Evidence-Based Postpartum Depression Preventive Intervention for Women in Doha, Qatar: Protocol for a Randomized Controlled Trial.JMIR Res Protoc. 2023 Aug 11;12:e11623. doi: 10.2196/11623.

149. Baniulyte G, Ali K. How does diabetes mellitus impact on the prognosis of dental implants?.Evid Based Dent. 2023 Sep;24(3):114-115. doi: 10.1038/s41432-023-00909-0. Epub 2023 Aug 10.

150. Chilaka C, Toozs-Hobson P, Chilaka V. Pelvic floor dysfunction and obesity.Best Pract Res Clin Obstet Gynaecol. 2023 Aug;90:102389. doi: 10.1016/j.bpobgyn.2023.102389. Epub 2023 Jul 11.

151. Mamun A, Biswas T, Scott J, Sly PD, McIntyre HD, Thorpe K, Boyle FM, Dekker MN, Doi S, Mitchell M, McNeil K, Kothari A, Hardiman L, Callaway LK. Adverse childhood experiences, the risk of pregnancy complications and adverse pregnancy outcomes: a systematic review and meta-analysis.BMJ Open. 2023 Aug 3;13(8):e063826. doi: 10.1136/bmjopen-2022-063826.

152. Ullah A, Mamun AA, Zaidi MB, Roome T, Hasan A. A calcium peroxide incorporated oxygen releasing chitosan-PVA patch for Diabetic wound healing.Biomed Pharmacother. 2023 Sep;165:115156. doi: 10.1016/j.biopha.2023.115156. Epub 2023 Aug 2.

153. Ata F, Khan AA, Khamees I, Bashir M. Incidence of diabetic ketoacidosis does not differ in Ramadan compared to other months and seasons: results from a 6-year multicenter study.Curr Med Res Opin. 2023 Aug;39(8):1061-1067. doi: 10.1080/03007995.2023.2231306. Epub 2023 Jul 31.

154. Mahdi M, Majzoub A, Elbardisi H, Arafa M, Khalafalla K, Al Said S, El Ansari W. Impact of body mass index on semen parameters and reproductive hormones among men undergoing microsurgical subinguinal varicocelectomy. Arab J Urol. 2023 May 9;21(3):190-197. doi: 10.1080/2090598X.2023.2206336. eCollection 2023.

155. Bashir B, Iqbal Z, Adam S, Ferdousi M, Chick W, Hussein HA, Syed AA, Le Roux CW, Cohen RV, Malik RA, Soran H. Microvascular complications of obesity and diabetes-Role of bariatric surgery.Obes Rev. 2023 Oct;24(10):e13602. doi: 10.1111/obr.13602. Epub 2023 Jul 29.

156. Khalifa O, Ouararhni K, Errafii K, Alajez NM, Arredouani A. Targeted MicroRNA Profiling Reveals That Exendin-4 Modulates the Expression of Several MicroRNAs to Reduce Steatosis in HepG2 Cells.Int J Mol Sci. 2023 Jul 18;24(14):11606. doi: 10.3390/ijms241411606.

157. Anson M, Zhao SS, Austin P, Ibarburu GH, Malik RA, Alam U. SGLT2i and GLP-1 RA therapy in type 1 diabetes and reno-vascular outcomes: a real-world study.Diabetologia. 2023 Oct;66(10):1869-1881. doi: 10.1007/s00125-023-05975-8. Epub 2023 Jul 28.

158. Babarinsa IA, Bashir M, AbdelRahman Ahmed H, Ahmed B, Konje JC. Bariatric surgery and reproduction-implications for gynecology and obstetrics.Best Pract Res Clin Obstet Gynaecol. 2023 Aug;90:102382. doi: 10.1016/j.bpobgyn.2023.102382. Epub 2023 Jul 13.

159. Opoku AA, Onifade RA, Odukoya OA. Challenges of morbid obesity in gynecological practice.Best Pract Res Clin Obstet Gynaecol. 2023 Aug;90:102379. doi: 10.1016/j.bpobgyn.2023.102379. Epub 2023 Jun 25.

160. Kilpatrick ES. New Laboratory Guidelines for Diabetes: Continuing the Collaboration between Clinical and Laboratory Medicine.Clin Chem. 2023 Aug 2;69(8):785-787. doi: 10.1093/clinchem/hvad092.

161. Mhaimeed O, Pillai K, Dargham S, Al Suwaidi J, Jneid H, Abi Khalil C. Type 2 diabetes and in-hospital sudden cardiac arrest in ST-elevation myocardial infarction in the US.Front Cardiovasc Med. 2023 Jul 3;10:1175731. doi: 10.3389/fcvm.2023.1175731. eCollection 2023.

162. Cheema BS, Shi Z, White RL, Atlantis E. Associations of Recreational and Nonrecreational Physical Activity and Body Weight Change on Cardiovascular Disease Mortality During the Obesogenic Transition in the United States: National Health and Nutrition Examination Survey Follow-up Study.J Phys Act Health. 2023 Jul 18;20(10):971-979. doi: 10.1123/jpah.2022-0624. Print 2023 Oct 1.

163. Hamed E, Sharif A, Eid A, Alfehaidi A, Alberry M. Advancing Artificial Intelligence for Clinical Knowledge Retrieval: A Case Study Using ChatGPT-4 and Link Retrieval Plug-In to Analyze Diabetic Ketoacidosis Guidelines.Cureus. 2023 Jul 15;15(7):e41916. doi: 10.7759/cureus.41916. eCollection 2023 Jul.

164. Danjuma MI, Sayed R, Elzouki I. Commentary: Potentially inappropriate medication among older patients with diabetic kidney disease.Front Pharmacol. 2023 Jun 29;14:1210331. doi: 10.3389/fphar.2023.1210331. eCollection 2023.

165. Ibrahim RS, Ibrahim SS, El-Naas A, Koklesová L, Kubatka P, Büsselberg D. Could Metformin and Resveratrol Support Glioblastoma Treatment? A Mechanistic View at the Cellular Level.Cancers (Basel). 2023 Jun 27;15(13):3368. doi: 10.3390/cancers15133368.

166. Aramouni K, Assaf R, Shaito A, Fardoun M, Al-Asmakh M, Sahebkar A, Eid AH. Biochemical and cellular basis of oxidative stress: Implications for disease onset.J Cell Physiol. 2023 Sep;238(9):1951-1963. doi: 10.1002/jcp.31071. Epub 2023 Jul 12.

167. Salama AF, Baazaoui J, Shahid F, Singh R, Torres AJ, Bashah MM. Comparative analysis of 5-year efficacy and outcomes of single anastomosis procedures as revisional surgery for weight regain following sleeve gastrectomy. Surg Endosc. 2023 Oct;37(10):7548-7555. doi: 10.1007/s00464-023-10234-3. Epub 2023 Jul 11.

168. Wang H, Wang Y, Shi Z, Zhao L, Jian W, Li K, Xu R, Wu Y, Xu F, Wang Y, Peng W. Association between Dietary Patterns and Metabolic Syndrome and Modification Effect of Altitude: A Cohort Study of Tibetan Adults in China. Nutrients. 2023 May 8;15(9):2226. doi: 10.3390/nu15092226.

169. Prescott MP, Ben Hassen T, El Bilali H. Editorial: Obesity and sustainability.Front Nutr. 2023 Jun 22;10:1235036. doi: 10.3389/fnut.2023.1235036. eCollection 2023.

170. Alareeki A, Awad SF, Critchley JA, El-Nahas KG, Al-Hamaq AO, Alyafei SA, Al-Thani MHJ, Abu-Raddad LJ. Epidemiological impact of public health interventions against diabetes in Qatar: mathematical modeling analyses.Front Public Health. 2023 Jun 19;11:1167807. doi: 10.3389/fpubh.2023.1167807. eCollection 2023.

171. Taheri S. Sleep and cardiometabolic health-not so strange bedfellows.Lancet Diabetes Endocrinol. 2023 Aug;11(8):532-534. doi: 10.1016/S2213-8587(23)00170-5. Epub 2023 Jun 27.

172. Lamya F, Khalisa A, Naji F, Salih R, Househ M, Shah Z, Alam T. An Overview of Metabolomics Studies Based on Qatari Population.Stud Health Technol Inform. 2023 Jun 29;305:432-435. doi: 10.3233/SHTI230524.

173. Sonko S, Lamya F, Alzubaidi M, Shah H, Alam T, Shah Z, Househ M. Predicting Long-Term Type 2 Diabetes with Artificial Intelligence (AI): A Scoping Review.Stud Health Technol Inform. 2023 Jun 29;305:652-655. doi: 10.3233/SHTI230582.

174. Aziz S, Ahmed A, Abd-Alrazaq A, Qidwai U, Farooq F, Sheikh J. Estimating Blood Glucose Levels Using Machine Learning Models with Non-Invasive Wearable Device Data.Stud Health Technol Inform. 2023 Jun 29;305:283-286. doi: 10.3233/SHTI230484.

175. Kaul R, Paul P, Harfouche M, Saliba R, Chaari A. Microbiome-modulating nutraceuticals ameliorate dyslipidemia in type 2 diabetes: A systematic review, meta-analysis, and meta-regression of clinical trials.Diabetes Metab Res Rev. 2024 Feb;40(2):e3675. doi: 10.1002/dmrr.3675. Epub 2023 Jun 28.

176. Rezaei MH, Madadizadeh E, Aminaei M, Abbaspoor M, Schierbauer J, Moser O, Khoramipour K, Chamari K. Leptin Signaling Could Mediate Hippocampal Decumulation of Beta-Amyloid and Tau Induced by High-Intensity Interval Training in Rats with Type 2 Diabetes.Cell Mol Neurobiol. 2023 Oct;43(7):3465-3478. doi: 10.1007/s10571-023-01357-1. Epub 2023 Jun 28.

177. Mu-U-Min RBA, Diane A, Allouch A, Al-Siddiqi HH. Ca(2+)-Mediated Signaling Pathways: A Promising Target for the Successful Generation of Mature and Functional Stem Cell-Derived Pancreatic Beta Cells In Vitro.Biomedicines. 2023 May 29;11(6):1577. doi: 10.3390/biomedicines11061577.

178. Zaki HA, Iftikhar H, Shallik NA, Shaban E, Al-Marri NDR, Bashir I, Elhadad A, Zoghlami F, Abdalrubb A. A Systematic Review and Meta-Analysis of Randomized Controlled Trials Comparing the Effects of Biguanides (Metformin) and Thiazolidinediones on Glucose Tolerance and Insulin Sensitivity in Patients With Type II Diabetes Mellitus. Cureus. 2023 May 24;15(5):e39445. doi: 10.7759/cureus.39445. eCollection 2023 May.

179. Jung S, Ben Nasr M, Bahmani B, Usuelli V, Zhao J, Sabiu G, Seelam AJ, Naini SM, Balasubramanian HB, Park Y, Li X, Khalefa SA, Kasinath V, Williams MD, Rachid O, Haik Y, Tsokos GC, Wasserfall CH, Atkinson MA, Bromberg JS, Tao W, Fiorina P, Abdi R. Nanotargeted Delivery of Immune Therapeutics in Type 1 Diabetes.Adv Mater. 2023 Oct;35(40):e2300812. doi: 10.1002/adma.202300812. Epub 2023 Aug 16.

180. Diane A, Mohammed LI, Al-Siddiqi HH. Islets in the body are never flat: transitioning from two-dimensional (2D) monolayer culture to three-dimensional (3D) spheroid for better efficiency in the generation of functional hPSC-derived pancreatic β cells in vitro.Cell Commun Signal. 2023 Jun 22;21(1):151. doi: 10.1186/s12964-023-01171-8.

181. Banerjee M, Mukhopadhyay P, Ghosh S, Basu M, Pandit A, Malik R, Ghosh S. Corneal Confocal Microscopy Abnormalities in Children and Adolescents With Type 1 Diabetes.Endocr Pract. 2023 Sep;29(9):692-698. doi: 10.1016/j.eprac.2023.06.004. Epub 2023 Jun 19.

182. Elhag DA, Al Khodor S. Exploring the potential of microRNA as a diagnostic tool for gestational diabetes.J Transl Med. 2023 Jun 17;21(1):392. doi: 10.1186/s12967-023-04269-2.

183. Mohammed I, Haris B, Al-Barazenji T, Vasudeva D, Tomei S, Al Azwani I, Dauleh H, Shehzad S, Chirayath S, Mohamadsalih G, Petrovski G, Khalifa A, Love DR, Al-Shafai M, Hussain K. Understanding the Genetics of Early-Onset Obesity in a Cohort of Children From Qatar.J Clin Endocrinol Metab. 2023 Nov 17;108(12):3201-3213. doi: 10.1210/clinem/dgad366.

184. Shi M, Han S, Klier K, Fobo G, Montrone C, Yu S, Harada M, Henning AK, Friedrich N, Bahls M, Dörr M, Nauck M, Völzke H, Homuth G, Grabe HJ, Prehn C, Adamski J, Suhre K, Rathmann W, Ruepp A, Hertel J, Peters A, Wang-Sattler R. Identification of candidate metabolite biomarkers for metabolic syndrome and its five components in population-based human cohorts.Cardiovasc Diabetol. 2023 Jun 16;22(1):141. doi: 10.1186/s12933-023-01862-z.

185. Elsayed S, Soliman AT, De Sanctis V, Fawzy D, Ahmed S, Alaaraj N. Insulin-induced lipodystrophy and predisposing factors in children and adolescents with type 1 diabetes mellitus (T1DM) in a tertiary care Egyptian center.Acta Biomed. 2023 Jun 14;94(3):e2023078. doi: 10.23750/abm.v94i3.14117.

186. Mishra RK, Najafi B, Hamad A, Bara R, Lee M, Ibrahim R, Mathew M, Talal T, Al-Ali F. Intradialytic plantar electrical nerve stimulation to improve mobility and plantar sensation among adults with diabetes undergoing hemodialysis: a randomized double-blind trial.J Nephrol. 2023 Jul;36(6):1627-1637. doi: 10.1007/s40620-023-01625-9. Epub 2023 Jun 16.

187. De Sanctis V, Daar S, Soliman AT, Tzoulis P, Di Maio S, Kattamis C. Assessment of glucose homeostasis in young adult female β-thalassemia major patients (β-TM) with acquired hypogonadotropic hypogonadism (AHH) never treated with sex steroids compared to eugonadal β-TM patients with spontaneous menstrual cycles.Acta Biomed. 2023 Jun 14;94(3):e2023065. doi: 10.23750/abm.v94i3.14147.

188. Funcke JB, Moepps B, Roos J, von Schnurbein J, Verstraete K, Fröhlich-Reiterer E, Kohlsdorf K, Nunziata A, Brandt S, Tsirigotaki A, Dansercoer A, Suppan E, Haris B, Debatin KM, Savvides SN, Farooqi IS, Hussain K, Gierschik P, Fischer-Posovszky P, Wabitsch M. Rare Antagonistic Leptin Variants and Severe, Early-Onset Obesity.N Engl J Med. 2023 Jun 15;388(24):2253-2261. doi: 10.1056/NEJMoa2204041.

189. Ritzel R, Ghosh S, Emral R, Malek R, Zeng L, Mabunay MA, Landgraf W, Guyot P, Serafini P, Pushkarna D, Malik RA. Comparative efficacy and safety of Gla-300 versus IDegAsp in insulin-naïve people with type 2 diabetes mellitus uncontrolled on oral anti-diabetics.Diabetes Obes Metab. 2023 Sep;25(9):2495-2504. doi: 10.1111/dom.15121. Epub 2023 Jun 13.

190. Pillai K, Fares A, Dargham S, Al Suwaidi J, Jayyousi A, Abi Khalil C. Primary hyperaldosteronism is associated with increased mortality and morbidity in patients with hypertension and diabetes.Front Endocrinol (Lausanne). 2023 May 26;14:1147225. doi: 10.3389/fendo.2023.1147225. eCollection 2023.

191. Hamed E, Eid A, Alberry M. Exploring ChatGPT's Potential in Facilitating Adaptation of Clinical Guidelines: A Case Study of Diabetic Ketoacidosis Guidelines.Cureus. 2023 May 9;15(5):e38784. doi: 10.7759/cureus.38784. eCollection 2023 May.

192. Alhaddad AY, Aly H, Gad H, Elgassim E, Mohammed I, Baagar K, Al-Ali A, Sadasivuni KK, Cabibihan JJ, Malik RA. Longitudinal Studies of Wearables in Patients with Diabetes: Key Issues and Solutions.Sensors (Basel). 2023 May 23;23(11):5003. doi: 10.3390/s23115003.

193. Mishra RK, Hamad A, Ibrahim R, Mathew M, Talal T, Al-Ali F, Park C, Davuluri V, Fernando ME, Najafi B. Objective assessment of mobility among adults with diabetes and end-stage renal disease using walking aid: A cross-sectional cohort study.Clin Biomech (Bristol, Avon). 2023 Jul;107:106014. doi: 10.1016/j.clinbiomech.2023.106014. Epub 2023 May 25.

194. Singh P, Elhaj DAI, Ibrahim I, Abdullahi H, Al Khodor S. Maternal microbiota and gestational diabetes: impact on infant health.J Transl Med. 2023 Jun 6;21(1):364. doi: 10.1186/s12967-023-04230-3.

195. Srinivasan S, Sivaprasad S, Rajalakshmi R, Anjana RM, Malik RA, Kulothungan V, Raman R, Bhende M. Association of OCT and OCT angiography measures with the development and worsening of diabetic retinopathy in type 2 diabetes.Eye (Lond). 2023 Dec;37(18):3781-3786. doi: 10.1038/s41433-023-02605-w. Epub 2023 Jun 6.

196. Ahmed B, Konje JC. The epidemiology of obesity in reproduction.Best Pract Res Clin Obstet Gynaecol. 2023 Jul;89:102342. doi: 10.1016/j.bpobgyn.2023.102342. Epub 2023 May 11.

197. Aldous N, Moin ASM, Abdelalim EM. Pancreatic β-cell heterogeneity in adult human islets and stem cell-derived islets.Cell Mol Life Sci. 2023 Jun 3;80(6):176. doi: 10.1007/s00018-023-04815-7.

198. Mahboob A, Samuel SM, Mohamed A, Wani MY, Ghorbel S, Miled N, Büsselberg D, Chaari A. Role of flavonoids in controlling obesity: molecular targets and mechanisms.Front Nutr. 2023 May 12;10:1177897. doi: 10.3389/fnut.2023.1177897. eCollection 2023.

199. Opoku AA, Abushama M, Konje JC. Obesity and menopause.Best Pract Res Clin Obstet Gynaecol. 2023 Jun;88:102348. doi: 10.1016/j.bpobgyn.2023.102348. Epub 2023 May 6.

200. Nilashi M, Abumalloh RA, Alyami S, Alghamdi A, Alrizq M. A Combined Method for Diabetes Mellitus Diagnosis Using Deep Learning, Singular Value Decomposition, and Self-Organizing Map Approaches.Diagnostics (Basel). 2023 May 22;13(10):1821. doi: 10.3390/diagnostics13101821.

201. Yang B, Tang C, Shi Z, Gao L. Association of Macronutrients Intake with Body Composition and Sarcopenic Obesity in Children and Adolescents: A Population-Based Analysis of the National Health and Nutrition Examination Survey (NHANES) 2011-2018.Nutrients. 2023 May 15;15(10):2307. doi: 10.3390/nu15102307.

202. Del Bo' C, Perna S, Allehdan S, Rafique A, Saad S, AlGhareeb F, Rondanelli M, Tayyem RF, Marino M, Martini D, Riso P. Does the Mediterranean Diet Have Any Effect on Lipid Profile, Central Obesity and Liver Enzymes in Non-Alcoholic Fatty Liver Disease (NAFLD) Subjects? A Systematic Review and Meta-Analysis of Randomized Control Trials.Nutrients. 2023 May 9;15(10):2250. doi: 10.3390/nu15102250.

203. El Ess MS, ElRishi MA. Severe euglycemic diabetic ketoacidosis secondary to sodium-glucose co-transporter 2 inhibitor: case report and literature review.Ann Med Surg (Lond). 2023 Apr 11;85(5):2097-2101. doi: 10.1097/MS9.0000000000000479. eCollection 2023 May.

204. Samuel SM, Varghese E, Satheesh NJ, Triggle CR, Büsselberg D. Metabolic heterogeneity in TNBCs: A potential determinant of therapeutic efficacy of 2-deoxyglucose and metformin combinatory therapy.Biomed Pharmacother. 2023 Aug;164:114911. doi: 10.1016/j.biopha.2023.114911. Epub 2023 May 22.

205. Elsayed AM, Al-Kaabi LS, Al-Abdulla NM, Al-Kuwari MS, Al-Mulla AA, Al-Shamari RS, Alhusban AK, AlNajjar AA, Doi SAR. Clinical Phenotypes of PCOS: a Cross-Sectional Study.Reprod Sci. 2023 Nov;30(11):3261-3272. doi: 10.1007/s43032-023-01262-4. Epub 2023 May 22.

206. Grillo R, Balel Y, Brozoski MA, Ali K, Adebayo ET, Naclério-Homem MDG. A global science mapping analysis on odontogenic infections.J Stomatol Oral Maxillofac Surg. 2023 May 18:101513. doi: 10.1016/j.jormas.2023.101513. Online ahead of print.

207. Gaskell C, Sarada P, Aleem E, Bendriss G. Identifying lifestyle factors associated to co-morbidity of obesity and psychiatric disorders, a pilot study.Front Public Health. 2023 May 3;11:1132994. doi: 10.3389/fpubh.2023.1132994. eCollection 2023.

208. Mirbagheri MS, Akhavan-Mahdavi S, Hasan A, Kharazmi MS, Jafari SM. Chitosan-based electrospun nanofibers for diabetic foot ulcer management; recent advances.Carbohydr Polym. 2023 Aug 1;313:120512. doi: 10.1016/j.carbpol.2022.120512. Epub 2023 Jan 2.

209. Al-Ishaq RK, Samuel SM, Büsselberg D. The Influence of Gut Microbial Species on Diabetes Mellitus.Int J Mol Sci. 2023 May 1;24(9):8118. doi: 10.3390/ijms24098118.

210. Almomani R, Sopacua M, Marchi M, Ślęczkowska M, Lindsey P, de Greef BTA, Hoeijmakers JGJ, Salvi E, Merkies ISJ, Ferdousi M, Malik RA, Ziegler D, Derks KWJ, Boenhof G, Martinelli-Boneschi F, Cazzato D, Lombardi R, Dib-Hajj S, Waxman SG, Smeets HJM, Gerrits MM, Faber CG, Lauria G, On Behalf Of The Propane Study Group. Genetic Profiling of Sodium Channels in Diabetic Painful and Painless and Idiopathic Painful and Painless Neuropathies.Int J Mol Sci. 2023 May 5;24(9):8278. doi: 10.3390/ijms24098278.

211. Almuraikhy S, Anwardeen N, Doudin A, Sellami M, Domling A, Agouni A, Al Thani AA, Elrayess MA. The Metabolic Switch of Physical Activity in Non-Obese Insulin Resistant Individuals.Int J Mol Sci. 2023 Apr 25;24(9):7816. doi: 10.3390/ijms24097816.

212. Fituri S, Akbar Z, Ganji V. Impact of metformin treatment on cobalamin status in persons with type 2 diabetes.Nutr Rev. 2024 Mar 11;82(4):553-560. doi: 10.1093/nutrit/nuad045.

213. Gad H, Elgassim E, Mohammed I, Alhaddad AY, Aly HAHZ, Cabibihan JJ, Al-Ali A, Sadasivuni KK, Petropoulos IN, Ponirakis G, Abuhelaiqa W, Jayyousi A, AlMohanadi D, Baagar K, Malik RA. Cardiovascular autonomic neuropathy is associated with increased glycemic variability driven by hyperglycemia rather than hypoglycemia in patients with diabetes.Diabetes Res Clin Pract. 2023 Jun;200:110670. doi: 10.1016/j.diabres.2023.110670. Epub 2023 May 9.

214. Al-Sharshani D, Velayutham D, Samara M, Gazal R, Al Haj Zen A, Ismail MA, Ahmed M, Nasrallah G, Younes S, Rizk N, Hammuda S, Qoronfleh MW, Farrell T, Zayed H, Abdulrouf PV, AlDweik M, Silang JPB, Rahhal A, Al-Jurf R, Mahfouz A, Salam A, Al Rifai H, Al-Dewik NI. Association of single nucleotide polymorphisms with dyslipidemia and risk of metabolic disorders in the State of Qatar.Mol Genet Genomic Med. 2023 Aug;11(8):e2178. doi: 10.1002/mgg3.2178. Epub 2023 May 5.

215. Yassin A, Alwani M, Al-Zoubi RM, Aboumarzouk OM, Talib R, Nettleship J, Kelly D, Albaba B. Voiding function improves under long-term testosterone treatment (TTh) in hypogonadal men, independent of prostate size.Int Urol Nephrol. 2023 Jul;55(7):1649-1658. doi: 10.1007/s11255-023-03602-4. Epub 2023 May 6.

216. Zahed K, Mehta R, Erraguntla M, Qaraqe K, Sasangohar F. Understanding Patient Beliefs in Using Technology to Manage Diabetes: Path Analysis Model From a National Web-Based Sample.JMIR Diabetes. 2023 May 3;8:e41501. doi: 10.2196/41501.

217. Alyafei M, Alchawa M, Farooq A, Selim N, Bougmiza I. Physical Activity among Primary Health Care Physicians and Its Impact on Counseling Practices.Biomed Hub. 2023 Apr 19;8(1):31-41. doi: 10.1159/000530085. eCollection 2023 Jan-Dec.

218. Anwardeen NR, Cyprian FS, Yassine HM, Al-Thani AA, Abdallah AM, Emara MM, Elrayess MA. The retrospective study of the metabolic patterns of BCG-vaccination in type-2 diabetic individuals in COVID-19 infection.Front Immunol. 2023 Apr 5;14:1146443. doi: 10.3389/fimmu.2023.1146443. eCollection 2023.

219. Badran S, Doi SA. Metabolic changes after surgical fat removal: Current gaps and suggestions for future studies.J Plast Reconstr Aesthet Surg. 2023 Jun;81:83-84. doi: 10.1016/j.bjps.2023.04.008. Epub 2023 Apr 17.

220. Al Akl NS, Haoudi EN, Bensmail H, Arredouani A. The triglyceride glucose-waist-to-height ratio outperforms obesity and other triglyceride-related parameters in detecting prediabetes in normal-weight Qatari adults: A cross-sectional study.Front Public Health. 2023 Apr 6;11:1086771. doi: 10.3389/fpubh.2023.1086771. eCollection 2023.

221. Jahromi R, Zahed K, Sasangohar F, Erraguntla M, Mehta R, Qaraqe K. Hypoglycemia Detection Using Hand Tremors: Home Study of Patients With Type 1 Diabetes.JMIR Diabetes. 2023 Apr 19;8:e40990. doi: 10.2196/40990.

222. Choi S, Romero AR, Mashood F, Goswami N, Chouchane L, Schmidt F. Comprehensive Characterization of Protein Turnover by Comparative SILAC Labeling Analysis in 3T3-L1.J Proteome Res. 2023 Jun 2;22(6):1723-1733. doi: 10.1021/acs.jproteome.2c00763. Epub 2023 Apr 14.

223. Ekiz E, Oz E, Abd El-Aty AM, Proestos C, Brennan C, Zeng M, Tomasevic I, Elobeid T, Çadırcı K, Bayrak M, Oz F. Exploring the Potential Medicinal Benefits of Ganoderma lucidum: From Metabolic Disorders to Coronavirus Infections.Foods. 2023 Apr 3;12(7):1512. doi: 10.3390/foods12071512.

224. Eljazzar S, Abu-Hijleh H, Alkhatib D, Sokary S, Ismail S, Al-Jayyousi GF, Tayyem R. The Role of Copper Intake in the Development and Management of Type 2 Diabetes: A Systematic Review.Nutrients. 2023 Mar 29;15(7):1655. doi: 10.3390/nu15071655.

225. Al Thani NA, Hasan M, Yalcin HC. Use of Animal Models for Investigating Cardioprotective Roles of SGLT2 Inhibitors.J Cardiovasc Transl Res. 2023 Oct;16(5):975-986. doi: 10.1007/s12265-023-10379-5. Epub 2023 Apr 13.

226. Omar AA, Radwani KJ, Al Thani MK, Abouzeid NH, Qabeel YE, Al Shamari M, Chivese T, Zughaier SM. Association Between Serum Bicarbonate Levels and Prediabetes and Subclinical Inflammation in Young Healthy Adults: A Cross-sectional Study.Diabetes Metab Syndr Obes. 2023 Apr 4;16:969-977. doi: 10.2147/DMSO.S402037. eCollection 2023.

227. Yang J, Xia Y, Sun Y, Guo Y, Shi Z, Cristina do Vale Moreira N, Zuo H, Hussain A. Effect of lifestyle intervention on HbA1c levels in overweight and obese adults with type 2 diabetes across ethnicities: A systematic review and meta-analysis of randomized controlled trials.Diabetes Res Clin Pract. 2023 May;199:110662. doi: 10.1016/j.diabres.2023.110662. Epub 2023 Apr 6.

228. Badran S, Doi SA, Hammouda A, Khoogaly H, Muneer M, Alkasem MJ, Abou-Samra AB, Habib AM. The impact of prior obesity surgery on glucose metabolism after body contouring surgery: A pilot study.Biomol Biomed. 2023 Sep 4;23(5):873-882. doi: 10.17305/bb.2023.8827.

229. Elhag W, Lock M, El Ansari W. When Definitions Differ, are Comparisons Meaningful? Definitions of Weight Regain After Bariatric Surgery and Their Associations with Patient Characteristics and Clinical Outcomes - A Need for a Revisit?.Obes Surg. 2023 May;33(5):1390-1400. doi: 10.1007/s11695-023-06528-z. Epub 2023 Mar 30.

230. Thomas S, Emara MM, Ouhtit A, Nader JD, Nasrallah GK, Coyle PV, Althani AA, Al Maslamani MA, Yassine HM. Influenza prevalence and vaccine efficacy among diabetic patients in Qatar.J Infect Public Health. 2023 May;16(5):808-815. doi: 10.1016/j.jiph.2023.03.011. Epub 2023 Mar 14.

231. Abushanab D, Marquina C, Morton JI, Al-Badriyeh D, Lloyd M, Magliano DJ, Liew D, Ademi Z. Projecting the Health and Economic Burden of Cardiovascular Disease Among People with Type 2 Diabetes, 2022-2031.Pharmacoeconomics. 2023 Jun;41(6):719-732. doi: 10.1007/s40273-023-01258-7. Epub 2023 Mar 21.

232. Verma S, Alamuddin N, Alawadi F, Alkandari H, Almahmeed W, Assaad-Khalil SH, Haddad J, Husemoen LLN, Lombard L, Malik RA, Mashaki Ceyhan E, Sabbour H, Tombak G, Yadav G, Salek S. Prevalence of Diabetes and Cardiovascular Risk in the Middle East and Africa: Primary Results of the PACT-MEA Study.Circulation. 2023 Apr 18;147(16):1251-1255. doi: 10.1161/CIRCULATIONAHA.123.064345. Epub 2023 Mar 6.

233. Imtiaz F, Islam M, Saeed H, Ahmed A, Rathore HA. Assessment of the antidiabetic potential of extract and novel phytoniosomes formulation of Tradescantia pallida leaves in the alloxan-induced diabetic mouse model.FASEB J. 2023 Apr;37(4):e22818. doi: 10.1096/fj.202201395RR.

234. Ebrahimpour-Malekshah R, Amini A, Mostafavinia A, Ahmadi H, Zare F, Safaju S, Shahbazi A, Chien S, Rezaei F, Hasan A, Bayat M. The stereological, immunohistological, and gene expression studies in an infected ischemic wound in diabetic rats treated by human adipose-derived stem cells and photobiomodulation.Arch Dermatol Res. 2023 Aug;315(6):1717-1734. doi: 10.1007/s00403-023-02563-z. Epub 2023 Feb 21.

235. Bergman M, Buysschaert M, Ceriello A, Hussain A, Mohan V, Sesti G, Tuomilehto J. Current diagnostic criteria identify risk for type 2 diabetes too late.Lancet Diabetes Endocrinol. 2023 Apr;11(4):224-226. doi: 10.1016/S2213-8587(23)00039-6. Epub 2023 Feb 16.

236. Verma S, Sabbour H, Alamuddin N, Alawadi F, Alkandari H, Almahmeed W, Assaad-Khalil SH, Haddad J, Lombard L, Malik RA, Mashaki Ceyhan E, Prasad P, Tombak G, Salek S. A cross-sectional study of the prevalence and clinical management of atherosclerotic cardiovascular diseases in patients with type 2 diabetes across the Middle East and Africa (PACT-MEA): Study design and rationale.Diabetes Obes Metab. 2023 Jun;25(6):1444-1452. doi: 10.1111/dom.15011. Epub 2023 Mar 3.

237. Aldous N, Elsayed AK, Alajez NM, Abdelalim EM. iPSC-Derived Pancreatic Progenitors Lacking FOXA2 Reveal Alterations in miRNA Expression Targeting Key Pancreatic Genes.Stem Cell Rev Rep. 2023 May;19(4):1082-1097. doi: 10.1007/s12015-023-10515-3. Epub 2023 Feb 7.

238. Ata F, Khan AA, Khamees I, Iqbal P, Yousaf Z, Mohammed BZM, Aboshdid R, Marzouk SKK, Barjas H, Khalid M, El Madhoun I, Bashir M, Kartha A. Clinical and biochemical determinants of length of stay, readmission and recurrence in patients admitted with diabetic ketoacidosis.Ann Med. 2023 Dec;55(1):533-542. doi: 10.1080/07853890.2023.2175031.

239. Taheri S. Clinical obesity: A look into the future.Clin Obes. 2023 Apr;13(2):e12581. doi: 10.1111/cob.12581. Epub 2023 Jan 31.

240. Qannan A, Bejaoui Y, Izadi M, Yousri NA, Razzaq A, Christiansen C, Martin GM, Bell JT, Horvath S, Oshima J, Megarbane A, Ericsson J, Pourkarimi E, El Hajj N. Accelerated epigenetic aging and DNA methylation alterations in Berardinelli-Seip congenital lipodystrophy.Hum Mol Genet. 2023 May 18;32(11):1826-1835. doi: 10.1093/hmg/ddad016.

241. Aigha II, Abdelalim EM. p53 Inhibition in Pancreatic Progenitors Enhances the Differentiation of Human Pluripotent Stem Cells into Pancreatic β-Cells.Stem Cell Rev Rep. 2023 May;19(4):942-952. doi: 10.1007/s12015-023-10509-1. Epub 2023 Jan 28.

242. Alasmar RM, Varadharajan K, Shanmugakonar M, Al-Naemi HA. Early-Life Sugar Consumption Affects the Microbiome in Juvenile Mice.Mol Nutr Food Res. 2023 Dec;67(24):e2200322. doi: 10.1002/mnfr.202200322. Epub 2022 Oct 19.

243. Elhag W, El Ansari W, Bashah M, Elgenaied I. Late Diabetes Relapse After Sleeve Gastrectomy Compared with Long-Term Remission: Characteristics and Cardiometabolic Outcomes.Metab Syndr Relat Disord. 2023 Aug;21(6):319-326. doi: 10.1089/met.2022.0043. Epub 2022 Aug 30.

244. Al-Adwi ME, Al-Haswsa ZM, Alhmmadi KM, Eissa YA, Hamdan A, Bawadi H, Tayyem RF. Effects of different diets on glycemic control among patients with type 2 diabetes: A literature review.Nutr Health. 2023 Jun;29(2):215-221. doi: 10.1177/02601060221112805. Epub 2022 Jul 6.

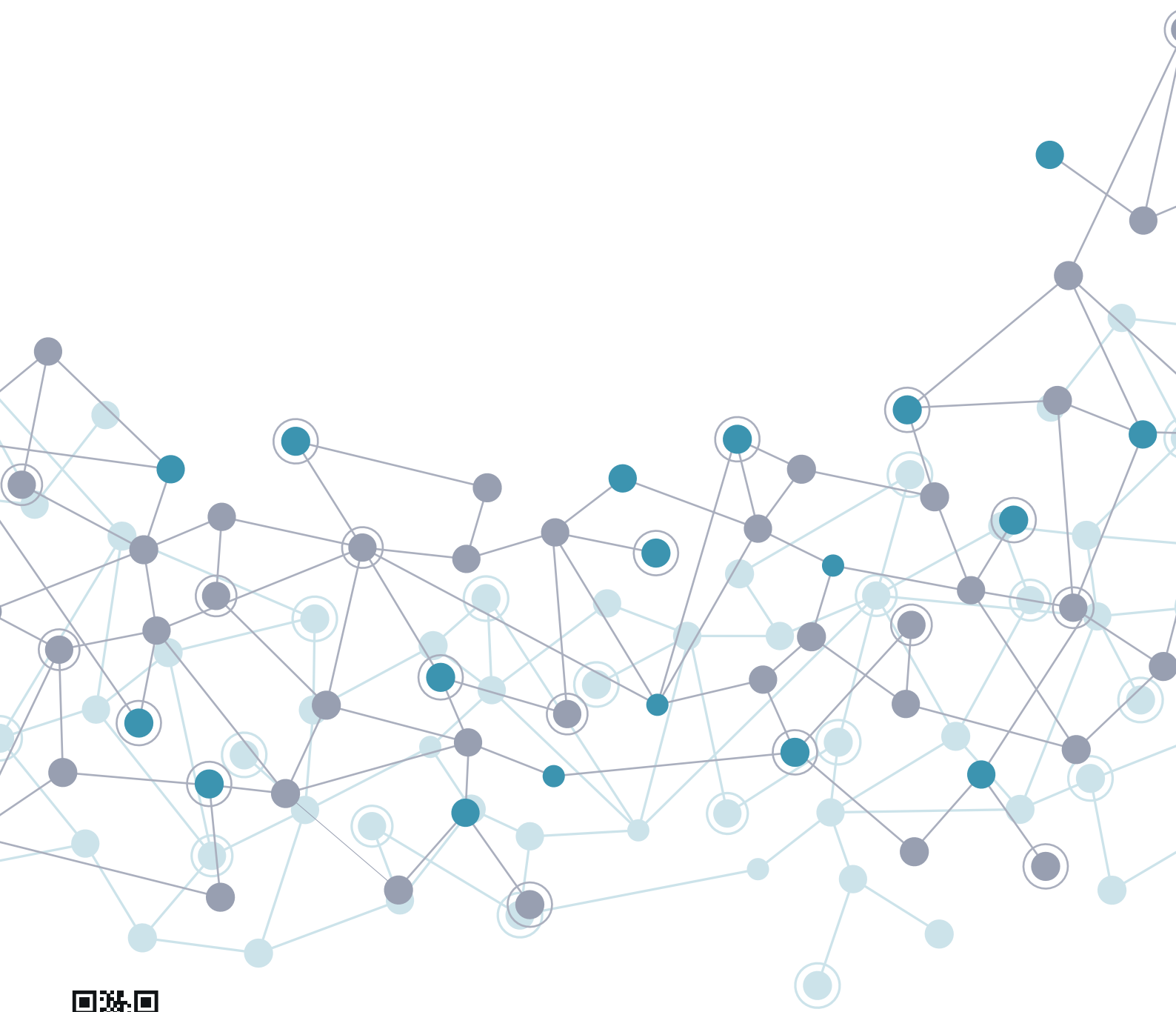
245. Srinivasan S, Suresh S, Chendilnathan C, Prakash V J, Sivaprasad S, Rajalakshmi R, Anjana RM, Malik RA, Kulothungan V, Raman R, Bhende M. Inter-observer agreement in grading severity of diabetic retinopathy in wide-field fundus photographs.Eye (Lond). 2023 Apr;37(6):1231-1235. doi: 10.1038/s41433-022-02107-1. Epub 2022 May 20.

246. Abushanab D, Al-Badriyeh D, Marquina C, Bailey C, Jaam M, Liew D, Ademi Z. A Systematic Review of Cost-Effectiveness of Non-Statin Lipid-Lowering Drugs for Primary and Secondary Prevention of Cardiovascular Disease in Patients with Type 2 Diabetes Mellitus.Curr Probl Cardiol. 2023 Aug;48(8):101211. doi: 10.1016/j.cpcardiol.2022.101211. Epub 2022 Apr 20.

NOTES

NOTES

NOTES



www.moph.gov.qa /MOPHQatar /MOPHQatar /MOPHQatar