دانشگاه علوم پزشکی تهران

پژوهشگاه علوم غدد و متابولیسم

انجمن استئوپروز ایران

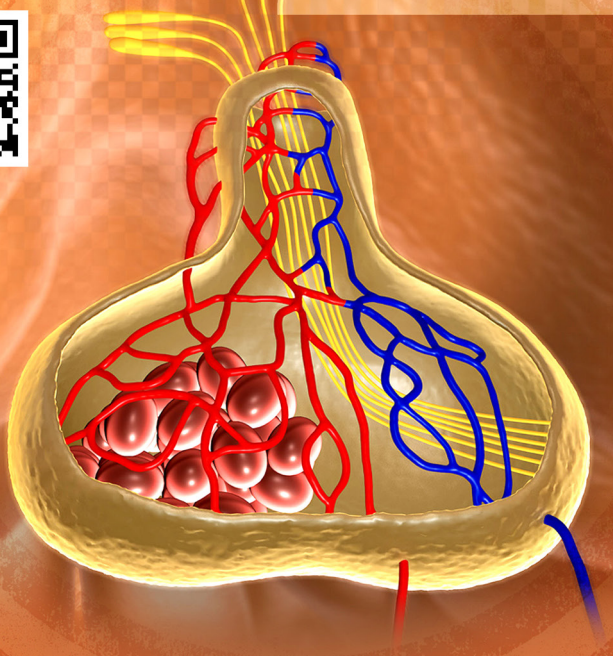
خلاصه مقالات

کنگره همگرایی در علوم غدد

Congress of Convergence in
Endocrine Sciences
Abstract book

۲۸ و ۲۹ بهمن ماه ۱۴۰۰

17-18 February 2022



پیام رئیس کنگره همگرایی در علوم غدد

بسمه تعالی

جهان امروز ما در شرایطی است که همه گیری کووید-۱۹ همچنان بزرگترین معضل نظام های سلامت در کشورهای مختلف است ولیکن جریان تولید و نشر دانش در حوزه های مختلف به همت دانشمندان و اندیشه ورزان در مسیر اعتلای بشریت برقرار است و این امر نشانگر عزم جدی پژوهشگران در حل مسایل بشری و مشکلات سلامت است. در این راستا همگرایی دانش های مختلف از اساسی ترین ارکان توسعه علم و راهبرد پاسخگویی بیشتر آن برای جوامع مختلف است که با هدف حل مسائل واقعی بشریت و از مجرای هم افزایی و گردآوری هدفمند دانش های تولید شده در حوزه های مختلف نقش بسزایی را در اعتلای جوامع بشری ایفا می کند.

به دنبال برگزاری موفق کنگره همگرایی در علوم غدد در سال گذشته، امسال نیز میزبان دانشمندان و پژوهشگران عرصه های مختلف خواهیم بود. فضایی که به نظر می رسد با حذف و کم رنگ کردن مرزهای بین دانشی توانمندی های مختلف از عرصه‌های گوناگون علوم پزشکی را کنار هم گردآوری نموده به این امید که با تبادل آرا، اندیشه‌ها و تجربیات، ایده‌ها و راهکارهای نوینی به منظور حل چالش های حوزه سلامت شکل گیرد.

در **کنگره همگرایی در علوم غدد** امسال نیز همچون سال گذشته از محضر اساتید برجسته داخلی و خارجی بهره مند خواهیم بود. امیدوارم شرکت در این کنگره برای همه اهالی دانش، زمینه ارتقای فردی و توسعه توانمندی‌های ملی و منطقه ای را فراهم نماید.

دکتر باقر لاریجانی

استاد دانشگاه علوم پزشکی تهران

رئیس کنگره همگرایی در علوم غدد

Dear Colleagues and friends:
With the view of promoting interdisciplinary research in clinical and basic sciences and fostering convergence amongst different disciplines pertaining to endocrinology, I would like to cordially invite you to participate in the Congress of Convergence in Endocrinology which will be held by the Endocrinology and Metabolism Research Institute from 17th to 18th February 2022.
This local assembly and interactive virtual event will be organized and held as a CME-accredited program and leading scholars from a wide range of disciplines will participate in it. Considering the current pandemic situation and possible quarantine measures, the participants who present in person will attend as a small group, and other invitees and guests will oblige us with their contributions and participation remotely.
The general themes of the event include but are not limited to NCDs and COVID-19 Syndemic, bone health, diabetes management technologies, metabolomics, personalized medicine, elderly health, integrative medicine, obesity and microbiome, regenerative medicine, innovation in health sciences, and health policy making.
We look forward to meeting you virtually in 15-16 February 2022.
Join Link: https://www.skyroom.online/ch/virtualtums/godad-shariati
Bagher Larijani MD, FACE
Congress Chairperson

پیام دبیر کنگره همگرایی در علوم غدد و متابولیسم

برگزاری با شکوه کنگره همگرایی دانش در علوم غدد در سال گذشته، انگیزه مضاعفی را در میان همه همکاران در کمیته های مختلف برگزاری کنگره ایجاد نمود تا با بهره گیری از تجارب آن، کنگره سال جاری را با کیفیتی بیش از گذشته سازماندهی نماید. در این راستا، تیمهای مختلف برای برگزاری کنگره امسال از ماهها پیش از برگزاری ساماندهی شده تا این که با تدارک فراخوان ارسال مقالات، زمینه مناسبی برای حضور و نقش آفرینی بیشتر پژوهشگران و اساتید حوزه های مختلف علوم پزشکی در کنگره همگرایی دانش در علوم غدد فراهم گردد.

بنابراین انتظار بر این است که پژوهشگران عزیز با به اشتراک گذاشتن نتایج پژوهش‌های خود خصوصا پژوهشه‌ای مروج همگرایی، فضای کنگره را گرم‌تر از گذشته نموده و بستر ویژه ای را برای تبادل نظرات فراهم نمایند. البته ذکر این نکته هم ضروری است که به سبب شرایط ویژه جهان در مبارزه با همه گیری کرونا، امکان برگزاری حضوری این کنگره فراهم نگردید، ولیکن تمام تلاش بر این است که با بهره‌مندی از زیرساخت‌های فناوری اطلاعات، شاهد برگزاری باشکوه کنگره به صورت مجازی باشیم.

مجموعه همکاران دست اندرکار برگزاری کنگره همگرایی در علوم غدد امیدوارند که این اقدام گامی موثر در توسعه دانش پاسخگو به ویژه عرصه غدد و متابولیسم باشد.

دکتر عطاالله پورعباسی

رئیس گروه ایده‌پروری و نوآوری پژوهشگاه علوم غدد و متابولیسم

دبیر کنگره همگرایی در علوم غدد

برنامه کنگره | ۲۸ و ۲۹ بهمن ماه ۱۴۰۰

Day1; 17-Feb-2022

TIME	Hall A		Hall B	
	event	**Presenter**	**Event**	**Presenter**
8-9:30	Opening Ceremony			
9:30-10:50	**keynote Speech**	Prof. Andreas Alois Reis		
		Prof. Khosrow Adeli		
		Prof. Reza Malekzadeh		
10:50-11:15	Break			
11:15-12:45	**Pannel:** NCDs and COVID-19 syndemia	**Panel Coordinator:** Dr.Negar Rezaee	**Pannel:** Science Convergence and Bone health	**Panel Coordinator:** Dr. Noushin Fahimfar
12:45-14	Break			
14-15:30	**keynote Speech**	Prof. Rene Rizzoli	**Pannel:** diabetes technologies	**Panel Coordinator:** Dr. Ensiyeh Nasli
		Prof. Amir.H Sam		
15:30-17	**Pannel**: Science Convergence and Elderly health	**Panel Coordinator:** Dr. Ramin Heshmat	**Pannel:** Science Convergence and Metabolomics	**Panel Coordinator:** Dr. Farideh Razi

Day 2; 18-Feb-2022

TIME	Hall A		Hall B	
	event	**Presenter**	**Event**	**Presenter**
8-9:30	**keynote Speech**	Prof. Peter Dimai	**Pannel:** Science Convergence and integrative Medicine	**Panel Coordinator:** Dr. Hamid Akbari
		Prof. Hossein Ghrib		
9:30-10:50	**Pannel:** Science Convergence and Personalized Medicine	**Panel Coordinator:** Dr. Shekoufeh Nikfar	**Pannel:** Science Convergence, obesity and Microbiome	**Panel Coordinator:** Dr. Siadat
10:50-11:15	Break			
11:15-12:45	**keynote Speech**	Prof. AliAkbar Haghdoost	**Pannel**: Science Convergence and health policy	**Panel Coordinator:** Dr. Alireza Oliaee Manesh
12:45-14	Break			
14-15:30	**keynote Speech**	Prof. Iraj Nabipour	**Pannel:** Science Convergence and Regenrative Medicine	**Panel Coordinator:** Dr. Jafar Ai
15:30-17	**Pannel**: Science Convergence and health Innovation	**Panel Coordinator:** Dr. Reza Faridi Majidi		

محورهـای کنگـــره

- بیماری‌های غیرواگیر و کووید - ۱۹
- همگرایی علم در سلامت استخوان
- تکنولوژی‌های نوین در کنترل دیابت
- متابولومیکس
- پزشکی فردی
- سلامت سالمندی
- طب تلفیقی، چاقی و میکروبیوم
- نوآوری‌های سلامت
- سیاست‌گذاری سلامت
- سلول درمانی و پزشکی بازساختی

اعضای کمیته اجرایی کنگره

خانم دکتر هانیه السادات اجتهد
خانم دکتر نازلی نمازی
خانم فیروزه حاجی پور
خانم زهرا بیگی
خانم مهندس مرضیه عربانی
خانم کبری گرگانی
خانم زهرا خضرایی
خانم شکوه سلیمی
آقای مهندس میثم وهابی
آقای مهندس امیرحامد اعتصام
آقای مهندس ناصر ورمزیار
آقای مهدی حاجیان نصرت حاجیان
آقای حسین حراتی
آقای اکبر شریف

سخنران کلیدی:
سخنرانان مدعو داخلی
سخنرانان مدعو بین المللی

سخنرانان داخلی:

- پرفسور رضا ملک‌زاده
- پرفسور فریدون عزیزی
- پرفسور علی‌اکبر حق‌دوست
- پروفسور ایرج نبی‌پور

دکتر رضا ملک زاده

فوق تخصص بیماری‌های گوارش و کبد

استاد ممتاز دانشگاه علوم پزشکی تهران

سخنران کلیدی دومین کنگره همگرایی در علوم غدد

دکتر فریدون عزیزی

فوق تخصص بیماریهای غدد درون ریز و متابولیسم

استاد ممتاز دانشگاه علوم پزشکی شهید بهشتی

سخنران کلیدی دومین کنگره همگرایی در علوم غدد

دکتر علی اکبر حق دوست

دکترای اپیدمیولوژی

استاد دانشگاه علوم پزشکی کرمان

سخنران کلیدی دومین کنگره همگرایی در علوم غدد

دکتر ایرج نبی پور

فوق تخصص بیماری‌های غدد درون ریز و متابولیسم

استاد دانشگاه علوم پزشکی بوشهر

سخنران کلیدی دومین کنگره همگرایی در علوم غدد

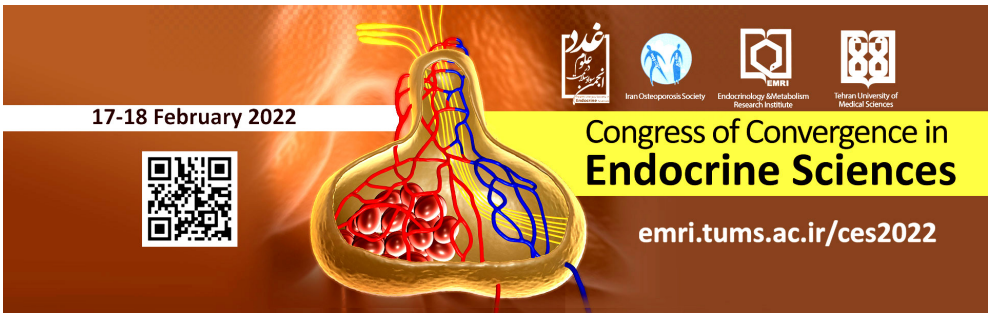
MAFLD A Multisystem Disease Most Common disease of present and Future
Presenter: Reza Malekzadeh
Distinguished Professor of Gastroenterology and Hepatology
Department of Internal Medicine, School of Medicine
Digestive Oncology Research Center
Digestive Diseases Research Institute
Shariati Hospital
Tehran University of Medical Science

Save Thyroid do not ablate
Presenter: Fereidoun Azizi
Distinguished Professor of Endocrinology & Metabolism
School of Medicine
Endocrine Research Center
Research Institute for Endocrine Sciences
Ayatollah Taleghani Hospital
Shahid Beheshti University of Medical Sciences

The need for science convergence in the country's medical universities
Presenter: Aliakbar Haghdoost
Professor of Epidemiology
Department of Epidemiology and Biostatistics, School of Public Health
HIV/STI Surveillance Research Center
Institute for Futures Studies in Health
Kerman University of Medical Sciences

Endocrine Disrupting chemicals (EDCs)
Iraj Nabipour Presenter:
Professor of Endocrinology & Metabolism
Department of Internal Medicine, School of Medicine
The Persian Gulf Marine Biotechnology Research Center
The Persian Gulf Biomedical Sciences Research Institute
Bushehr University of Medical Sciences

سخنرانان مدعو بین المللی:



سخنرانان مدعو خارجی

Prof. Khosrow Adeli
Professor of Biochemistry at the University of Toronto, Canada

Prof. Mohammad Shenasa
Professor of Interventional Cardiology Specialist in California, USA.

Prof. Peter Dimai
Professor of Medicine and Endocrinology at the Medical University of Graz, Austria

Prof. Rene Rizzoli
Professor of Medicine and Endocrinology at University Hospital of Geneva, Switzerland

Prof. Hossein Gharib
Professor of Endocrinology
Head and Neck Cancer Center
Mayo Clinic, USA

Prof. Amir H Sam
Professor of Endocrinology
Head of Imperial College
School of Medicine, UK

Prof. Andreas Alois Reis
Co-Lead of the.
Global Health Ethics
Team- WHO, Geneva

Dr. Reza Baradar Jalili
Assistant Professor,
Department of Surgery,
University of British Columbia

The Importance of Ethics for Endocrinology

Presenter: Dr. Andreas Alois Reis
Co-lead of Global Health Ethics Team, World Health organization, Switzerland
Email: reisa@who.int

Abstract

First, this presentation discusses the role of health ethics for WHO's work. Since its establishment in 1948, ethical aspects of clinical medicine, research and public health have been addressed at WHO. In its most recent General Programme of work 2019-2023, ethics is crucial to WHO's mission, with Articulating ethical and evidence-based policy options being one of WHO's six core functions: "WHO must continue to ensure that policy-makers and health implementers – both at the international and at the national level – keep ethics at the heart of their decision-making…."

Over the past years, WHO's Health Ethics & Governance Unit has been working in many different areas, such as infectious disease outbreaks, organ transplantation, public health surveillance, human genome editing and artificial intelligence. WHO not only develops international guidelines in these areas, but also produces (online) training tools and engages in capacity building in countries.

Second, the importance of ethics for the field of endocrinology is discussed. Using the "Code of Ethics of the Endocrine Society" as a background, the presentation briefly addresses key concepts of medical/clinical ethics, research ethics, and public health ethics. Finally, without going into detail, a few examples of ethical issues arising in endocrinology are described.

Andreas Alois Reis (PD, MD, MSc) is the Co-Lead of the Health Ethics & Governance Unit in the Research for Health Department of the Division of the Chief Scientist at WHO in Geneva, Switzerland. After medical studies and practice in internal medicine in Germany, France and Chile he pursued studies in health economics and obtained a post-graduate degree in biomedical ethics. His main area of work is public health ethics, with a focus on ethical aspects of infectious diseases and outbreaks of emerging pathogens. Other topics include the ethics of public health surveillance, health research, and big data and artificial intelligence. He has lectured and organized trainings for WHO in more than 50 countries and is serving on the editorial boards of Public Health Ethics and Monash Bioethics Review. He has published widely and is the co-editor of four books on bioethics and public health ethics.

Postprandial Dyslipidemia in Obesity and Insulin Resistance

Presenter: Dr. Khosrow Adeli
Clinical Biochemistry, Paediatric Laboratory Medicine
Hospital for Sick Children/University of Toronto
Email: khosrow.adeli@sickkids.ca
Professor Khosrow Adeli, Head and Professor, Clinical Biochemistry, Research Institute, The Hospital for Sick Children, University of Toronto, Toronto, Canada

Abstract

Obesity and the metabolic syndrome are becoming increasingly prevalent not only in adults, but also in adolescents. The metabolic syndrome, a complex cluster of metabolic abnormalities, increases one's risk of developing type 2 diabetes and cardiovascular disease (CVD). Dyslipidemia, a key component of the metabolic syndrome, is highly associated with insulin resistance and contributes to increased CVD risk. Dyslipidemia has traditionally been assessed using a fasting lipid profile [i.e. fasting triglycerides, total cholesterol, low-density lipoprotein cholesterol (LDL-C), and high-density lipoprotein cholesterol (HDL-C)]. However, the postprandial state predominates over the course of a day and non-fasting triglycerides independently predict CVD risk. In insulin resistant states, the intestine overproduces triglyceride-rich lipoprotein (TRL) particles, termed chylomicrons (CMs), following ingestion of a fat-containing meal, as well as in the fasting state. Along with elevated hepatic TRLs (i.e. very-low density lipoproteins), CMs contribute to remnant lipoprotein accumulation, small dense LDL particles, and reduced HDL-C, which collectively increase CVD risk. Given the early genesis of atherosclerosis and physiological metabolic changes during adolescence, studying postprandial dyslipidemia in the adolescent population is an important area of study. Postprandial dyslipidemia in the pediatric population poses a significant public health concern, warranting a better understanding of its pathogenesis and association with insulin resistance and CVD.

Postprandially gut peptides, glucagon-like peptide 1 (GLP-1) and GLP-2, modulate intestinal dietary fat absorption and triglyceride-rich lipoprotein (TRL) output. Bile acids are also postprandial factors implicated in lowering lipemia. We hypothesize that the postprandial response of GLP-1, GLP-2, and bile acids to a high-fat meal is impaired in obese, insulin resistant adolescents and associates with postprandial dyslipidemia. In a recent study, normal weight (n=15), obese insulin sensitive (n=20), and obese insulin resistant (n=10) adolescents underwent an oral fat

tolerance test (83% kcal from fat) with blood collected at 0, 1, 2, 4, and 6 hours. The lipoprotein phenotype was obtained by nuclear magnetic resonance spectroscopy, GLP-1 and GLP-2 were measured by ELISA and the bile acid profile was quantified by mass spectrometry. Continuous variables, including area under the curve (AUC) and incremental AUC (iAUC), were compared by one-way analysis of variance (ANOVA) or Kruskal-Wallis. Postprandial differences were also compared by two-way mixed ANOVA.

Obese, insulin resistant adolescents exhibited dyslipidemia, particularly reduced high-density lipoprotein particle size and exaggerated postprandial intestinally-derived large TRLs. Postprandial plasma levels of GLP-1 and GLP-2 were blunted in obese, insulin resistant subjects and inversely correlated with postprandial dyslipidemia. However, fasting GLP-1 and GLP-2 directly correlated with postprandial dyslipidemia, suggesting a compensatory increase in fasting secretion. Postprandial, but not fasting, total bile acids were diminished in obese adolescents and inversely correlated with insulin resistance and postprandial dyslipidemia. Specifically, postprandial lithocholic acid was reduced, a potent stimulator of GLP-1 secretion.

In conclusion, Postprandial GLP-1, GLP-2, and bile acids were blunted in response to a high-fat meal in obese, insulin resistant adolescents. However, it remains unknown if these postprandial metabolic changes are a cause or consequence of impaired glucose and lipid metabolism in an obese state.

Risk Factors in Atrial Fibrillation: Focus on Endocrine Disorders; Diabetes and Thyroid Disease.

Presenter: Mohammad Shenasa MD, FACC, FESC
Clinical Professor Eneritus Heart & Rhythm Medical Group, Los Gatos, USA
Email: mohammad.shenasa@gmail.com

Abstract

Atrial Fibrillation (AF) remains the most common sustained arrhythmias worldwide that results in significant burden such as stroke, heart failure (HF), social and economical burden. During the last 3 decades significant advances have been made in understanding of pathophysiology of AF on one hand and improvement in pharmacological and interventional procedures. The current management is far from perfect. Today management of AF is beyond cardioversion, pharmacological treatment and ablative procedures. Rather, the multidisciplinary approach including risk factor modification, lifestyle changes remains as important.

Among AF risk factors age, hypertension, HF, obesity, coronary artery disease (CAD), sleep apnea, and endocrine disorders especially diabetes mellitus (DM) and thyroid disease are common. Early diagnosis and intervention of these risk factors are important to prevent AF, atrial remodeling and response to therapy. All these risk factors eventually lead to inflammation, fibrosis that predispose to arrhythmogenesis. However, the cellular mechanisms that lead to arrhythmogenesis defer among these risk factors.

In conclusion, appropriate glycemic control without significant blood sugar fluctuations and thyroid homeostasis is necessary.

The role of sequential therapies in the management of patients at high risk of fracture

Presenter: Prof René Rizzoli MD
Division of Bone Diseases, Geneva University Hospitals and Faculty of Medicine, Switzerland
Email: Rene.Rizzoli@unige.ch

Abstract

The aim of osteoporosis therapy is to reduce the increased fracture risk associated with osteoporosis-related bone fragility. Prevention of fragility fracture relies on the triad -balanced nutrition, including calcium, protein and vitamin D, -weight-bearing or balance improving physical exercises and -pharmacological therapies. Among the latter, the antiresorptives are the most widely used. Alendronate, basedoxifene, denosumab, ibandronate, raloxifene, risedronate, hormone replacement therapy and zoledronate decrease vertebral fracture risk. For hip fracture, alendronate, denosumab, risedronate, and zoledronate reduce the risk in women with osteoporosis, hormone replacement therapy in postmenopausal women, and calcium and vitamin D in institutionalized patients. Regarding combination therapies, the added costs and combined risks of side effects must be considered before combination therapy with anti-osteoporosis drugs could be envisaged. Until we have clear evidence that using drugs together provides greater fracture risk reduction than monotherapy, there is no place for combination therapy. In terms of sequential therapies, reasons to switch an anti-remodeling drug by another one include intolerance to current treatment, concerns about adherence to treatment, inadequate clinical response, such as bone loss or occurrence of fracture on therapy, or failure to achieve turnover markers reduction. To prevent rapid bone loss and increased vertebral fracture risk after discontinuing denosumab, a bisphosphonate treatment may be envisaged. An anabolic treatment like the amino-terminal fragment of PTH, teriparatide, an analog of parathyroid hormone related protein, abaloparatide, or the monoclonal antibody against sclerostin, romosozumab (the latter when tested against alendronate), decreases vertebral and non-vertebral fracture risk. In sequential therapies, teriparatide, abaloparatide or romosozumab therapy should be followed with denosumab or a bisphosphonate. When clinical response to bisphosphonate therapy is inadequate, a switch to teriparatide, romosozumab or to denosumab could be envisaged. However, switching from denosumab to teriparatide is not recommended. An anabolic agent followed by an anti-remodeling drug is more effective in fracture prevention than beginning an anti-remodeling agent. Such a sequential regimen should become the standard of care for patients at high, very high or at imminent risk of fracture.

Fracture Risk in Patients with Chronic Lung Disease

Presenter: Hans Peter Dimai
Affiliation: Division of Endocrinology & Diabetology, Department of Internal Medicine, Medical University of Graz, AUSTRIA
Email: hans.dimai@medunigraz.at

Abstract

Background

Chronic respiratory diseases such as Chronic Obstructive Pulmonary Disease (COPD), bronchial asthma (BA) and Cystic Fibrosis (CF) are likely to affect bone, not only due to their - at least in part - inflammatory nature, but also due to corticosteroid treatment.

Methods

In this survey, single studies as well as meta-analyses - if available - are presented. Possible effects on bone health are inferred from studies that provide indirect evidence on fracture risk via changes in bone mineral density (BMD), as well as from studies which include fracture as an endpoint.

Results

Based on available data, there is strong evidence that COPD per se, even without corticosteroid treatment, affects both BMD and fracture risk. Asthma per se does not appear to be associated with an increased fracture risk, but use of oral corticosteroids and high dose inhalative corticosteroids might be associated with increased fracture risk. The prevalence of osteopenia, osteoporosis and vertebral and non-vertebral fractures appear to be increased in young adults with CF.

Conclusion

Patients with chronic lung diseases such as COPD, BA and CF should be rigorously monitored for bone health, including BMD measurement and vertebral fracture assessment, particularly if corticosteroids are part of their pharmaceutical treatment.

Thyroid therapy combination

Presenter:por.Hossein Gharib
Professor of Endocrinology Head and Neck Cancer Center Mayo Clinic, USA

COVID-19 and the Endocrine system

Presenter:por.Amir H Sam
Professor of Endocrinology Head of Imperial College School of Medicine, UK

Panel Schedules

دانشگاه علوم پزشکی تهران | پژوهشگاه علوم غدد و متابولیسم | انجمن استئوپروز ایران

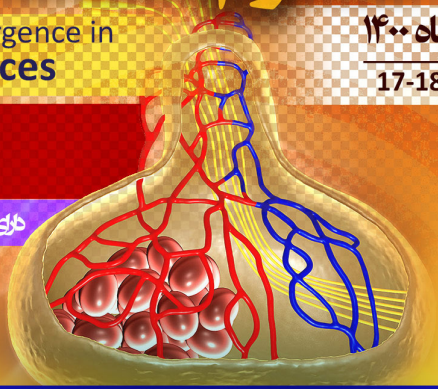
کنگره همگرایی در علوم غدد

Congress of Convergence in
Endocrine Sciences

۲۸ و ۲۹ بهمن ماه ۱۴۰۰
17-18 February 2022

برگزار کنندگان:
پژوهشگاه علوم غدد و متابولیسم
دانشگاه علوم پزشکی تهران

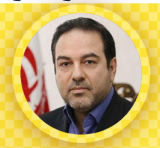
دارای امتیاز بازآموزی برای گروه های هدف



پنجشنبه ۲۸ بهمن ۱۴۰۰ | ۱۱:۱۵ تا ۱۲:۴۵

پنل: بیماری های غیرواگیر و کووید - ۱۹

سخنران ویژه



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NCDs and COVID۱۹- syndemia

Panel Coordinator	Panelists	Special Speakers
Dr. Negar Rezaei	*Dr. Negar Rezaei* *Dr. Hamid Souri* *Dr. Mohsen Khosh niat* *Dr. Nooshin Shirzad*	*Dr. Alireza Raeisi*

Oral Presentations	
Presenter	**Title**
Mohsen Abbasi-Kangevari	*Remote Patient-Tracking Solution: A Pilot Study during the COVID-19 Pandemic in Tehran*
Dr. Negar Rezaei	*Social Determinants of Health Inequity in Iran; The effect of COVID-19 pandemic and sanctions*
Dr. Sogol Koolaji	*Lessons learned from the factors affecting the interaction between COVID-19 and cardiovascular disease; an analysis of a national COVID-19 registry*
Mina KhosraviFar	*A year of experience with COVID-19 in patients with cancer; a nationwide study*
Fatemeh Fathi Tavani	*Covid-19 and Liver dysfunction*
Zeinab Sadat Jalali	*The pathogenic links between insulin resistance and COVID-19 severity*
Aida Mofazzal Jahromi	*Metformin for managing COVID-19 patients with diabetes mellitus: yes or no*
Dr. Rana Sedghi	*The risk of COVID-19 pathogenesis in diabetes mellitus*
Dr. Sina Azad najafabad	*Substantial impact of non-communicable diseases on COVID-19" mortality: an investigation of the syndemic in Iran*

Special Speakers

NCDs and COVID-19 Syndemic

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Abstract

Non-communicable diseases (NCDs) are the leading cause of death and disability, globally. Cardiovascular diseases, cancer, chronic respiratory diseases and diabetes are four NCDs accounting for about 75% of the global burden of NCDs. NCDs are also the leading cause of premature death of which more than 85% occur in developing countries which has a huge economic impact, making NCDs prevention and control programs not only a public health need, but also a development necessity. Main NCDs also have shared risk factors, including behavioral and environmental risk factors such as unhealthy diet, physical inactivity, smoking, alcohol and air pollution as well as metabolic risk factors including obesity, raised blood pressure, raised blood glucose, and hyperlipidemia.

In December 2019, the first case of COIVD-19 was identified in Wuhan, China and in March 2020 World Health Organization declared it as a pandemic. By 30 January 2022, the pandemic caused more than 370 million cases and 5.5 million deaths. In response to the pandemic, different countries enforced different levels of restriction measures from social distancing recommendations to lock down and total curfew.

COVID-19 pandemic has had a negative impact on the global efforts for the prevention and control of NCDs. The prevention and control programs of NCDs are among the essential services which were partially disrupted from the beginning of the pandemic. Based on the findings of a rapid assessment conducted by WHO, 75% of the member states reported partial disruption of NCDs services. Rehabilitation services, cancer screening and treatment, blood pressure and diabetes management, asthma services, palliative care services and cardiovascular emergencies were partially disrupted due to COVID-19 pandemic. The main reasons for the disruption of NCD services were fear of people to be infected and not presenting in the health facilities, cancellation of elective care, hindering access to services due to public transport restrictions, closure of disease-specific outpatient clinics, lack of PPEs and allocating resources and staff to support COVID-19 efforts.

Furthermore, pandemic restrictions such as lock downs of cities, travel restrictions and social distancing measures, closing schools, colleges, sports centers and parks resulted in lower physical activity and overeating and increased the prevalence of

obesity in all age groups during the pandemic period, especially among children and the elderly. The Infodemic of false information about the immunity of smokers and alcohol and drug users against infection with COVID-19 has also encouraged more people to consume these items.

In addition, severity of COVID-19 and the risk of hospital admission, need for mechanical ventilation and death are significantly higher in the patients with underlying NCDs such as cancer, coronary artery diseases and uncontrolled diabetes and hypertension.

In summary, although COVID-19 is a viral infectious disease, the current pandemic must be treated as a syndemic of communicable and non-communicable diseases to avoid preventable excess mortality and morbidity that is attributable to NCDs during and after the COVID-19 pandemic.

Oral Presentations

Remote Patient-Tracking Solution: A Pilot Study during the COVID-19 Pandemic in Tehran

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Abstract

Background and Objective: An online patient-tracking solution was developed to minimize the contact between healthcare professionals and patients with COVID-19 during the pandemic in Iran. The objective of this study was to investigate the utilization and satisfaction among the early solution users in Tehran.

Materials and Methods: 'SinaCare' was developed as a mobile application for patients and a web-based physician panel. In this solution, patients would enter their health-related data, and physicians would monitor them in real-time and provide instant feedback. The study was conducted in selected Urban Health Centers affiliated with Tehran University of Medical Sciences. Participants included 9774 patients from October 2020 to April 2021. Data were extracted from the database and the phone interviews based on the study questionnaire.

Results: 1115 participants installed the application, among whom 683(61.3%) were men. The mean(SD) age was 38.3(17.7), and 435(86.8%) had a high school diploma or above. 46(9.2%) people had hypertension, and 24(4.8%) had diabetes mellitus. 173(96.1%) participants filled out the COVID-19 symptom diary at least once, and 123(94.4%) entered at least one blood pressure, blood glucose, or body temperature data. Among respondents, 166(90.7%) were satisfied or very satisfied by the data entry process, and 383(76.4%) considered a combination of daily over the phone follow-ups and the solution to be highly efficient in tracking disease progression among patients.

Conclusion: Online patient-tracking systems hold promise for monitoring either COVID-19 or non-communicable diseases. Nevertheless, the facilitators need to focus on the ease of use and enhancing awareness.

Keywords: COVID-19, Diabetes Mellitus, Hypertension, Telemedicine

Social Determinants of Health Inequity in Iran; The effect of COVID-19 pandemic and sanctions

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Abstract

Objective: COVID-19 burden the health system by influencing several aspects of social determinants of health (SDH). We review SDH inequity in Iran with notice on COVID-19 pandemic and sanctions.

Method: The Databases such as MEDLINE, Scopus, and Google Scholar were searched. The SDH components were extracted regarding the effect of COVID-19 and sanctions. Global burden of disease was used to evaluate the impact of sanctions on mortality in Iran.

Result: The literacy rate improved over the last decades but, there is still inequality between provinces. Age and regional inequity exists, regarding NCD mortality. Food insecurity varies in different regions between 20% and 60%.Providing care for a growing aging population, with a large burden of NCDs and disabilities will be the major issue in the next decade. The decrease slop of mortality rate due to NCDs, have become smoother since impose of sanctions, while, cancer mortality have changed upwards. COVID-19, and sanctions negatively impacts lower socioeconomically vulnerable groups due to preexisting conditions which wider the existing inequity in SDH are adding a heavy burden of inequity in Iran.

Conclusion: Iran, similar to large numbers of countries, face inequity at regional level in different SDH related issues. The COVID-19 pandemic showed that economic status and health are aligned. Sanctions superimposed on the COVID-19 pandemic cause harm to millions of innocent people. One of the main goals of health authorities is to reduce SDH inequity in order to achieve the goal of “health for all”. To tackle these inequities, prompt action is needed.

Keywords: SDH inequity, sanction, COVID-19 pandemic, Iran.

Lessons learned from the factors affecting the interaction between COVID-19 and cardiovascular disease; an analysis of a national COVID-19 registry

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Abstract

Background: within the COVID-19 patients, cardiovascular disease (CVD) is one of the most prevalent comorbidities leading to worse outcomes. Therefore, we aimed to share our lessons learned from the association of different factors with COVID-19 mortality in patients with CVD.

Methods: We applied a national data registry of hospitalized patients with Severe Acute Respiratory Syndrome (SARS) Symptoms between 18 Feb 2020 and 18 Nov 2020. We categorized them into two groups according to the history of cardiovascular disease and analyzed the impact of different factors on COVID-19 mortality. All possible combinations and some clusters of comorbidities in CVD patients were created and analyzed.

Results: From 656,254 hospital-admitted patients with SARS symptoms, 44,305 had CVDs with positive COVID-19 RT-PCR, that among them, 20.70% died; significantly higher than non-CVD ones (p-value<0.001). Young CVD patients (<20-year-old) were significantly in higher risk of mortality compared with their counterparts in non-CVD patients. Furthermore, between all combinations of comorbidities in CVDs patients, presence of both liver and kidney disease had the highest mortality adj. OR, followed by coexistence of chronic pulmonary disease (CPD), diabetes, and kidney disease. Kidney disease was the only comorbidity that always increased the mortality in patients with cluster of comorbidities including CVD, CPD, and diabetes.

Conclusion: Besides age and sex, diabetes, CPD, liver disease, and kidney disease are significant comorbidities in hospitalized CVD patients to be considered as priorities for management of COVID-19, which can help policymakers to better manage the pandemic and design a risk scoring systems for future ones.

Keywords: COVID-19, COVID-19 mortality, cardiovascular disease, comorbidities

A year of experience with COVID-19 in patients with cancer; a nationwide study

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Abstract

Introduction: Cancer is a major public health problem and a comorbidity associated with COVID-19 infection. This study was undertaken to determine associated risk factors and epidemiological characteristics of hospitalized COVID-19 patients with cancer using a nationwide COVID-19 hospital data registry in Iran for the first time.

Methods: In this study, hospitalized patients with Severe Acute Respiratory Syndrome (SARS) symptoms and patients with confirmed positive COVID-19 PCR between 18 Feb 2020 to 18 Nov 2020 were included. The patients were classified into two groups of patients with/without malignancy. Logistic regression model was utilized to analyze demographic factors, clinical features, comorbidities, and their associations with the disease outcomes.

Results: In this study, 11068 in-patients with malignancy and SARS symptoms were included. 1.11% of our RT-PCR-positive patients had cancer. In patients with malignancy and COVID-19, older ages than 60 (OR: 1.88, 95%CI: 1.29-2.74, p-value: 0.001), male gender (OR: 1.43, 95%CI: 1.16-1.77, p-value: 0.001), concomitant chronic pulmonary diseases (CPD) (OR: 1.75, 95%CI: 1.14-2.68, p-value: 0.009), and presence of dyspnea (OR; 2.00, 95% CI: 1.60-2.48, p-value: <0.001) were associated with increased mortality rate.

Conclusion: Given the immunocompromised state of patients with malignancy and their vulnerability to Covid-19 complications, collecting data on the comorbidities and their effects on the disease outcome can build on a better clinical view and help clinicians make decisions to manage these cases better; e. g, determining special clinical care, especially in the shortage of health services.

Keywords: Cancer, Comorbidity, Coronavirus disease 2019, malignancy, underlying disease

تاثیر کووید ۱۹ بر اختلال عملکرد کبد چیست؟

نام نویسندگان : آناهیتا مسعودی، فاطمه فتحی تاوانی، محمدرضا سنجابی، مهسا صفدریان، راحیل مصلی‌نژاد، سید ابراهیم موسوی فرد

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چکیـــده

مقدمه:

با افزایش موارد عفونت ، WHO شیوع (SARS_COV_۲) را یک وضعیت اضطراری بین المللی اعلام کرده است. ارگان اصلی آسیب دیده در بیماران مبتلا به کرونا ریه است اما گزارش ها نشان می دهند که می‌تواند به کبد هم آسیب وارد کند. آسیب کبدی در بیماران مبتلا به دو پاتوژن دیگر کروناویروس که همان سندرم حاد تنفسی (SARS_COV_۲) و سندرم تنفسی خاورمیانه (MERS-CoV) است، رایج بود.

روش:

کلمـات کلیـدی مـش در پایگاه‌هـای اطلاعاتـی scopus, pubmed و sciencedirect جسـتجو شـدند. مـا چندیـن مقالـه را تجزیـه و تحلیـل کـرده و از ۱۲ مـورد کـه واجـد شـرایط بودنـد اسـتفاده کردیـم.

یافته‌ها:

آزمایشـی کـه روی تعـدادی از بیمـاران مبتـلا بـه Covid_19 انجـام شـد ۷۶/۳٪ از بیمـاران تسـت کبـدی غیـر طبیعـی و ۲۱/۵٪ آسـیب کبـدی داشـتند. در بیمارانـی کـه تسـت کبـدی غیرطبیعـی داشـتند، افزایـش سـطح آلانیـن آمینوترانسـفراز (ALT)، آسـپارتات آمینوترانسـفراز (AST)، بیلـی روبیـن تـام و گامـا گلوتامیـل ترانسـفراز (GGT) مشـاهده شـد. ورود ویـروس از طریـق گیرنده‌هـای آنزیـم مبـدل آنژیوتانسـین ۲ (ACE2) میزبـان اسـت کـه در سـلول هـای آلوئولـی نـوع ۲فـراوان هسـتند. جالـب اسـت بدانیـد کـه گیرنـده هـای ACE2 در کلانژیوسـیت هـای کبـد نیـز بیـان مـی شـوند. بنابرایـن می‌توانـد مکانیسـمی بـرای آسـیب کبـدی در بیمـاران باشـد.

نتیجه‌گیری:

در مجمـوع علـت اصلـی آسـیب کبـدی در بیمـاران Covid_19، تاکنـون بـرای مـا مشـخص نشـده اسـت مـا بایـد تعییـن کنیـم کـه آسـیب کبـدی بـه اثـر مسـتقیم ویـروس، داروهـای مـورد اسـتفاده بـرای درمـان یـا حتـی بـه یـک بیمـاری کبـدی کـه از قبـل وجـود داشـته مرتبـط اسـت یـا خیـر.
برای حل این موضوع مطالعات و آزمایش های بیشتری باید انجام شود.

کلید واژه‌ها: کووید۱۹-، کبد، کارکرد غیر طبیعی

The pathogenic links between insulin resistance and COVID-19 severity

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Abstract

Introduction: Insulin resistance in diabetes disrupts the insulin signaling pathways that affect metabolic homeostasis. Due to the excessive mortality of sufferers with insulin resistance and COVID-19, establishing a link between them can help develop the therapeutic interventions. Therefore, this study was conducted to investigate the pathogenic links between insulin resistance and COVID-19 severity.

Methods: The required data were collected using keywords and citing valid databases. The statistical population includes all studies conducted until 2021 in the field of the relationship between COVID-19, Insulin resistance, and diabetes. After reviewing the relevant findings and evaluating the quality of the data, 32 articles were analyzed.

Results: Studies show that COVID-19 is related to increased mortality in sufferers with diabetes, due to metabolic and inflammatory processes induced by insulin resistance. Angiotensin II is significantly elevated in COVID-19 patients, causing inflammation and oxidative stress of the islets and dysfunction of β-cells. Harmful results of insulin resistance are related to the extended severity of COVID-19 in sufferers. Hyperinsulinemia in patients with insulin resistance and diabetes can increase the expression of Angiotensin-converting enzyme-2, thereby increasing the viral load. Insulin resistance in sufferers with type 2 diabetes causes a greater craving for spike proteins, an extended inflammatory response, and a more severe form of COVID-19.

Conclusion: According to the above description, insulin resistance is a facilitator among COVID-19 infection and diabetes, so biochemical markers of insulin resistance can be used to assess the severity of COVID-19 disease, however, further studies are needed.

Keywords: COVID-19, Insulin resistance, Diabetes

Metformin for managing COVID-19 patients with diabetes mellitus: yes or no

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Abstract

Background: The elderly, patients with heart disease including high blood pressure, diabetes, are high-risk groups for Covid-19. Patients with diabetes mellitus should keep their blood sugar within the normal range. Metformin, the first-line treatment for a diabetic that It has a good effect on lowering blood glucose and protects patients against heart disease. The purpose of this review is to evaluate the effect of metformin on reducing mortality in Diabetic patients with Covid-19.

Methods: A systematic search was performed in four databases, including Scopus, Science Direct, PubMed, and ProQuest, to find original articles from 2021 using three main keywords such as metformin, Covid-19, diabetes. Then 29 articles were selected and from them 9 eligible articles were selected.

Results: Based on the literature review, metformin may be effective in several ways in the treatment of diabetic patients with Covid-19. Studies show that Angiotensin-converting enzyme 2 (ACE2) has anti-hypertensive and anti-inflammatory effects on the cardiovascular and pulmonary systems. In addition, with the arrival of SARS-CoV-2, the secretion of ACE decreases. Metformin may provide cardiopulmonary protection in COVID-19 by increasing ACE2 expression metformin may reverse pulmonary fibrosis, delay Adult Respiratory Distress Syndrome (ARDS) progression, improve patient prognosis and reduce mortality.

Conclusion: metformin has a complex mechanism of action but Its mechanism of action to reduce mortality in diabetics is still unclear but may be related to its anti-inflammatory effects. However, more extensive studies and randomized trials on patients can help confirm the link between metformin use and the treatment of patients.

Keywords: Metformin, Covid-19, Diabetes

The risk of COVID-19 pathogenesis in diabetes mellitus

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Abstract

Introduction: The pathophysiology of SARS-Cov-2 is associated with comorbidities, including diabetes mellitus (DM). Diabetes can increase the risk of disease and death during acute infections due to immunosuppression, and it has been shown that patients with covid-19 with diabetes are often associated with severe or critical illness. Therefore, we decided to conduct a study to investigate the relationship between diabetes and the causes of exacerbation of covid-19.

Methods: The required data were collected using the keywords covid-19, diabetes mellitus, SARS-Cov-2 and citation to valid databases, and finally 14 articles were selected for studying.

Results: Several factors were found that could explain the severity of COVID-19 in diabetic patients. The presence of chronic inflammation provides the basis for a severe systemic immune response that leads to more complications such as respiratory distress, limb failure and death in covid-19 patients with diabetes. In addition, hyperglycemia is associated with decreased viral immunity and clearance, and increased susceptibility to inflammation, and expression of the angiotensin-converting enzyme2 (ACE2) receptor in this medium. Since SARS-Cov-2 uses ACE2 to inter the cell and ACE2 is involved in pulmonary fibrosis, the possibility of a link between DM and covid19 complications is strengthened.

Conclusion: Numerous studies have reported the fatal consequences of the cytokine storm following the stimulation of the immune system by the synergy of diabetes and covid-19, and the lack of research details necessitates further studies to elucidate the cause of the increased immune response in patients with diabetes.

Keywords: COVID-19, Diabetes mellitus, SARS-Cov-2, Cytokine Storm.

Substantial impact of non-communicable diseases on COVID-19 mortality: an investigation of the syndemic in Iran

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Abstract

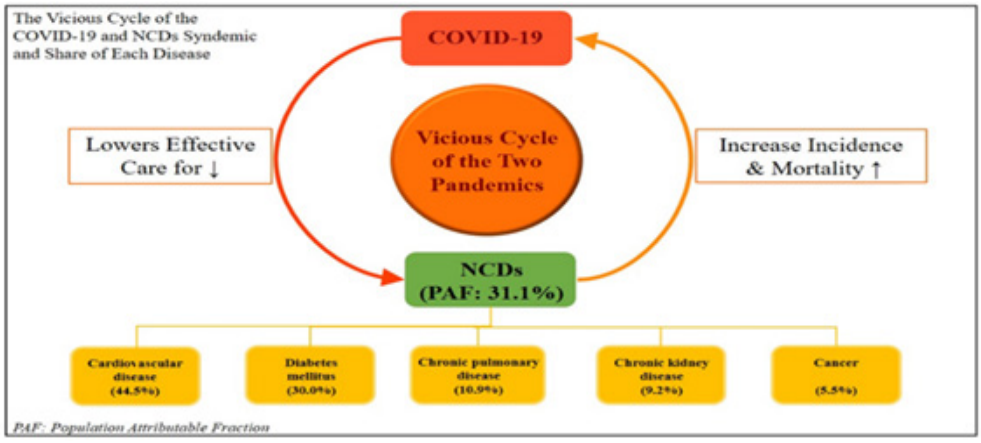
Background: Non-Communicable Diseases (NCDs) have shown to be a significant risk factor of severe COVID-19 infection and higher mortality rates. The present pandemic of NCDs even before the COVID-19 pandemic and its concurrency could lead to a global syndemic. We aimed to investigate the share of COVID-19 mortality attributable to NCDs in Iran.

Methods: We utilized the COVID-19 national registry of Iran and recruited the approved cases by polymerase chain reaction (PCR) test. NCD categories included were cardiovascular disease (CVD), chronic pulmonary disease (CPD), diabetes mellitus (DM), cancer, and chronic kidney disease (CKD). We applied the population attributable fraction (PAF), which is an epidemiologic method measuring fraction of a disease or outcome attributable to a specific exposure or cause to investigate the attributable mortality to NCDs. We extracted the prevalence and odds ratio (OR) of each cause based on the COVID-19 registry to include in PAF calculation.

Results: A total number of 129830 cumulative deaths due to COVID-19 till the end of November 2021, were included in this analysis. A total number of 40408 deaths were attributable to the five NCDs included, accounting for about 31.1% of the COVID-19 deaths. Among these mortalities 17998 (44.5%) were attributable to CVDs, 12108 (30.0%) to DM, 4393 (10.9%) to CPD, 3706 (9.2%) to CKD, and 2204 (5.5%) to cancers.

Conclusion: The results showed that almost one-third of COVID-19 deaths in Iran were attributable to major NCDs, which among them CVDs and DM had the greatest proportion. Proper policies are need to handle the heavy burden of NCDs during and after the COVID-19 pandemic, to prevent a national and global syndemic.

Keywords: COVID-19; Noncommunicable Diseases; Syndemic; Global Health; Iran.


The Vicious Cycle of the COVID-19 and NCDs Syndemic and Share of Each Disease
COVID-19
Lowers Effective Care for ↓
Vicious Cycle of the Two Pandemics
Increase Incidence & Mortality ↑
NCDs (PAF: 31.1%)
Cardiovascular disease (44.5%)
Diabetes mellitus (30.0%)
Chronic pulmonary disease (10.9%)
Chronic kidney disease (9.2%)
Cancer (5.5%)
PAF: Population Attributable Fraction

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کنگره همگرایی در علوم غدد

Congress of Convergence in
Endocrine Sciences

۲۸ و ۲۹ بهمن ماه ۱۴۰۰
17-18 February 2022

برگزار کننده:
پژوهشگاه علوم غدد و متابولیسم
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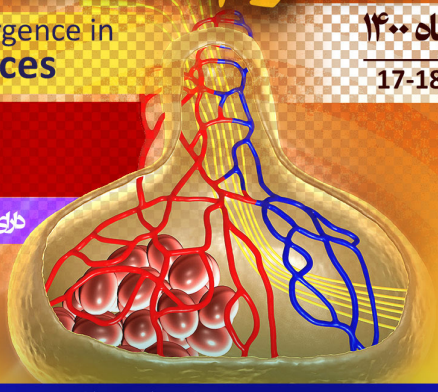
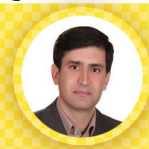
دارای امتیاز بازآموزی برای گروه های هدف



پنجشنبه ۲۸ بهمن ۱۴۰۰ | ۱۱:۱۵ تا ۱۲:۴۵

پنل: همگرایی علم در سلامت استخوان

سخنرانان ویژه



دکتر افشین استوار

دکتر حمید رضا آقایی میبدی

اعضای پنل

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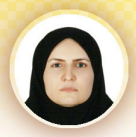

دکتر مژگان اسدی

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دبیرخانه کنگره: تهران، خیابان جلال آل احمد، پلاک ۱۰ تلفن دبیرخانه: ۸۸۲۲۰۰۹۴
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Science Convergence and Bone health

Panel Coordinator	Panelists	Special Speakers
Dr. Noushin Fahimfar	*Dr. Mojgan Assadi* *Dr. Ahmad Reza Jamshidi* *Dr. Mahnaz Sanjari* *Dr. Ali Jalili*	*Dr. Afshin Ostovar* *Dr. Hamidreza Aghaei Meybodi*

Oral Presentations	
Presenter	**Title**
Monire Fazaeli	*Serum levels of vitamin D in patients with Hashimoto disease*
Kazem Khalaji	*Is BMD alone sufficient to identify all individuals at high risk for major osteoporotic fractures? Results of the Bushehr Elderly Health program*
Elahe Hesari	*Osteoporosis Medication Adherence Tools: A Systematic Review*
Kobra Gorgani	*High-intensity interval training (HIIT) improves bone metabolism markers in high-fat diabetic rats*
Dr. Mahnaz Sanjari	*Osteoporosis education for healthcare providers: To develop and design national osteoporosis course*

Special Speakers

Bone Health: Integrated Global Approach in Iran

Presenter: Afshin Ostovar, Professor of Epidemiology
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Abstract
Worldwide, about 200 million people are affected by osteoporosis and 1 in 2 women and 1 in 4 men over the age of 50 will experience a fragility fracture. This imposes a high burden on the health systems around the world. In Europe, the economic cost of fragility fracture was estimated as EUR 37.4 billion which is almost equal to the economic burden of both stroke and coronary heart disease. In addition, fragility fracture causes durable disability with huge impacts on the patient's quality of life and can result in social isolation. So, osteoporosis and fragility fracture are growing global public health concerns.
Iran is among the countries with the highest growth of elderly population. Therefore, elderly syndromes like musculoskeletal diseases will be a major public health issue in near future. A study showed that more than 40% of women aged ≥60 have osteoporosis and the prevalence is even significantly higher in older people (>80% among women aged >75 years). Findings of a meta-analysis showed that the age-standardized annual incidence of hip fracture in Iran is also as high as 157/100000 and 138/100000 among women and men aged ≥50, respectively. Another study estimated that, annually, more than 173000 fragility fractures occur annually in Iran which result in >4200 death and 55000 QALY. The study estimated the annual cost of osteoporosis as high as 30000 billion Iranian Rials.
Considering the huge burden of osteoporosis and fragility fracture in an ageing population like Iran, it is of highly importance to provide the unmet needs and close the care gap. International Osteoporosis Foundation (IOF) recommends a "Global integrated care pathways" which is a life span approach to the bone health through providing comprehensive care for individuals in all ages, including strengthening primary care, building on secondary care, and taking action by all the stakeholders. In Iran, this approach has been translated to a phased-out, participatory program aiming at promoting bone health and decreasing the burden of osteoporosis and fragility fracture in the country. The program engages all stakeholders, including the Ministry of Health and Medical Education, World Health Organization, Iranian Osteoporosis Research Network, Iranian Society of Osteoporosis, and the public. Main components of this program include increasing public awareness, integrating osteoporosis early detection and management programs into primary care, scaling-up the secondary prevention care, and education of health care professionals including nurses and family physicians.

Keywords: Global integrated care pathways, Osteoporosis, Bone Health

همگرایی علم و سلامت استخوان

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چکیـــده

استخوان بافتی زنده و فعال است. از زمان کودکی تا شروع دهه سوم زندگی، میزان تراکم استخوان روند صعودی داشته تا این که به حداکثر میزان خود برسد. حداکثر تراکم استخوان عمدتاً به مسائل ژنتیک بستگی دارد، ولی مصرف کلسیم، ویتامین - د و ورزش نیز در آن مؤثرند. به‌ویژه در سنین شکل‌گیری استخوان‌ها، تغذیه مناسب و ورزش توصیه می‌شود. بعد از کسب حداکثر تراکم استخوان مقادیر توده استخوانی ثابت مانده و برای یکی دو دهه وارد فاز کفه می شود. بعد از این مرحله حدود دهه چهارم زندگی کاهش تراکم استخوان در هر دو جنس آغاز می گردد، که در زنان بعد از یائسگی تشدید می یابد.

استئوپروز شایع‌ترین بیماری متابولیک استخوان است که با کاهش توده استخوانی و از دست رفتن کیفیت ریز ساختار استخوان در این بیماری، منجر به افزایش خاصیت شکنندگی می‌گردد. استئوپروز تا زمانی که منجر به شکستگی نشود، بدون علامت باقی می‌ماند و به آن "بیماری خاموش" نیز گفته می‌شود. به همین دلیل نیازمند بررسی و تشخیص به موقع قبل از بروز شکستگی است.

روش‌های تشخیصی مختلفی برای سنجش سلامت استخوان وجود دارد که شامل تست‌های آزمایشگاهی و تصویربرداری است. در تصویر برداری نیز بسته به نوع دستگاه و روش بکار گرفته شده می‌توان سلامت استخوان‌های محیطی یا مرکزی را بررسی نمود.

رادیوگرافی ساده از حساسیت و پایایی اندکی برای ارزیابی تراکم استخوان برخوردار است و تا زمانی که تراکم استخوان بیش از ۳۰ ٪ کاهش نیافته باشد یا در غیاب شکستگی این روش کمک زیادی به تشخیص استئوپروز نمی‌کند.

تعریف اولیه تشخیص پوکی استخوان بر اساس یافته های پاتولوژی استخوان گذاشته شده است. سازمان بهداشت جهانی (WHO)، برای کاربردی کردن تعریف، استئوپروز را به صورت کاهش تراکم استخوان به میزان ۵/۲ انحراف معیار از متوسط حداکثر تراکم استخوان در افراد جوان و نرمال جامعه (T-score ≥ -5/2) تعریف کرده است. کاهش تراکم توده استخوان بین -۱ تا -۵/۲ انحراف معیار کمتر از متوسط تراکم افراد جوان و نرمال جامعه (-1 > T-score > -5/2)، کاهش توده استخوانی یا استئوپنی نامیده می‌شود و تراکم استخوان بالاتر از آن (T-score ≤ -1) نرمال تلقی می گردد. برای این منظور جهت تشخیص از سنجش تراکم استخوان استفاده می شود که در حال حاضر Dual energy X-ray Absorptiometry (DXA) روش استاندارد طلایی است.

در تعریف اولیه پوکی استخوان کیفیت استخوان نیز گنجانده شده است، ولی DXA فقط کمیت استخوان را نشان می دهد. روش غیر تهاجمی دیگر برای سنجش کمیت و کیفیت استخوان، سی تی اسکن کمی است که گران قیمت بوده و میزان اشعه زیادی به بیمار تحمیل شده و در همه جا در دسترس نمی باشد. در حال حاضر برای سنجش کیفیت استخوان به صورت غیر مستقیم از نرم افزار Trabecular Bone Score (TBS) استفاده می شود که به نرم افزار دستگاه DXA اضافه می گردد.

در نهایت بعد از بررسی های اولیه، در افرادی که تشخیص پوکی استخوان گذاشته می شود بیمار باید تحت درمان مناسب قرار گرفته و پیگیری شود.

در تمامی مراحل سلامت استخوان از شروع رشد تا بروز شکستگی استخوان محققین علوم مختلفی در کنار هم قرار گرفته تا این پازل بیولوژی رشد و بروز بیماری، روش های تشخیصی و درمان کامل گردد.

Oral Presentations

Serum levels of vitamin D in patients with Hashimoto disease

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Abstract

Background: Decreased serum levels of 25-hydroxyvitamin D (25OHD) have been observed in autoimmune diseases such as type 1 diabetes, multiple sclerosis, and systemic lupus erythematosus. Today, some researchers suggest that vitamin D deficiency is one of these environmental conditions; They believe that vitamin D deficiency can be one of the causes of Hashimoto's disease, and as a result, appropriate doses of this vitamin can be used to improve the condition of Hashimoto's patients. But some scholars disagree. Therefore, considering the potential role of vitamin D in autoimmune disorders and its possible application in the treatment of these disorders; we intend to evaluate the serum levels of 25OHD in patients with Hashimoto.

Methods: Data and serum levels of TSH, FT4 and 25OHD from 49 new untreated patients with subclinical hypothyroidism (SH) and 49 age- sex- and BMI-matched euthyroid controls were analyzed in a cross-sectional study. Then the relationships between these parameters were examined.

Results: Patients with SH had higher TSH and lower FT4 and 25OHD levels than controls. There were significant and positive correlations between serum FT4 levels and 25OHD.

Conclusion: The results of this study showed that serum levels and prevalence of vitamin D deficiency in patients with Hashimoto's disease were significantly different compared to healthy individuals. Serum levels of vitamin D were lower in patients with Hashimoto's disease. It is recommended that people with hypothyroidism be tested for vitamin D deficiency and be treated with appropriate amounts of it.

Keywords: Vitamin D, Hashimoto disease, Thyroid gland

Is BMD alone sufficient to identify all individuals at high risk for major osteoporotic fractures? Results of the Bushehr Elderly Health program

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Abstract

Background: The importance of diagnosing and treating osteoporosis is fracture prevention. The aim of this article is to answer the question of whether BMD alone is sufficient to identify all individuals at high risk for Major Osteoporotic Fractures (MOF).

Methods: The baseline data of 2424 samples from the second stage of the first phase of a prospective cohort, the Bushehr Elderly Health (BEH) program (1, 2) was used in the analysis. Bone Mineral Density (BMD) was measured using the dual-energy X-Ray absorptiometry method by a Hologic Discovery machine. Osteoporosis was defined as a T-score ≤ -2.5 (in any sex compared to the ideal BMD of a young healthy white person of the same sex) at any site (total hip, spine, or neck of femur). The 10-year risk of MOF was calculated by the Iranian FRAX tool. The age-specific intervention threshold of the FRAX calculated by Khashayar et al. (3) was used to identify individuals at high risk for MOF.

Results: Mean (Standard Deviation) of the participants' age was 69.34 (6.4) years (range: 60 and 96 years), and 48.06% of the participants were men. Frequency of the individuals at high risk for MOF based on the FRAX intervention threshold among non-osteoporotic individuals diagnosed by the BMD were 224 (15.91%, 95% CI: (14.09-17.91%)), 147 (10.44% (8.95-12.15)), and 172 (12.22% (10.61- 14.04)) for FRAX without BMD, FRAX with BMD, and FRAX with TBS, respectively.

Conclusion: BMD results alone are not able to identify all people at high risk for MOF and cannot candidate all eligible people for treatment.

Keywords: Osteoporosis, Major osteoporotic fractures, Bone mineral density, FRAX

Osteoporosis Medication Adherence Tools: A Systematic Review

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Abstract

Background: Poor compliance and persistence are common problems in the treatment of osteoporosis. Approximately 75% of women used oral bisphosphonate was showed to be nonadherent within one year. Reliable and practical tools are needed to measure medication adherence. The aim of this study was to systematically search the available literature and compare validity and applicability of the osteoporosis medication adherence measurement tools.

Methods: A literature search using Medline, Embase, Web of science and Scopus was undertaken on 12 April, 2021. Direct methods are biological measurement like measurements of a drug or its metabolite in serum, urine, or saliva. Indirect methods include questionnaires and scales, secondary database analysis and technology-assisted monitoring measures. Study quality was assessed by the Newcastle-Ottawa Quality Assessment Scale and Critical Appraisals Skills Program.

Results: The initial literature search resulted in the identification of 3821 articles. After removong 1087 duplicates, 200 fully extracted studies were available. Direct methods that were used frequently included measuring Urinary N telopeptide (uNTX) and C terminal telopeptide (sCTX) in blood. One study used BMD for assessing medication adherence. The most famous formula used was Medication possession ratio (MPR) and Proportion of days covered (PDC) and the most frequently used questionnaire was Moriskey medication adherence scale. Among electronic measurements, Medication Event Monitoring System (MEMS) was the most popular tool.

Conclusion: Different methods are used for measuring treatment adherence in osteoporosis patients. Selection of appropriate tool depends on the research question and resources that are available. However, direct and electronic methods are more accurate compared to questionnaires and formulas which are widely used as they are easy to apply and cheaper.

Keywords: osteoporosis, medication adherence, medication compliance

High-intensity interval training (HIIT) improves bone metabolism markers in high-fat diabetic rats

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Abstract

Introduction: In patients with type 2 diabetes, bone formation is altered and bone turnover is affected by the patients' blood glycemic control status. Exercise can reduce the process of osteoporosis or delay the process of osteoporosis by increasing effective bone metabolism. The present study aimed to compare effect of CET (Continuous Endurance Training) and HIIT (High Intensity Interval Training) on the expression of osteocalcin, alkaline phosphatase and CTX in HFD-induced diabetic rats.

Method: Fifty male Wistar rats were fed a high-fat, high-calorie diet for 16 weeks. After induction of insulin resistance, 30 rats were selected and divided into 3 groups of 10 including HIIT, CET and Sedentry. After 8 weeks of training, serum levels of bone alkaline phosphatase, osteocalcin and CTX were measured.

Findings: Exercise intervention decreased blood glycemic and improved lipid profile and decreased serum CTX levels and increased osteocalcin and bone alkaline phosphatase levels in both training groups. The HIIT intervention has been significantly more effective than the CET.

Discussion and conclusion: The results of the study indicate that regular exercise, especially high-intensity interval training has positive effect on improving metabolic markers affecting bone function in addition to improving glucose and fat control. In addition, the results show that exercise interventions, especially HIIT improve bone health markers.

Keywords: Diabetes, Bone Metabolism, High Intensity Interval Training (HIIT) and Low Intensity Continuous Exercise (CET)

Osteoporosis education for healthcare providers: To develop and design national osteoporosis course

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Abstract

Introduction: One of the key strategies in improving osteoporosis management is to educate healthcare providers about the diagnosis and treatment of osteoporosis. In the present study, the aim was to investigate the virtual and face to face course held worldwide to develop and design national osteoporosis course.

Method: A comprehensive search strategy was developed to comprehensively review the Web of Science, Scopus, PubMed, Embase and ERIC databases and the Google. In the present study, the following items including centers provided, objectives, the target groups, duration of the course, curriculum content, educational methods and evaluation techniques were examined. After collecting information, the course details were analyzed by summative content analysis and the articles were analyzed with R-pack 4.1.1 library software.

Results: Nineteen courses and 4 articles were included in this study. The studies showed that 21.73% of face to face and e-learning classes were conducted by the Royal Osteoporosis Society and 17.39% by the National Osteoporosis Foundation. The summative content analysis illustrated the target group included a wide range of care providers including physicians, nurses and health professionals, pharmacists, general practitioners, researchers and others in the care team. The educational content provided included bone health topics, basic information on osteoporosis, osteoporosis prevention, osteoporosis diagnosis, osteoporosis management, treatment, fractures, exercise, menopausal osteoporosis, and practical exercises. Also, different educational strategies such as digital teaching multimedia, interactive modules, videoconferencing technology, case based approach and synchronized slide/audio presentations were used in the course. In some e-learning, online test score is determined by taking the certificate and self-assessment to evaluate students was intended.

Conclusion: Increasing the knowledge of health care providers, fracture management, updating information on the diagnosis and treatment of osteoporosis were among the goals of holding osteoporosis management courses. It is essential to review, update and develop training programs to better prepare treatment staff for the prevention, early detection, treatment and management of osteoporosis.

Keywords: Osteoporosis, Healthcare providers, course, E-learning

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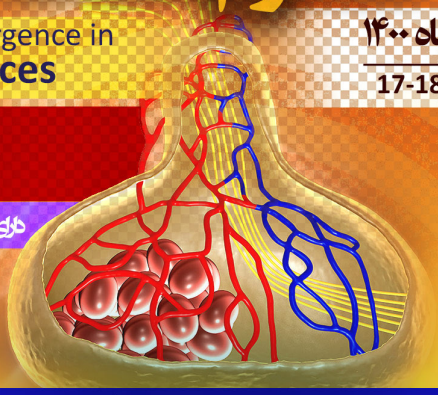
کنگره همگرایی در علوم غدد

Congress of Convergence in
Endocrine Sciences

۲۸ و ۲۹ بهمن ماه ۱۴۰۰
17-18 February 2022

برگزار کنندگان:
پژوهشگاه علوم غدد و متابولیسم
دانشگاه علوم پزشکی تهران

دارای امتیاز بازآموزی برای گروه های هدف



پنجشنبه ۲۸ بهمن ۱۴۰۰ | ۱۵:۳۰ تا ۱۷

پنل: همگرایی علم و سلامت سالمندان

سخنرانان ویژه


دکتر فرشاد شریفی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وبسایت: emri.tums.ac.ir/ces2022 ایمیل کنگره: emri-ces@tums.ac.ir

Science Convergence and Elderly health

Panel Coordinator	Panelists	Special Speakers
Dr. Ramin Heshmat	*Dr. Seyed Masoud Arzaghi* *Dr. Mahbube Ebrahimpur* *Dr. Shohreh Naderimagham*	*Dr. Farshad Sharifi* *Dr. Gita Shafiee* *Dr. Hossein Fakhrzadeh*
Oral Presentations		
Presenter	**Title**	
Dr. Noushin Fahimfar	*Osteosarcopenia and cardiovascular risk score in elderly population: the results of Bushehr Elderly Health (BEH) Program*	
Dr. Soheila Asadi	*Evaluation of correct perception of diabetic patient according to HbA1C and FBS tests in 1398 in Gilan*	
Dr. Shirin jalalinia	*Evidence of Challenges and Strategies for Convergence in Endocrinology: Findings from a Systematic Review*	
Shokooh Shahrosvand	*The osteoporosis diagnosis and treatment gaps among women aged over 50 years in Iran,2021*	

Special Speakers

Endocrine system and aging process

Presenter: Farshad Sharifi, MD, MPH, PhD
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Abstract

Background: Growth of geriatric group in population is more rapid than other groups over the world. It projects more than 21% of population all over the world have an age higher or equal than 60 years old in 2050. Although, aging does not equal to disease, many age-related mechanisms and pathways were known that induce conditions that lead to increase incidence and prevalence of several diseases. Many of this aging mechanisms are rooted in metabolism and endocrine systems. That is way geriatrics and endocrinology and metabolism are completely intertwined. In the follow we review some important metabolic and endocrine change of aging.

Change of endocrine system with aging: Endocrine system experiences loss of reserve capacity by normal aging. We have a loss of hemostatic regulation can cause alteration in synthesis, metabolism and action of these hormones. This loss of hemostasis may be associated with clinical manifestations in stressful status. However, some time compensatory mechanisms are inadequate to preserve normal function., such as aldosterone and DHEA decline with aging. Moreover, the presenting manifestation of endocrine disorders change with aging.

Neuroendocrine regulation with aging: Age-related change in hypothalamic neuroendocrine function can have a deep effect on other systems. For example, an age-related alteration in dopaminergic activity may affect other anterior pituitary hormones. For example, prescription of L-dopa decreases the TSH in older adults but not has similar effect on younger people.

Despite in plasma the level of ACTH and β-endorphin during of aging period does not change, or even a little increase in serum ACTH is observed, in central nervous system it seems we have a decrease in central opioid tone. Moreover, a hyperresponsiveness was observed to β-endorphin and hypothalamic- pituitary adrenal (HPA) in older than younger adults.

Melatonin is a hormone that is produced in pineal gland and has an important role in circadian and seasonal biorhythms. This circadian rhythm is controlled by a pacemaker in suprachiasmatic nucleus and regulated by environmental lightning. Some type of insomnia in older adults also insomnia in subjects with Alzheimer's

disease may related to dysregulation of melatonin secretion.
The other endocrine effect of aging process decreases of growth hormone with age from puberty, so that by age 70 to 80 years the secretion levels is about half of young period. More over in population by age 70 to 80, the levels of IGF-1 are near to 40% lower than younger adults. This changing in endocrine system may associated with decrease in muscle mass and strength, decline in bone mass, increase risk of fall and osteoporosis, sarcopenia and frailty.
Sextual hormones and age related health problem with aging: In addition, age rated significant gradually change in reproductive function and sextual hormones. These changes are associated with decrease of libido and sexual activity, fertility rate decrease of hair of body, decline in muscle mass and strength, osteopenia, and gynecomastia. While this decline in sextual hormones is rapidly in women at age of menopauses. This process can cause some health problem that developed in older women such osteopenia, osteoporosis, decrease of muscle mass, increase of risk of cardiovascular diseases.
In conclusion, it seems that the changes in endocrine function may an important role in aging phenomes and increase of eligibility to develop many age-related diseases.
Keywords: Endocrine, aging ,osteoporosis, sarcopenia

Sarcopenia as a metabolic muscle health problem

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Abstract

Sarcopenia is a loss of muscle mass (MM) and strength, initially believed to affect mostly elderly patients. The aging process, characterized by a progressive decline of MM and function, is often accompanied by different comorbid conditions that can contribute to the development of sarcopenia. Also, sarcopenia has been described as presenting in the context of many chronic diseases, including endocrine disorders, and not only in elderly patients; it can be a cause or a consequence of the underlying disease contributing to the prognosis. The loss of MM and strength is related to the worst rates of morbidity and mortality in various diseases, which reflects the extent to which sarcopenia can impact the treatment outcome.

The most commonly pathogenesis of sarcopenia and endocrine disorders are as follows: disproportion between protein syntheses and regeneration, hormone and cytokine imbalance, oxidative stress and mitochondrial dysfunction.

A meta-analysis showed that sarcopenia has a 10% prevalence in older people that reached 20% when bioelectrical impedance analysis (BIA) was used for diagnosis. The prevalence of sarcopenia, and severe sarcopenia by the European Working Group on Sarcopenia in Older People (EWGSOP2) with Iranian cut-off, criteria are 19.7%, and 12.9%, in men and 13.6%, and 16.7% in women, respectively.

Despite being common among older adults, awareness of the condition is low among people of all ages and many clinicians. As a result, it is underdiagnosed and undertreated. In 2016 sarcopenia was officially recognized as an independent condition when it was assigned an International Classification of Disease (ICD-10) Code, allowing healthcare providers to report sarcopenia diagnoses in medical claims. This designation is helping to raise awareness and advance research towards treatments to slow, reverse, and eventually prevent the development of sarcopenia.

Proper nutrition and exercise are currently recommended strategies to prevent and slow the progression of sarcopenia. Physical activity, particularly resistance-based strength training, is recommended for any older adult suspected of having sarcopenia both for secondary prevention and treatment. Adequate daily protein intake (1-1.5 gr/kg), as well as adequate calorie consumption, are also important in preventing muscle loss in older adults. There are currently no recommended drug treatments for sarcopenia. Current and future treatments should take into account that patients with sarcopenia report maintenance of mobility and the ability to manage domestic tasks as the outcomes most important to them.

Keywords: Sarcopenia ,metabolic muscle, older

Geriatric Cardiology: An Introduction

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Osteosarcopenia and cardiovascular risk score in elderly population: the results of Bushehr Elderly Health (BEH) Program

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Abstract

Objectives: Some documents proposed the association of cardiovascular disease (CVD) with both sarcopenia and osteoporosis. This study investigates the association between osteosarcopenia and ACC/AHA CVD risk score in the elderly population of Iran.

Material and Methods: Population aged 60-75 years, of the second phase of the Bushehr Elderly Health (BEH) program was investigated. We defined osteosarcopenia as having both sarcopenia and osteopenia/osteoporosis. The 10-year CVD risk was estimated using the ACC/AHA pooled cohort equation approaches in men and women, separately. The median values of estimated CVD risk scores were compared in participant with and without osteosarcopenia using the non-parametric Mann-Whitney test. High-risk population of CVD was defined considering the risk threshold of 20%.

Results: In all, 1975 participants (935 men) with a mean age of 66.9 (±3.5) years were included.
Almost 24.5% (95%CI: 21.9%-27.2%) of women and 58.4% (55.2%-61.6%) of men were showed a CVD risk scores higher than 20%. The median value of CVD risk was significantly different in osteosarcopenic (0.254) and non-osteosarcopenic (0.213) men (p-value=0.001). Also a significant difference was detected in women with the median of 0.149 in osteosarcopenic and 0.124 in non-osteosarcopenic individuals (p-value=0.021) (Table1). In men, a significant difference was detected in the proportion of CVD high-risk popualtions in osteosarcopenic and non-osteosarcopenic individuals (Table 2)

Conclusion: The results showed a significant association between ACC/AHA CVD risk score and osteosarcopenia. The prevalence of high-risk population was significantly higher in osteosarcopenic men but not in women. Further investigating the common pathways of cardiovascular and musculoskeletal systems is required.

Table 1: The median of ACC/AHA CVD risk scores in the osteosarcopenic and non-osteosarcopenic elderly population

		Osteosarcopenia -	Osteosarcopenia +	P-value
ACC/AHA CVD risk score		**Median (25^{th}- 75^{th})***	**Median (25^{th}- 75^{th})***	
	Women	0.124 (0.081-0.194)	0.149 (0.085-0.221)	0.021
	Men	0.213 (0.152-0.291)	0.254 (0.179-0.327)	0.001

*Due to non-normal distributions of CVD risk scores, the median values were compared using Mann-Whitney test

Table 2: The frequency of high-risk population for CVD in the osteosarcopenic and non-osteosarcopenic elderly population

		Osteosarcopenia -	Osteosarcopenia +	P-value
CVD High-risk populaion (%)*	Women	23.4	28.9	0.104
	Men	56.5	71.3	0.002

*High-risk was defined as having the ACC/AHA CVD risk score≥ of 0.20

Keywords: Elderly Health ,Osteosarcopenia, cardiovascular

بررسی میزان برداشت صحیح از وضعیت بیمار دیابتی با توجه به آزمایشات HbA1C و FBS در سال ۱۳۹۸ در گیلان

نویسندگان: دکتر سهیلا اسدی(کارشناس بیماری‌های غیر واگیر معاونت بهداشتی گیلان)

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چکیـــده

مقدمه:

طی سالهای اخیر افزایش شیوع بیماری دیابت در جهان، این بیماری را به بزرگترین اپیدمی تاریخ تبدیل کرده است و بدلیل سرعت بالای افزایش شیوع دیابت از اهداف WHO تا سال ۲۰۲۵ ثابت نگه داشتن شیوع این بیماری است.

اهداف:

هدف از این مقاله بررسی میزان برداشت صحیح از وضعیت بیمار دیابتی با توجه به آزمایشات FBS در بیمار می باشد.

روش کار:

نمونه هایی که بطور تصادفی در خوشه های انتخاب شده در جمعیت روستایی و شهری در مطالعه DiaCare در گیلان در سال ۱۳۹۸ تهیه شده بودند، مورد بررسی قرار گرفتند و جواب‌های FBS و HbA1C محاسبه شده این بیماران از طریق فرمول 28.7*A1C-46.7=eAG با HbA1C آزمایش شده بیماران مقایسه گردید.

یافته‌ها:

از کل ۴۳۲ نفر (۳۶ خوشه ۱۲ نفری در کل استان) ۲۴ مورد جواب نداشتیم لذا ۴۰۸ نمونه مورد بررسی قرار گرفتند. از ۲۹۱ نمونه ای که HbA1C>7.5 داشتند ۱۱۲ نفر از آنان با توجه به میزان FBS هموگلوبین A1C کمتر از ۷.۵ برایشان محاسبه گردید. به عبارت دیگر ٪۳۸.۵ افرادی که قند خون قابل قبولی نداشتند با توجه به جواب FBS بیماریشان تا حدی کنترل شده تلقی می شد. از ۱۲۳ نفری که HbA1C کمتر از ۷.۵ داشتند ۱۱۵ نفر آنان با توجه به میزان FBS هموگلوبین A1C کمتر از ۷.۵ محاسبه گردید (٪۹۳.۵) . تعداد ۲۱۹ نفر از بیماران HbA1C برابر ۸.۵ و بالاتر داشتند در حالیکه ۱۰۶ نفر از این بیماران با توجه به عدد FBS میزان هموگلوبین A1C آنان کمتر از ۸.۵ بوده است.(٪۴۸) . با محاسبه HbA1C به کمک فرمول 28.7*A1C-46.7=eAG و مقایسه آن با HbA1C بدست آمده از آزمایشگاه ٪۱۷ نمونه ها کمتر از ۰.۵ واحد در میزان HbA1C با یکدیگر تفاوت داشتند.

بحث و نتیجه‌گیری:

بیش از یک سوم بیمارانی که قند خونشان کنترل شده نبوده فقط با انجام یک آزمایش FBS قابل شناسایی نبودند این آمار در مورد بیماران با قند خون کنترل صدق نمی کند و حدود ٪۹۴ این افراد با انجام آزمایش FBS همین تفسیر را توسط پزشک دریافت می کنند. با توجه به اینکه بیماران با HbA1C بالاتر از ۸.۵ نیاز به ارجاع و ویزیت تخصصی دارند لذا نیمی از بیماران نیازمند ویزیت تخصصی ارجاع نمی گردند.دیر ارجاع شدن بیماران با کنترل نبودن طولانی تر بیماری و افزایش احتمال بروز عوارض همراه می باشد لذا پیشنهاد می گردد علاوه بر اندازه گیری دوره ای HbA1C در بیماران در زمان تغییر Plan درمانی بیماران حتما با درخواست HbA1C این تصمیم گرفته شود و مبنای تصمیم گیری فقط FBS نباشد.

کلید واژه‌ها: دیابت، هموگلوبین A1C، گیلان، FBS

Evidence of Challenges and Strategies for Convergence in Endocrinology: Findings from a Systematic Review

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Abstract

Background: Advances in medicine and endocrine sciences were driven largely by scientists and experiences coming together from different specific disciplines to work on practical policies and interventions. Present investigation, based on a systematic review of relevant scientific documentation, provides Integrate challenges and suggestions that help for optimize convergence process between endocrine disciplines'.

Methods: To address this issue, all publications relevant to the Science Convergence of endocrine domains were searched systematically in the Web of Sciences, Scopus, EMBASE, and Medline (via PubMed) databases up to October 21, 2021. From total of 102 records, following the process of refining processes and quality evaluation of searched resources; 11 studies were included in the final analysis.

Findings: The science of convergence has recently attracted the attention of many researchers and policy makers from different fields of health. In the field of endocrinology, due to the importance and sensitivity of a synergistic approach in the policy of clinical interventions and the optimal allocation of resources and specialized staffs, this is of particular importance.
The findings provides an overview of how the issue is being represented in scientific publications. Understanding the process and determinants of facilitating convergence is very important for innovation. As a critical point, effective teamwork among specialists of disparate disciplines who look to new areas of knowledge would spur progress. This could follow through the virtual network provides a facility that enables all stakeholders to be active under the integrative policies. An important implication is that more than teamwork facilitation, knowledge diffusion may significantly contribute to increase science convergence and international joint coverage.

Conclusion: Clinical endocrinology is a field driven largely by numerical parameters. To achieve outstanding patient care, scientific coverage is an essential approaches. There are many published evidence on appropriate integrative medical management and outcomes for endocrine patients, that mainly emphasized on recommendations to how excellence multidisciplinary coverage can be achieved.

Keywords: Convergence, Endocrinology, Challenges, Strategies, Systematic Review

The osteoporosis diagnosis and treatment gaps among women aged over 50 years in Iran, 2021

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Presenter: Shokouh Shahrousvand

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Abstract

Background: Despite the availability of diagnostic equipment and effective drugs to diagnose and treat osteoporosis, only a minority of women at high risk for fractures are cared. This can have irreparable consequences for patients and the health system.

Methods: This cross-sectional observational study in one the province of Iran, collected data from women 50 years and older who are registered in the integrated health system of Iran. Initially, participants were surveyed through FRAX. Then, a questionnaire was prepared in 4 concepts (socioeconomic status, diagnosis status, medication initiation status and Adherence status). Due to the Covid-19 pandemic, data was collected by telephone.

Results: A total of 998 women with a mean age of 64.6±10.4 participated in this study. Overall, 346 women (34.6%) were at high risk for bone fractures through FRAX. In women at high fracture risk, the median 10-year probability of hip and major osteoporotic fracture was 6.9% and 12%. 130 women (37.5%) underwent BMD, and 109 (31.5%) were diagnosed with osteoporosis. 98 patients (28.3%) initiated treatment and 52 patients (15.02%) adhered to treatment. The diagnosis, treatment gaps were 68.5% and 71.6%, respectively.

Conclusion: There is a large diagnosis and treatment gap in women aged ≥ 50 years at increased risk of fragility fracture registered in the health system of Iran. Identification and assessment women at high fracture risk is effective in improving the diagnosis and treatment of osteoporosis.

Keywords: Osteoporosis, Diagnosis gap, Medication initiation, Treatment gap, Adherence

دانشگاه علوم پزشکی تهران
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کنگره همگرایی در علوم غدد

Congress of Convergence in
Endocrine Sciences

۲۸ و ۲۹ بهمن ماه ۱۴۰۰
17-18 February 2022

برگزار کننده:
پژوهشگاه علوم غدد و متابولیسم
دانشگاه علوم پزشکی تهران

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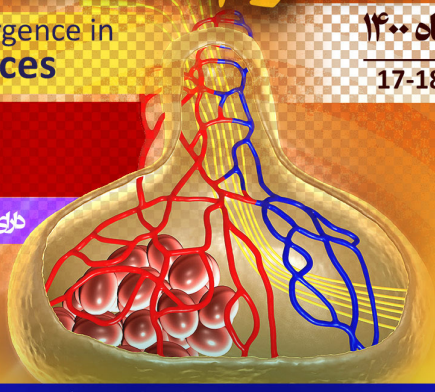

پنجشنبه ۲۸بهمن ۱۴۰۰ | ۱۴ تا ۱۵:۳۰

پنل: همگرایی علم و تکنولوژی‌های دیابت

سخنرانان ویژه

دکتر ساسان عباسی شرقی

دکتر محمد رضا خرمی زاده

اعضای پنل

دکتر انسیه نسلی اصفهانی

دکتر کبری امیدفر

دکتر ساسان عباسی شرقی

دبیرخانه کنگره: تهران، خیابان جلال آل احمد، پلاک ۱۰ تلفن دبیرخانه: ۸۸۲۲۰۰۹۴
وبسایت: emri.tums.ac.ir/ces2022 ایمیل کنگره: emri-ces@tums.ac.ir

Diabetes Technologies

Panel Coordinator	Panelists	Special Speakers
Dr. Ensieh Nasli Esfahani	*Dr. Kobra Omidfar* *Dr. Sasan Abbasi Sharghi*	*Dr. Sasan Abbasi Sharghi* *Dr. Mohammad Reza Khorramizadeh*
Oral Presentations		
Presenter	**Title**	
Dorsa Ghare ghooni	*The role of antioxidants in the treatment and prevention of diabetes*	
Zahra Hosseini Tavassol	*Diabetic foot ulcer and Tetanus vaccination importance*	
Noushin Noshadi& Arash Karimi	*Effect of hydro-alcoholic extract of achillea millefolium on renal injury and biochemical factors in streptozotocin-induced diabetic rats*	
Noushin Noshadi	*A Comprehensive insight into the effect of chromium supplementation on insulin resistance and oxidative stress in diabetes mellitus: A systematic review*	
Melika Darzi	*Effects of caffeine on blood glucose concentrations and insulin sensitivity in patients with type 2 diabetes mellitus: A systematic review of randomized controlled trials*	
Elahe Abbasi	*Does omega 3 fatty acid supplementation affect oxidative stress and inflammatory biomarkers in type 2 diabetic patients? A systematic review and meta-analysis of randomized controlled trials*	
Dr. Maryam Jalili Sadrabad	*Prevalence of risk factors in diabetic patients with oral complications*	

Special Speakers

UNDERSTANDING UPS AND DOWNS OF BLOOD GLLUCOSE Principles and Application of CGMS

Presenter: Dr. Sasan Abbasi Sharghi

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Abstract

Optimal glycemic control remains challenging and elusive for many people with diabetes. the benchmarks for assessing quality of long-term glycemic control and adjustment of therapy are currently glycated hemoglobin (HbA1c)FBS and post prandial BS. Despite their importance as indicator for the development of diabetic complications, recent studies have revealed that these metrics has some limitations; they conveys a rather complex message, which has to be taken into consideration for diabetes screening and treatment. On the basis of recent clinical trials, the relationship between HbA1c and cardiovascular outcomes in long-standing diabetes has been called into question. It becomes obvious that other surrogate and biomarkers are needed to better predict cardiovascular diabetes complications and assess efficiency of therapy. In addition to measures of hyperglycemia, advanced glucose monitoring methods became available. An indispensible adjunct to HbA1c in routine diabetes care is self-monitoring of blood glucose. This monitoring method is now widely used, as it provides immediate feedback to patients on short-term changes, involving fasting, preprandial, and postprandial glucose levels. Beyond the traditional metrics, glycemic variability has been identified as a predictor of hypoglycemia, and it might also be implicated in the pathogenesis of vascular diabetes complications. In order to optimize diabetes treatment, there is a need for both key metrics of glycemic control on a day-to-day basis and for more advanced, user-friendly monitoring methods. In addition to traditional discontinuous glucose testing, continuous glucose sensing has become a useful tool to reveal insufficient glycemic management. This new technology is particularly effective in patients with complicated diabetes and provides the opportunity to characterize glucose dynamics. Several continuous glucose monitoring (CGM) systems, which have shown usefulness in clinical practice, are presently on the market. With the comprehensive clinical evidence on safety and efficiency in large populations, and with broader reimbursement, the adoption of continuous glucose monitoring (CGM) is rapidly increasing. Standardized visual reporting and interpretation of CGM data and clear and understandable clinical targets will help professionals and individuals with

diabetes use diabetes technology more efficiently, and finally improve long-term outcomes with less everyday disease burden. For the majority of people with type 1 or type 2 diabetes, time in range (between 70 and 180 mg/dL, or 3.9 and 10 mmol/L) target of more than 70% of 24 h is recommended, with each incremental increase of 5% towards this target being clinically meaningful. At the same time, the goal is to minimize glycemic excursions: a recommended target for a time below range (< 70 mg/dL or < 3.9 mmol/L) is less than 4%, and time above range (> 180 mg/dL or 10 mmol/L) less than 25%, with less stringent goals for older individuals or those at increased risk. These targets should be individualized: the personal use of CGM with the standardized data presentation provides all necessary means to accurately tailor diabetes management to the needs of each individual with diabetes.

Keywords: BLOOD GLLUCOSE, Application of CGMS, diabetes

Application of Zebrafish in Toxicity Assay: New Horizon

Presenter: Dr. Mohammad Reza Khorramizadeh
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Abstract

The zebrafish (Danio rerio) has recently emerged as a pre-eminent research model organism vertebrate. Rapid ex-utero optical transparency of embryogenesis and larval stage which encompasses the digestive, nervous, immune and cardiovascular organ systems developments, small size, have also long endeared this in vivo model to investigators in numerous disciplines. High fecundity and fast generation time, more than 70 percent genetic similarity to human have made this animal an ideal model for pre-clinical studies. Targeting toxicity screening with different drugs and small molecules in zebrafish are typically carried out in living zebrafish embryos or larvae. Transparent embryos which exhibit a diverse repertoire of biological processes can eventually help to eliminate toxic molecules or drug in early phase of trials. As such, a much broader range of phenotypes can be investigated in zebrafish, as compared to cultured cells models. Combination of all these valuable properties with the optimization of automated systems has transformed and turned the zebrafish into "a top model" among animal model organisms in biomedical research, drug discovery and toxicity testing. In recent years, many countries stablished Zebrafish lab to move faster on screening in terms of disease investigation or treatment. To address the growing needs for investigations on preclinical models we instituted a zebrafish lab in 'Endocrinology and Metabolism Research Institute (EMRI), Tehran University of Medical Sciences(TUMS)", early in 2018. Our lab activity started with physical establishment and equipment, followed by procurement, acclimation, and breeding of the standard and known stocks of wild type zebrafish larva and embryos. We have mainly focused on development and increase of our stocks of zebrafish, which can be used to express characteristics and represent metabolic diseases, e.g. diabetes, obesity, osteoporosis, and inflammatory processes. These models can also be investigated with small molecules' screening on different stage of embryos and larva, followed by the phenotypic experiments. In addition, adult fish stocks can also be studied under different dosage of toxic substances treatments. For this purpose, we stablished our lines with pure wild type Danio rerio which has been approved as a standard type for toxicological investigations. In line with our lab functional progression, we communicated and introduced it to the Zebrafish International Network (ZFIN). Together with its Principle Investigator and conducting team, the zebrafish lab was registered with ZFIN as "Zebrafish Core Facility-EMRI from 2019 on.

Here in this lecture, the significance of employing zebrafish animal model in toxicological researched with a history of zebrafish lab establishment in EMRI is briefly overviewed.

Keywords: Zebrafish, toxicological researched, vivo model

The role of antioxidants in the treatment and prevention of diabetes

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Abstract

Introduction: Type 2 diabetes mellitus is a metabolic disease in which a person's blood glucose is high due to insulin resistance of cells. Despite the advancement in the field of medicine, the drugs used are not very effective and have lots of side effects. Evidence has now been found about the effectiveness of some herbal medicines in the prevention and treatment of type 2 diabetes. Among plants that contain antioxidants such as: turmeric, citrus, legumes, garlic,…

Methods: A systematic search was performed to identify studies published in multiple databases (science direct, PubMed, google Scholar) up to 2021, and recently published abstracts were also reviewed. Using the key words type 2 diabetes mellitus, antioxidant activity.

Results: One of the products of cell metabolism is free radicals, which are highly reactive and Oxidative stress is one of the most important factors in increasing the pathogenesis in diabetes and more oxidative cells are found in diabetics. In the body of a diabetic the production of free radicals increases. Phytochemicals normalize the levels of antioxidant enzymes such as catalase, glutathione and peroxidase and lessen insulin resistance through activating the AMPK pathway. These antioxidant compounds have an anti-apoptotic effect. On the other hand, Inflammation additionally performs an essential position withinside the improvement of T2DM. Antioxidants are additionally anti inflammatory and decrease the inflammatory elements withinside the serum, together with IL6 and TNF-α, and protect cells towards inflammation.

Conclusion: These herbal medicines have little bioavailability, and scientists are searching for ways to extend their absorption.

Keywords: type 2 diabetes mellitus, antioxidant activity, inflammation, drug therapy

Diabetic foot ulcer and Tetanus vaccination importance

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Abstract

Introduction: Appropriate tetanus vaccination is a necessary measure to preserve health. As we know, ulcers are a risk factor for this disease. Due to the high prevalence of foot ulcers in diabetic patients, in this article, we surveyed the importance of tetanus vaccination in these individuals.

Methods: Using electronic databases, a narrative review of previous studies on the status of immunization against tetanus in diabetic patients with foot ulcer has been done.

Results: In most cases, tetanus antibody levels measurement has shown that people with diabetes do not have adequate levels of immunity to the disease, because they did not receive the booster doses of tetanus vaccine. Thus, developing of diabetic foot ulcer puts them at high risk for tetanus.

Conclusion: Tetanus vaccination for diabetic foot ulcer patients, is not done properly. So diabetic patients should be aware of the importance of tetanus infection. In order to prevent serious tetanus complications, it is recommended to add the tetanus vaccination follow up in diabetic care guidelines.

Keywords: Diabetic foot ulcer, Tetanus, Tetanus vaccination, Tetanus prophylaxis

Effect of hydro-alcoholic extract of achillea millefolium on renal injury and biochemical factors in streptozotocin-induced diabetic rats

Authors: Nooshin Noshadi M.Sc[1], Fateme Naeini M.Sc[2], Arash Karimi M.Sc[1], Mahdi vajdi Ph.D[3*]

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Abstract

Introduction: Herbal medicine has been used for the management of complications of diabetes. The purpose of this paper is to examine the anti-diabetic effects of Achillea millefolium extract on diabetic rats.

Methods: To this aim, 32 male Wistar rats were randomly assigned into four groups in which each group comprised eight rats. The four experimental groups were as follows: control group, diabetic control (DC) group (STZ; 50 mg/kg), diabetic rats, receiving 250 mg/kg hydro-alcoholic extract of the A. millefolium (DAM) and diabetic rats, receiving 5 mg/kg glibenclamide (DG) for 28 days.

Results: The concentration of total antioxidant capacity (TAC) were markedly reduced in the DC group while significantly increased in DG and DAM groups ($p = 0.02$). Also, Total oxidative capacity (TOC), glucose, creatinine and blood urea nitrogen (BUN) serum levels were markedly increased in the DC group while significantly decreased in DAM and DG groups ($p = 0.03$, $p = 0.38$, $p = 0.25$ and $p = 0.02$, respectively). Also Nuclear factor-erythroid factor 2-related factor 2 (Nrf2) expression was significantly increased in DAM and DG groups as compared with the DC group ($p = <0.01$)

Conclusion: Diabetes led to degenerative damages in the kidney of rats and decreased the mRNA level of Nrf-2, while treatment with A. millefolium could protect the kidney tissue against diabetes complications and increased the mRNA expression of Nrf-2. This study indicated that A. millefolium extracts not only improves renal function as a result of anti-oxidant activity but also modulates some biochemical factors in diabetic rats.

Keywords: Diabetes, Achillea millefolium, antioxidant, kidney

A Comprehensive insight into the effect of chromium supplementation on insulin resistance and oxidative stress in diabetes mellitus: A systematic review

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Abstract

Introduction: Diabetes mellitus is a metabolic disorder defined as an increase in blood glucose levels (hyperglycaemia) and insufficient production or action of insulin produced by the pancreas. Chronic hyperglycaemia leads to increased reactive oxygen species (ROS) production and oxidative stress. Chromium has an essential role in the metabolism of proteins, lipids, and carbohydrates through increasing insulin efficiency. This systematic review aimed to evaluate chromium supplementation's potential roles in insulin resistance oxidative stress indices in diabetes mellitus.

Methods: A systematic search was performed in PubMed, Scopus, Cochrane, and Science Direct databases until November 2021 all clinical trials and animal studies were published in English-language journals were included.

Results: Among 39 papers, 25 studies were performed on animals, and 14 investigations were conducted on humans. chromium supplementation may activate insulin receptor substrate 1 (IRS1) and peroxisome proliferator-activated receptor gamma (PPAR-γ), which can improve hyperglycaemia and insulin transduction signal in adipose tissue, and regulate glucose metabolism, leading to an increased nuclear factor erythroid 2–related factor 2 (Nrf2), HO-1 expression, amelioration of mitochondrial function, and an increased levels of antioxidant enzymes. Also chromium could influence the expression of GLUT4 and potentially regulate glucose transportation through 5'-adenosine monophosphate-activated protein kinase(AMPK) activation. AMPK plays a significant role in modulate the expression of the antioxidant agents and facilitating glucose uptake and insulin sensitivity in diabetes mellitus.

Conclusion: In conclusion, chromium supplementation decreased insulin resistance and oxidative stress in diabetes mellitus. However, further clinical trials are suggested in a bid to determine the exact mechanisms.

Keywords: Chromium, Insulin resistance, Oxidative stress, Diabetes mellitus

Effects of caffeine on blood glucose concentrations and insulin sensitivity in patients with type 2 diabetes mellitus: A systematic review of randomized controlled trials

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Abstract

Introduction: Type 2 diabetes is one of the fastest growing diseases worldwide and is associated with high rates of morbidity and premature mortality. Caffeine is one of the compounds that have been shown to influence insulin sensitivity in patients with diabetes. In this study we systematically reviewed the effects of caffeine on blood glucose concentrations and insulin sensitivity in patients with type 2 diabetes.

Methods: Four databases, including PubMed, Scopus, Web of science, and Science Direct were searched up to September 2021. Randomized controlled trials (RCTs) studies were selected to investigate the effects of caffeine on blood glucose concentrations and insulin sensitivity in patients, diagnosed with type 2 diabetes.

Results: 15 RCTs with 319 participants were identified. Results revealed that consuming caffeine (300 – 500 mg per day) significantly increased blood glucose concentrations and decreased insulin sensitivity. Caffeine antagonizes skeletal muscle adenosine receptors and stimulates the release of epinephrine, which inhibiting the ability of insulin to uptake peripheral glucose.

Conclusion: This systematic review supports negative effect of caffeine intake on insulin sensitivity and blood glucose control in patients with type 2 diabetes. Longer-term interventional studies of caffeine consumption are required to confirm these findings.

Keywords: Caffeine, type 2 diabetes mellitus, review, systematic.

Does omega 3 fatty acid supplementation affect oxidative stress and inflammatory biomarkers in type 2 diabetic patients? A systematic review and meta-analysis of randomized controlled trials

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Abstract

Introduction: Numerous studies have been performed to determine whether supplementation of omega 3 fatty acids had improving effects or not on oxidative stress and inflammatory markers in Type 2 diabetes mellitus (T2DM) patients, which have yielded mixed results. The present systematic review and meta-analysis of randomized controlled trials (RCTs) aims to clarify the anti-oxidative and anti-inflammatory potential of omega-3 fatty acids in T2DM patients.

Methods: A literature search without any restrictions was conducted on PubMed, Web of Sciences and Scopus databases before January 2021. STATA software generated forest plots of the pooled MDs with 95% CIs for all results. Then, to promote the generalizability of results pooled analysis were done using a random-effects model.

Results: Overall, 1518 T2DM patients from twenty-three controlled trials with thirty-one intervention arms, were included in the analysis. Random-effects meta-analysis showed that omega 3 fatty acids supplementation led to significant increase in TAC and significantly decrease in TNF-α compared with control group. Meanwhile, the effect of the omega 3 fatty acids supplementation on C-reactive protein (CRP) concentration, Malondialdehyde (MDA) levels, superoxide dismutase (SOD), interlukin-6 (IL-6) levels and glutathione reductase (GR) was not significant.

Conclusion: According to our findings, omega-3 fatty acids provide a potential supplemental therapy to help improve oxidative stress and inflammatory biomarkers especially TAC and TNF-α in T2DM patients.

Keywords: Omega-3; Type 2 diabetes mellitus; Systematic review; Meta-analysis

Prevalence of risk factors in diabetic patients with oral complications.

Authors: Ghadiri-Anari, A. ; Kheirollahi, K. ; Hazar, N. ; Ardekani, A. M. ; Kharazmi, S. ; Namiranian, N. ; Sadrabad, M. J.

Presenter: Dr. Maryam Jalili Sadrabad

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Abstract

Introduction: Diabetes results in several oral complications. Many last studies about risk factors effect on oral manifestations has been controversial. Therefore, according to its importance, the purpose of this study was to evaluate the risk factors in diabetic patients with oral complications.

Materials and Methods: In this cross-sectional study 257 subjects out of 600 diabetic patients were presented to Yazd (Iran) diabetic research center and was chosen with convenience sampling method in 2016. Inclusion criteria were mentioned, then according to each oral manifestation (candidiasis, oral lichen planus, periodontitis, gingivitis, oral dryness, delayed wound healing, geographic tongue, gingival hyperplasia, fissured tongue and burning tongue) patients were divided into two groups and risk factors (smoking, age, gender, denture, duration of diabetes, HbA1c, type of drugs) were compared.

Results: Prevalence of candidiasis in older age and denture users and oral lichen planus and burning tongue in smokers were higher than other groups. Patients suffering from gingivitis was older and the use of denture was more common in people with gingival hyperplasia and insulin use was significantly higher in patients with poor wound healing.

Conclusion: Our study showed that aging, use of denture and smoking can increase the risk of oral manifestations in diabetic patients, so more education and attention about these cases and timely referral to oral medicine specialists are necessary in these patients.

Keywords: oral complications, diabetic patients

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کنگره همگرایی در علوم غدد

Congress of Convergence in
Endocrine Sciences

۲۸ و ۲۹ بهمن ماه ۱۴۰۰
17-18 February 2022

برگزار کننده:
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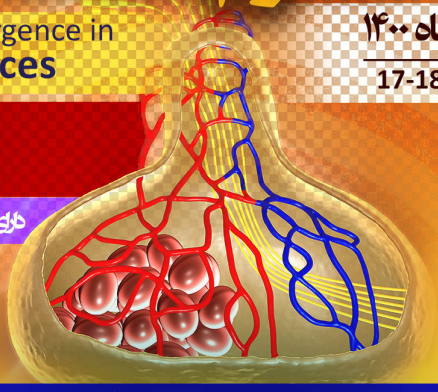
دارای امتیاز بازآموزی برای گروه های هدف



پنجشنبه ۲۸ بهمن ۱۴۰۰ | ۱۵:۳۰ تا ۱۷

پنل: همگرایی علم و علوم متابولومیکس و ژنومیکس

سخنرانان ویژه


دکتر میترا نوربخش


دکتر مهسا محمد آملی

اعضای پنل


دکتر فریده رضی


دکتر فاطمه بندریان


دکتر نکو پناهی

دبیرخانه کنگره: تهران، خیابان جلال آل احمد، پلاک ۱۰ تلفن دبیرخانه: ۸۸۲۲۰۰۹۴
وبسایت: emri.tums.ac.ir/ces2022 ایمیل کنگره: emri-ces@tums.ac.ir

Science Convergence and Genomics & Metabolomics

Panel Coordinator	Panelists	Special Speakers
Dr. Farideh Razi	*Dr. Fatemeh Bandarian* *Dr. Nekoo Panahi*	*Dr. Mitra Nourbakhsh* *Dr. Mahsa Mohamad Amoli*
Oral Presentations		
Presenter	**Title**	
Zahra Hosseini Tavassol	*Dose response association between Trimethylamine N-Oxide and non-communicable diseases: a systematic review*	
Zohreh Rajab Pour	*Epigenetic based evaluation of endocrine disrupting compounds: a new biosensing approach*	

Special Speakers

Diagnosis and management of a novel case of Hyperglycinemia

Authors:Mona Nourbakhsh, Mitra Nourbakhsh, Mohammad Miryounesi

Presenter: Dr. Mitra Mona Nourbakhsh

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Abstract

Glycine is an important amino acid and has various roles in metabolism and normal cellular physiology. It acts as an inhibitory neurotransmitter similar to γ-aminobutyric acid in the central nervous system (CNS). It is also involved in the metabolism of numerous xenobiotics, especially benzoic acid. Therefore its compromised metabolism leads to several adverse effects on CNS, as well as liver. Glycine may also exert toxic effects on the kidneys due to the ensuing Hyperoxaluria. The balance between synthesis and degradation of glycine is an important factor in the prevention of hyperglycinemia and its devastating effects. One of the main mechanisms for maintaining the homeostasis of glycine is through the reaction catalyzed by glycine N-acyltransferase (GLYAT) enzyme. This enzyme also has an important role in the detoxification of endogenous and xenobiotic compounds, which contain a carboxylic acid group, particularly benzoic acid. Here we present for the first time a case of GLYAT enzyme deficiency sue to a mutation in its gene, and the management of the disease according to biochemical aberrations.

The patient was a 2 year-old-girl with complaint of walking and speech delay. Hyperglycinemia was first diagnosed with the administration of benzoic acid as the treatment of choice in hypergycinemia, which led to generalized seizure and deterioration of her condition. Whole exome sequencing (WES) was performed on the affected individual and identified a homozygous mutation (NM_201648.3: c.322C>T: p.Q108X) in the GLYAT gene. Sanger sequencing was performed to confirm the detected mutation. Treatment was designed according to biochemical abnormalities. After 6 months of treatment, the symptoms as well as walking and speaking improved.

Conclusions: The convergence of endocrinology and metabolism, clinical biochemistry and genetics evaluation led to the diagnosis and management of this novel disorder. The same setting is suggested for various cases of novel hereditary metabolic disorders.

Keywords: Hyperglycinemia, endocrinology, metabolic disorders

Monogenic diabetes

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Abstract
Monogenic diabetes group as rare forms of diabetes which result from mutation in a single gene. They might be inherited in the family or cause as a result of de Novo mutations. Neonatal diabetes occurs in first 6-12 months of life and more than 90% of cases occur due to genetic mutation. MODY is known as a kind of heterogeneous disorder in the branch of type 2 Diabetes that is inherited autosomal dominantly. MODY presents in adolescents or early adulthood mostly under 18 years. The most common form MODY2 is accompanied by persistent hyperglycemia but it could not cause that patients suffer from vascular complications. The prevalence of it is different around the world arising from the routine glucose testing. In these patients, impaired glycemic level such as impaired fasting glucose test (IFGT) and impaired glucose tolerance test (IGTT) are seen due to hepatic gluconeogenesis that is involved through GCK mutations. The decision to treat patients is controversial. In fact, patient's clinical presentations have impact on types of treatment. The early diagnosis and treatment of Monogenic diabetes has been facilitated by recent progression genetic tests and targeted next generation sequencing offering screening of considerable number of mutations for detection of pathogenic mutations.

Keywords: Monogenic diabetes, Novo mutations, type 2 Diabetes

Oral Presentations

Dose response association between Trimethylamine N-Oxide and non-communicable diseases: a systematic review

Authors: Zahra Hoseini-Tavassol[1†]. PhD candidate, Hanieh-Sadat Ejtahed[1, 2†]. Assistant Prof, Bagher Larijani[2] . Distinguished Prof AND Shirin Hasani-Ranjbar[1*]. Prof

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Abstract

Introduction: Trimethylamine N-Oxide (TMAO), a challenging gut microbiota-derived metabolite, has been considered as a risk factor of several diseases like cardiovascular diseases. Regarding the importance of non-communicable diseases like metabolic disorders, neurodegenerative diseases and cancers during the last decades, we made a systematic review on TMAO as a potential risk factor for non-communicable diseases.

Methods: To conduct this study, we searched for the related articles on PubMed, Web of Science and Scopus databases up to December 2020. Inclusion criteria for the current study included all observational human studies which were about the association between TMAO levels and non-communicable diseases.

Results: 2191 articles have been found in databases. Results generally demonstrated the positive association between TMAO and NCDs. Within 99 articles which met inclusion criteria, the association between TMAO levels and diabetes, metabolic disorders and inflammatory diseases, cardiovascular diseases, renal diseases, stroke, neurodegenerative disorders and cancers have been studied.

Conclusion: There is a dose–response relationship between TMAO and its pathogenesis. The optimum level of this compound is necessary in body metabolism but the high levels of TMAO can cause serious health problems. Moreover, modulation of composition and diversity of gut microbiota and dietary modification may be effective in NCDs prevention.

Keywords: Trimethylamine-N-oxide (TMAO), Microbiota, Non-communicable diseases (NCDs)

Epigenetic based evaluation of endocrine disrupting compounds: a new biosensing approach

Authors: Zohre Rajabpour[1], Sanaz Rezaeian[1], Yeganeh Moradi[1], Bahareh Saghaei[1], Mozhdeh Karimi[1], Seyyed Ebrahim Moosavifard[2]

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Abstract

Introduction: Endocrine disrupting chemicals (EDCs) are synthetic or natural compounds, including pesticides, drugs, plastic containers, industrial by-products, and more.
Exposure to EDCs can disrupt the normal function of the endocrine glands and also lead to altered gene expression by affecting epigenetic mechanisms.
Biosensors are devices that measure chemical and biological reactions and are used in cases such as monitoring diseases and identifying contaminants in the body.
The aim of this study was to investigate the role of biosensors in EDC-related changes in the body based on epigenetic mechanism.

Methods: PubMed, Scopus, Web of Sciences and Google Scholar were selected till 15 November of 2021.
Related articles had been selected according to inclusion criteria based on their title and abstract.

Results: In fact, biosensors measure chemical and biological reactions with the help of signals. These devices have many applications to improve the quality of life. One of their main applications is the identification of biological molecules. Biosensors have been developed to identify high-speed and working ability epigenetic biomarkers. Non-coding RNA, DNA methylation, and histone modification are the most usual epigenetic biomarkers.
Biosensors include 5 components, analyte, bioreceptor, converter, electronics and display.
Actually the epigenome is the collection of all of the epigenetic marks on the DNA in a single cell. It can act as a biosensor for EDC and affect adult diseases.

Conclusion: Our findings demonstrated that the use of biosensing approach based on epigenetic mechanism could be a good way for better understanding of EDCs function in human health.

Keywords: Biosensor, Epigenetic, Endocrine Disrupting Compounds

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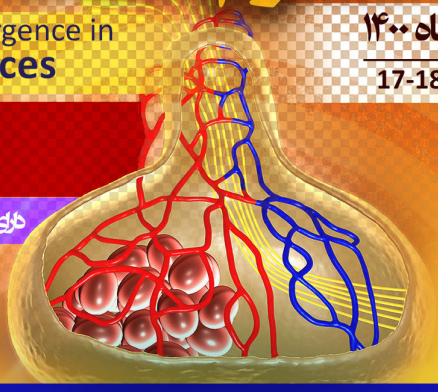
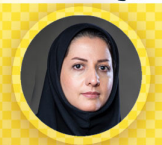


جمعه ۲۹ بهمن ۱۴۰۰ | ۸ تا ۹:۳۰

پنل: همگرایی علم و طب تلفیقی

سخنرانان ویژه

دکتر محمد حسین آیتی



دکتر روجا رحیمی

اعضای پنل

دکتر حمید اکبری جور

دکتر نازلی نمازی

دکتر محمد مهدوی

دکتر عذرا طباطبایی ملائی

دبیرخانه کنگره: تهران، خیابان جلال آل احمد، پلاک ۱۰ تلفن دبیرخانه: ۸۸۲۲۰۰۹۴
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Science Convergence and integrative Medicine

Panel Coordinator	Panelists	Special Speakers
Dr. Hamid Akbari Javar	*Dr.* Nazli Namazi *Dr.* Mohammad Mahdavi *Dr.* Ozra Tabatabaei-Malazy	*Dr. Mohammad Hossein Ayati* *Dr. Roja Rahimi*
Oral Presentations		
Presenter	**Title**	
Fatemeh Gharanjik	*Effect of Hydroalcoholic Calendula Officinalis Extract on Androgen induced Polycystic Ovary Syndrome Model in Female Rat*	
Dr. Arezoo Moini Jazani	*The role of Berberine on Polycystic ovary syndrome (PCOS): A literature review*	
Dr . Maryam Iranza	*Chicory for Metabolic Diseases: A systematic Review*	
Dr. Mahboubeh Bozorgi	*Potential role of plants from Lamiaceae family for management of thyroid disorders*	

Special Speakers

Integrative medicine and metabolic syndrome

Presenter: Roja Rahimi (PharmD, PhD)
Department of Traditional Pharmacy, School of Persian Medicine, Tehran University of Medical Sciences, Tehran, Iran.

Abstract
Metabolic syndrome is a cluster of risk factors that increase the risk of an individual developing heart disease, diabetes, stroke, and chronic neurodegenerative disease. Integrative medicine is widely used among patients with chronic diseases in primary care particularly in patients with metabolic syndrome and its components including and its components such as diabetes, hypertension, dyslipidemia and central obesity; However, the disclosure rate of integrative medicine use to health care providers is low. Females, those with high education and high Patient Assessment of Chronic Illness Care (PACIC) mean score are more likely to use integrative therapies. PACIC is a tool to assess the implementation of the Chronic Care Model from the patient perspective that focuses on the receipt of patient-centered care and self-management behaviors. Individuals with metabolic syndrome are more to use different types of integrative therapies, in particular dietary and herbal supplements, aromatherapy and massage therapy compared to individuals without metabolic syndrome. Dietary supplements and nutraceuticals such as n-3 Fatty acids, soy, psyllium, dark chocolate, Garcinia cambogia, green tea, and ephedra are among the commonly used integrative therapies that target features of metabolic syndrome. While several studies have been conducted to evaluate the efficacy and safety of integrative therapies in patients with metabolic syndrome, further researches need to be provided for achieving more reliable and conclusive results.

Keywords: Integrative medicine,metabolic syndrome, Integrative medicine, metabolic syndrome

Science Convergence Public Health

Presenter: Dr. Mohammad Hossein Ayati
Associate Professor of Traditional Medicine
Department of Persian Medicine, School of Persian Medicine
Tehran University of Medical Sciences

Oral Presentations

Effect of Hydroalcoholic Calendula Officinalis Extract on Androgen induced Polycystic Ovary Syndrome Model in Female Rat

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***Corresponding author: Fatemeh Gharanjik**

Abstract

Background: Polycystic ovary syndrome (PCOS), the most common hormonal disorder in women of reproductive age, as well as the major cause of infertility. Today, using medicinal plants instead of chemical drugs could be an alternative treatment option for PCOS. The purpose of this study was to determine the effect of Calendula officinalis hydroalcoholic extract on PCOS in rats.

Methods: 60 female adult rats were randomly divided into six groups, including control, sham, PCOS group and treated PCOS groups receiving hydroalcoholic extracts of Calendula officinalis with different dosages of 200, 500, and 1000 mg/kg. PCOS was induced by subcutaneous injection of DHEA 6mg/100g bw for 35 days. For two weeks, the extract was taken orally. serum glucose, insulin, sex hormone levels, and oxidative status were measured at the end of the experiment. The ovaries were dissected for histomorphometric and pathological analysis.

Results: When compared to the control and sham groups, the PCOS group showed a significant increase in glucose, insulin, testosterone, and malondialdehyde (MDA) concentrations, cystic and atretic follicles, and thickness of the theca and tunica albuginea layers, and a significant decrease in progesterone and LH concentrations , total antioxidant capacity, corpus luteum, antral follicles, and oocyte diameter. The mean concentration of FSH, on the other hand, did not change significantly. A trend of improvement was found in the treated groups with high doses of Calendula officinalis extract.

Conclusion: In rats with PCOS and non-ovulation, Calendula officinalis hydroalcoholic extract improved oxidative stress, restored follicogenesis, and increased ovulation.

Keywords: Calendula officinalis, Poly cystic ovarian syndrome, Sex hormones, Rat.

The role of Berberine on Polycystic ovary syndrome (PCOS): A literature review

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Abstract

Background: Polycystic ovary syndrome (PCOs) is one of the most common polygenic endocrine disorders that affects premenopausal women and is associated with estradiol disorders. PCOs is also one of the most common reasons for female infertility in reproductive ages. Symptoms of PCOs affect the quality of life of patients by affecting the psychological aspects. This study attempts to investigate the possible role of Berberine and its natural products in protecting women from PCOS complications.

Methods: The present study was conducted by reviewing the sources of supplementation related to PCOS and also the effect of Berberine in PCOs. Articles in the following databases were searched: Google Scholar, SID, Irandoc, Pubmed, and Scopus.

Results: For women of reproductive age, polycystic ovary syndrome (PCOS) is not a curious metabolic dysfunction syndrome and heterogeneous endocrine disorder. Berberine, as a multi-path plant and multi-target extract, can inhibit the development of PCOs and relate pathological process from several aspects, with less adverse reactions than conventional drugs. Berberine can alleviate insulin resistance (IR), abnormal lipid metabolism and chronic inflammation and also reduce the level of serum androgen. Alleviation of IR is the main mechanism of Berberine in the treatment of PCOs. In addition, Peroxisome proliferator-activated receptors (PPAR), AMP-activated protein kinase (AMPK), and mitogen-activated protein kinase (MAPK or MAP kinase) signaling are the key pathways for Berberine to impact on patients with PCOs.

Conclusion: Due to the several pharmacological effects of Berberine, it is often used in combination with metformin, compound cyproterone acetate (CPA) and other drugs, in order to achieve better therapeutic results. So Berberine can be used as an complementary option for PCOs. Although, the exact mechanisms and efficacy of Berberine in the treatment of PCOs need further study, especially in the alleviation of IR.

Keywords: Herbal medicine, Berberine, PCOs

Chicory for Metabolic Diseases: A systematic Review

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Abstract

Background: Diabetes Mellitus (DM), Metabolic Syndrome (MS), and Non-Alcoholic Fatty Liver Disease (NAFLD) are among prevalent metabolic diseases with a great burden. Cichorium intybus or commonly known as chicory, has shown promising results in controlling inflammation, insulin resistance, and adipocyte regulation.

Methods: A systematic review based on the PRISMA guideline in search engines including Scopus, Pubmed, and Web of Science were carried out. Only human studies and only original interventional studies were eligible. After screening, the included articles were considered for data extraction.

Results: Twelve articles were included and 5 were randomized clinical trials. In 3 articles the population study was healthy and improvements were reported in parameters such as HbA1c. In two studies the chicory extract significantly reduced HbA1c. Also, improvement in blood pressure and triglyceride levels was observed. In 2 other articles patients with non-alcoholic fatty liver disease received chicory extract and ALT and AST were significantly reduced accompanied by a favorable decrease in BMI. One study investigated the effect of chicory on patients with metabolic disorders including hyperglycemia. Cholesterol, triglyceride, and LDL were significantly decreased during the trial. Unfortunately, data regarding adverse effects of treatment was not available in most of the included articles.

Conclusion: Chicory may have beneficial effects on HbA1c, blood pressure, liver enzymes, and lipid profile in both healthy and individuals with metabolic disorders. Other high-quality studies need to investigate such benefits with a longer follow-up period and with emphasis on possible adverse effects.

Keywords: Metabolic syndrome, Chicory, Diabetes, non-alcoholic fatty liver disease

Potential role of plants from Lamiaceae family for management of thyroid disorders

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Abstract

Thyroid hormones play very important roles in the body. Alteration in the level of these hormones is involved in pathophysiology of various mood disorders, diabetes, hepatitis and gastrointestinal diseases (1-2). Conventional remedies for thyroid disease showed some adverse effects. Moreover, application of these medicines is insufficient for thyroid disease treatment because of the problems in hormone level management (3).

Gathering data about plants which affected thyroid gland may be resulted in discovering new sources for treatment of thyroid disorders. Many members of Lamiaceae family are used in Persian traditional medicine. Also they are used as culinary and ornamental plants (4). In this study, electronic databases were investigated for studies explored the effects of plants from Lamiaceae family on thyroid hormones. Data were gathered from 1950 to 2021. The search terms were thyroid, goiter, Lamiaceae, Labiatae, plant, extract and herb. As the result of this research, plants from Lamiacea family that have been studied up to now for their impact on thyroid hormones are including: Coleus forskohlii, Lycopus virginicus, Melissa officinalis, Thymus serpyllum, Ocimum sanctum, Rosmarinus officinalis (5-8). Activities of these medicinal plants on thyroid hormones had been studied in animal models via oral administration or injection. Except of Coleus forskohlii which elevated T4, all of studied medicinal plant from lamiacea family simultaneously reduced T3 and T4 or only reduced T4. Consumption of plants with ability to increase or reduce thyroid function should be considered in hyperthyroid or hypothyroid condition. In addition these plants can be considered as adjuvant remedies therapy with conventional medicines.

Keywords: thyroid disorders, Thyroid hormones,diabetes, hepatitis

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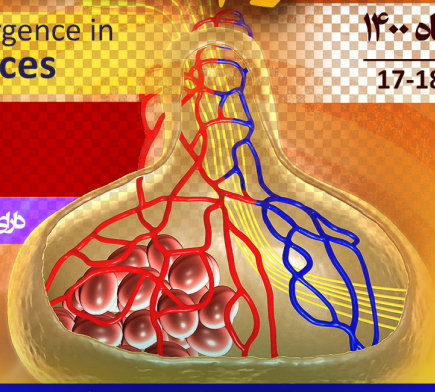

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پنل: همگرایی علم و پزشکی فرد محور

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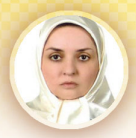
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Science Convergence and Personalized Medicine

Panel Coordinator	Panelists	Special Speakers
Dr. Shekoufeh Nikfar	*Dr. Mandana Hasanzad* *Dr. Akbar Soltani* *Dr. Mahmoud Sadjjadi* *Dr. Parvin Pasalar*	*Dr. Akbar Soltani* *Dr. Mandana Hasanzad* Dr. Vahid Haghpanah
Oral Presentations		
Presenter	**Title**	
Raziyeh Moazeni	*The role of exosomes in the control of type 1 and type 2 diabetes*	
Shunaz Ahmadi Khatir	*The Roles of Digital Technology to Promote Nutrition Status and Self-Care in Patients with Diabetes Mellitus*	
Shunaz Ahmadi Khatir	*The Roles of Personalized Nutrition on Metabolic Disorders: A Comprehensive Review*	
Fereshteh Gholami	*Advanced personalised health monitoring by means of wearable sensors*	

Special Speakers

Evidence-Based Medicine

Presenter: Dr. Akbar Soltani

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Personalized based medicine

Presenter: Dr. Mandana Hasanzad
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Abstract
Genome sequencing has the potential to improve patient care by improving diagnostic sensitivity and allowing for more precise therapeutic targeting. A form of medicine that uses information about a person's own genes or proteins to prevent, diagnose, or treat disease is called personalized medicine. In cancer, personalized medicine uses specific information about a person's tumor to help make a diagnosis, plan treatment, find out how well the treatment is working, or make a prognosis. At present, personalized medicine is only an emerging reality. Some of the benefits of personalized medicine include: customize disease-prevention strategies, prescription of more effective drugs, avoid prescribing drugs with predictable side effects, reduce the time, cost, and failure rate of pharmaceutical clinical trials. The use of genetic information to generate personalized disease preventive methods is already well established in the scientific community and it has implemented in clinical practice. Pharmacogenomics as the main pillar of personalized medicine is the study of how genes affect a person's response to drugs. This relatively new field combines pharmacology (the science of drugs) and genomics (the study of genes and their functions) to develop effective, safe medications and doses that will be tailored to a person's genetic makeup. Better strategies for educating and training, health care professionals about personalized medicine must be developed and implemented in order for various stakeholders to adopt personalized medicine.

Keywords: Personalized medicine, pharmacogenomics, genomics

Molecular Aspect of Radioiodine-Refractory Papillary Thyroid Cancer

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Abstract

Background: After total thyroidectomy, radioactive iodine (RAI) ablation is the mainstay of treatment for the patients with papillary thyroid cancer (PTC). However, about 5% of all thyroid cancer patients do not respond to RAI, resulting poor prognosis and survival rate of less than 10 years. Therefore, understanding the molecular mechanisms associated with RAI-refractory (RAI-R) could be helpful in identifying patients with increased risk of RAI-R PTC, either patients with RAI uptake but disease progression (RAI+/D+) or lack of RAI uptake and disease progression (RAI−/D+).

Methods: A comprehensive literature search was performed about genetic alterations of RAI-R PTC using the predefined keywords.

Results: Point mutations in BRAF, RAS, TERT promoter, and chromosomal rearrangements of RET/PTC are more frequent in RAI-R than RAI-avid tumors. p-TERT mutations as well as BRAFV600E alone and coexisting with p-TERT mutations or RET/PTC rearrangements are associated with RAI−/D+. While, RET/PTC fusions are more frequent in patients with RAI+/D+. It should be noted that BRAFV600E and p-TERT mutations also occur at a lower frequency in RAI−/D+ than RAI+/D+.

Moreover, RAS (H-RAS, N-RAS, K-RAS) mutations are identified in patients with RAI+/D+, but not in RAI−/D+ cases.

Conclusions: Based on the findings of the present literature review, RAI avidity or refractoriness is associated to the genetic background of PTC patients. However, further studies on genomics, transcriptomics, proteomics, and metabolomics levels of RAI-R PTC patients can be useful in identifying these clinically challenging cases as well as providing more effective and appropriate treatment plan based on each individual's genetic background.

Keywords: Radioiodine refractory, Papillary thyroid cancer, Mutation

Oral Presentations

The role of exosomes in the control of type 1 and type 2 diabetes

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Abstract

Introduction: Diabetes is a metabolic illness reasoned by defection in the metabolism of glucose. Type 1 is an autoimmune illness caused by a lack of insulin. Type 2 is the type of diabetes caused by a heterogeneous group of defection in resistance to exudated insulin. Exosomes have emerged as mediators in cell connection. In this review, we try to evaluate the efficacy of exosomes in diabetes type 1 and diabetes type 2.

Method: In a systematic search in PubMed, Google Scholar, and Scopus with keywords; exosomes, diabetes since 2016, we reviewed the most related articles according to their full texts.

Results: Exosomes are extracellular Nano vesicles between 30 and 150 nm that serve as fundamental deliverypeople for distinctive natural signaling and neurotic forms.

In the final few a long time, exosomes, have been recognized as basic arbiters of intercellular communication beneath physiological and neurotic conditions, counting states such as cancer, diabetes, or obesity. Exosomes derived from adipocytes improve type 1 diabetes by modulating the immune cell response, weakening podocytes, and promoting progenic properties, and exosomes derived from umbilical cord mesenchymal cell, beta cell degradation, and diabetic nephropathy. Relieves and improves type 2 diabetes.

Conclusion: In this study, we discuss the effect of exosomes on the control of type 1 and type 2 diabetes, as well as provide information for the development of control of the disease with exosomes as a relatively new method.

Keywords: Exosomes, Diabetes, T1DM, T2DM

The Roles of Personalized Nutrition on Metabolic Disorders: A Comprehensive Review

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Abstract

Background: Considering individual's characteristics such as genetic along with other personal characteristics and dietary habits can be practical to design an effective diet for both prevention and management of metabolic disorders. The present study aimed to summarize evidence on the roles of Personalized Nutrition (PN) on metabolic disorders.

Methods: In the present comprehensive review, relevant publications on PN and metabolic disorders published between 2010 and 2020 were retrieved using PubMed and Scopus electronic databases.

Results: Our findings showed positive effects of PN on controlling metabolic syndrome, fasting and postprandial glucose levels, obesity, and lipid profile. Interactions of genetic differences, microbiota patterns, lifestyle, and psychological characteristics can affect metabolic status.

Conclusion: Due to the effects of genetics, gut microbiota, and other individual characteristics in designing and providing a suitable personalized diet, paying attention to PN in the prevention and controlling metabolic disorders is important. It seems that PN vs. general dietary recommendations or diet can be more effective; although it needs high expenditure and more equipment.

Keywords: Personalized nutrition, Precision medicine, Metabolic disorders, Obesity, Diabetes, Lipid

The Roles of Digital Technology to Promote Nutrition Status and Self-Care in Patients with Diabetes Mellitus

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Abstract

Objective: Diabetes mellitus (DM) is one of main non-communicable diseases that its prevalence is dramatically increasing. Nowadays, digital health technology plays key roles on promoting health and controlling metabolic diseases. Internet technology is also widely used as a new educational method to support the self-care of patients. This study aims to examine the use of digital health technology to promote nutrition status and diabetes self- care.

Methods: In the present review, articles on the effects of various digital health technology on nutrition status and metabolic parameters in patients with DM were included. PubMed and Scopus databases as well as Google Scholar were searched to find eligible publications.

Results: Our findings showed that a wide range of digital technology such as internet-based educational programs, different applications to send reminder messages (for taking medication and dietary supplements, snack, checkup), warning messages (for hypoglycemia, overeating, hyperglycemia, etc.), educational games, and interactive digital games are used to promote health status in patients with DM. In most cases, they positively affect controlling dietary intake, body weight, glycemic status and lipid profile.

Conclusion: Digital health technology can be helpful to improve nutrition status and metabolic parameters in patients with DM. Using attractive, valid, and user-friendly applications and other kinds of digital technology are recommended to have better control for diabetes. In addition, such technology along with common treatment strategies can motivate patients to adhere to nutritional and medical recommendations. This probably blunts the progress of disease and reduces the risk of developing diabetes complications.

Keywords: Digital Technology, Nutrition status, Self-Care, Diabetes Mellitus

Advanced personalised health monitoring by means of wearable sensors

Authors: Fereshteh gholami[1], Faranak Allahdadi[2], Fatemeh Malakooti[2], Yegane Morady Feshani[2], Anahita Ataie[2], Seyyed Ebrahim Moosavifard[3*]

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Abstract

Introduction: The advent of flexible electronic devices has created a new generation of biosensors for monitoring physiological status. Among the various biosensors, wearable sensors are unique. Because they have various advantages such as flexibility, easy operation, fast response, portability and inherent shrinkage. The purpose of this study is to investigate the applications of wearable sensor networks in the field of health.

Method: In the forthcoming systematic review, the required data were collected using keywords and citing valid databases. The statistical population of the study includes all studies conducted until 2021. After evaluating the quality of data, 19 articles were analyzed.

Results: The function of wearable sensor networks is to control various health indicators and diseases. Wearable sensors can monitor people's heart rate. They can also be used to diagnose benign and malignant neoplasms. Some of these neoplasms are identified by systems called smart wearable needles. Diabetes is also a metabolic disorder that can be controlled by intelligent sensors. These sensors monitor the amount of insulin injected and the pills taken by patients. Wearable sweat sensors also focus on health care to improve the diagnosis of home diseases.

Conclusion: The development and use of each of the different types of wearable sensors poses challenges such as energy management, privacy, etc., but on the other hand has undeniable benefits for users. Therefore, in future research, the development details and design requirements of these sensors can be addressed.

Keywords: Wearable sensors, Sensor systems, Monitoring

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Congress of Convergence in
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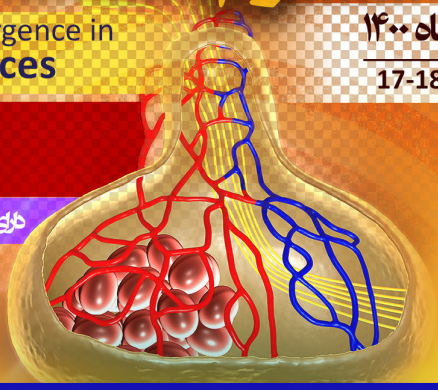

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پنل: همگرایی علم و چاقی و میکروبیوم

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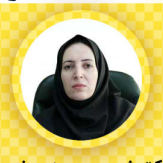

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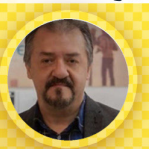

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Science Convergence, obesity and Microbiome

Panel Coordinator	Panelists	Special Speakers
Dr. Seyed Davar Siadat	*Dr. Ahmad Esmaillzadeh* *Dr. Hanieh-Sadat Ejtahed* *Dr. Ahmadreza Soroush*	*Dr. Shirin Hasani-Ranjbar* *Dr. Seyed Davar Siadat*
Oral Presentations		
Presenter	**Title**	
Mahdi Vajdi	*What is the effect of probiotic fermented milk products on lipid profile? A systematic review and meta-analysis of randomized controlled trials*	
Aria Mohammadi	*Relationship between metabolic syndrome and microbiota*	
Abed Ghavami	*Effects of probiotics fermented milk products on obesity measure among adults: A systematic review and meta-analysis of clinical trials*	
Dr. Hanieh-Sadat Ejtahed	*The effect of pasteurized Akkermansia muciniphila on gut microbiota alteration and inflammatory response in diet-induced obese and diabetic model of zebrafish*	

Special Speakers

Science Convergence, obesity and microbiome

Presenter: Dr. Shirin Hasani-Ranjbar
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Abstract:
The prevalence of metabolic disorders is increasing worldwide, leading to recognize them as public health concerns. The most prevalent metabolic disorders are diabetes, obesity, and metabolic syndrome. Obesity was estimated to account for between 0.7% and 2.8% of a country's total healthcare expenditures. In 2010, overweight and obesity were estimated to cause 3•4 million deaths.
Gut microbiota is suggested as a potential contributor to the development of metabolic disorders in recent years. These microbes, as an endocrine organ, play important roles in human health and their imbalances are related to numerous diseases such as inflammatory bowel disease, cardiovascular diseases, allergies, and metabolic disorders.
Bacteroidetes and Firmicutes are 2 main groups of gut microbiota, whose proportion is changed in obese mice. Human studies have also evaluated the gut microbiota in obese individuals and have documented a reduction in Bacteroidetes accompanied by a rise in Lactobacillus species belonging to the Firmicutes phylum in obese subjects.
The mechanisms underlying the effects of gut microbiota on obesity are different. SCFAs, especially butyrate significantly increases plasma levels of GIP, GLP-1, peptide YY (PYY), insulin, and amylin, which would have a net effect on slowing digestion and nutrient intestinal transit, promoting satiety, and increasing plasma insulin. Acetate is reported to increase leptin released by fat cells; propionate increases PYY and GLP-1 in the gut and controls the rates of lipolysis and lipogenesis in fat cells.
Modulation of Gut Micribiota may be effective in improving the obesity, insulin resistance, and metabolic syndrome.

Keywords: obesity, microbiome, Micribiota

Microbiota-Genetic-Inflammation: A Tripartite Interaction in obesity

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Abstract
There are trillions of bacteria in the gastrointestinal tract, with different patterns based on exogenous and endogenous factors, which have multiple effects on the metabolism and immunopathology of many diseases such as metabolic syndrome, obesity and diabetes, etc. increase. A high-fat diet (HFD) correlates with dysbiosis of the gut microbiota, epithelial barrier permeability, development of intestinal, fat, and liver inflammation, altered lipid metabolism, and consequent impaired obesity metabolism. Based on this functional activity, the intestinal microbiota plays a role in the production of energy from food, the production of metabolites that affect related metabolic pathways; especially the production of neuroendocrine peptides, neurotransmitters, inflammatory cytokines, etc. may be fulfilled. All of the above are highly specific and unique based on the genus, species, and strain of the bacterium, as they express or suppress multiple receptors in the metabolic pathway to exert their effects. For example, obesity is associated with differential abundance of specific genus and species. Interestingly, it is recently observed that several of these taxa are heritable, including Christensenella minuta, Akkermansia muciniphila and Methanobrevibacter smithii, which are consistently under-represented in obesity, and Blautia, which is over-represented in obesity. Indeed, genetic variants in several genes, including SLC9A2, ELAVL4 and LINGO2, are associated with both obesity and Blautia abundance. So, the correlation between bacterial taxa, genotype and obesity attracted much attention in the research field. Moreover, the epigenetic modification by several bacterial mechanisms should be noted in the etiology of obesity disorders.

Keywords: Microbiota; Obesity; Epigenetic modifications; Inflammation

Oral Presentations

What is the effect of probiotic fermented milk products on lipid profile? A systematic review and meta-analysis of randomized controlled trials

Authors: Mahdi vajdi Ph.D ,Student Research Committee 1, Abed ghavami Ph.D1, Gholamreza Askari MD, Ph.D1*

Presenter: Mahdi vajdi

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Abstract

Introduction: Fermented milk products are suggested as a supplementary therapy to help reduce blood lipid levels. However, the results of clinical studies are conflicting.

Method: This study systematically reviewed 39 randomized controlled trials (n = 2237 participants) to investigate the effect of probiotic fermented milk products on blood lipids. A meta-analysis was performed using random effects models, with weighted mean differences (WMDs) and 95% confidence interval (CI).

Results: Statistically significant reductions in blood low-density lipoprotein cholesterol (LDL-C) (WMD: 7.34 mg/dL, 95% CI: from 10.04 to 4.65, and $P < 0.001$) and total cholesterol (TC) concentrations (WMD: 8.30 mg/dL, 95% CI: from 11.42 to 5.18, and $P < 0.001$) were observed. No statistically significant effect of probiotic fermented milk was observed on blood high-density lipoprotein cholesterol (HDL-C) and triacylglycerol (TAG) levels. The effect on TC and LDL-C level was more pronounced in men, and a greater reduction in TAG was observed in trials with longer interventions (8 weeks) as compared to their counterparts.

Conclusion: Available evidence suggests that probiotic fermented milk products may help to reduce serum TC and LDL-C cholesterol levels, particularly in men and when they are consumed for 8 weeks.

Keywords: Cholesterol; Triacylglycerol; Fermented milk; Probiotic; Meta-analysis; Yogurt

Relationship between metabolic syndrome and microbiota:

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Presenter: Aria Mohmmadi
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Abstract

Dysbiosis damages tight junction joints in the intestinal epithelium, leading to increased permeability, bacterial displacement, and endotoxemia. In the patients with metabolic syndrome, the ratio of bacteroid to fermicots has a significant negative relationship with glucose tolerance. inflamation caused by metabolic syndrome is known to an important factor in accuring of insulin resistance and insidence of type 2 diabetes. FetA protein in diabetic patients increase as ligand for attaching to TLR4 and it can activate TLR4 in the patients with high level of fatty acids in their blood. Inflammatory responses of the immune system are completely in line with the increase of FetA in the blood and increasing TLR-4 expression in the blood. Another factor that accuring insulin resistance is the activation of TLR-4 by LPS of pathogenic bacteria which is done by the phosphorylation of serine IRS-1 ,which is a marker of insulin resistance and then it causes vascular and metabolic inflammation. Beneficial intestinal microbiota are also able to inhibit hepatic cholesterol synthesis. SCFAs like butyrate inhibits the synthesis of cholesterol in the liver and catalyzes hydroxymethylglutaryl CoA reductase to mevalonate which is determinative the pathway of cholesterol synthesis and it is considered as a therapeutic target for the treatment of hypercholesterolemia.

Beneficial intestinal microbiota may inhibit CoA-HMG reductase expression. In obese patients, the secretion of leptin increases, which beneficial intestinal microbiota reduce weight and body fat by reducing dysbiosis and help the improvement the connection between epithelial cells. As inflammation decreases, insulin sensitivity in the hypothalamus increases, which causes the feeling of satiety. Following the sense of satiety, the density of GLP-1 and PYY in the hypothalamus increase with increasing Fiaf expression

In association with metabolic syndrome and coronavirus, it has been observed that the levels of the alanine aminotransferase ALT and aspartate aminotransferase AST are significantly higher in patients. In patients with NAFLD and the observed metabolic syndrome, ALT levels are much higher in patients with more severe involvement. The opposite is true of AST. Inflammation of the metabolic syndrome and underlying diseases can exacerbate the disease in the elderly. Metabolic syndrome leads to increase the levels of ALT and inflammatory cytokine IL-6 in patients.

Keywords: microbiota, metabolic syndrome

Effects of probiotics fermented milk products on obesity measure among adults: A systematic review and meta-analysis of clinical trials

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Abstract

Introduction: Current evidence suggests that gut dysbiosis has a pivotal role in progression of obesity. Probiotics fermented milk products (PFMP) by influencing the functions of gut microbiota might bring protective effects against obesity; however, findings of available randomized controlled trials (RCTs) are conflicting. The aim of this study was systematically review and analyse RCTs assessing the effects of PFMP supplementation on anthropometric indices.

Method: PubMed, Scopus, ISI Web of science and Cochrane Library were searched up to August 2021. A total of 19 RCTs (with 22 treatment arms) were included and reporting data about PFMP and body weight (BW), body mass index (BMI), waist circumference (WC) and body fat percentage (BF%) were analyzed.

Result: Two authors independently extracted the data and assessed the risk of bias using the Cochran risk of bias tool PFMP intervention indicated a significant reduction in BW and BMI. Although this reduction in WC and BF% were nonsignificant. PFMP provide new opportunities to manage obesity.

Conclusions: Based on our findings, PFMP provide new opportunities to manage obesity through a significant reduction in the BW and BMI. Transferability of these findings might not be possible to other populations with different characteristics.

Keywords: Obesity, waist circumference, Fermented milk; Probiotic; Meta-analysis; Yogurt

The effect of pasteurized Akkermansia muciniphila on gut microbiota alteration and inflammatory response in diet-induced obese and diabetic model of zebrafish

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Presenter: Dr. Hanieh-Sadat Ejtahed
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Abstract

Introduction: Nowadays, increasing prevalence of obesity and diabetes is a global concern. The role of gut microbiota in the pathogenesis of obesity and diabetes has been proven and next-generation probiotics are considered as one of the new therapeutic strategies in these disorders. Considering zebrafish as a suitable model for identifying and developing effective treatments for obesity and diabetes, the aim of this study was to evaluate the effects of pasteurized Akkermansia muciniphila on gut microbiota, inflammation and metabolic complications in obese-diabetic model of zebrafish.

Methods: In this experimental study, 3-month old zebrafish were divided into four groups including two control groups and two diabetes induced groups. Type 2 diabetes mellitus was induced by a gradient hyper-glucose accumulation methodology. One group of control and diabetic zebrafish models was supplemented by pasteurized Akkermansia muciniphila for three weeks. Fasting blood sugar (FBS), gut microbiota and expression of genes involved in the inflammatory process in gut and brain tissues of zebrafish have been assessed.

Results: Administration of pasteurized Akkermansia muciniphila caused a decrease of FBS in both control and diabetic groups (P<0.05). We found that IL1, TNFα, IFNγ mRNA expression were significantly decreased levels in the gut after only 3 weeks of supplementation compared to the control group. Although, the expression of these pro-inflammatory genes has been increased in gut of diabetes+probiotic models in comparison to control group, however, their expression declined in brain tissue (P<0.05). Regarding gut microbiota composition, abundance of Akkermansia and Bacteroides increased while E. coli decreased after treatment.

Conclusion: We have demonstrated that manipulation of the gut microbiota with Pasteurized Akkermansia muciniphila as a postbiotic can regulate the host glucose metabolism through down-regulation of genes involved in inflammation and modulation of gut microbiota composition.

Keywords: Zebrafish, pasteurized Akkermansia muciniphila, postbiotics, diabetes, gut microbiota, inflammation.

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Congress of Convergence in Endocrine Sciences

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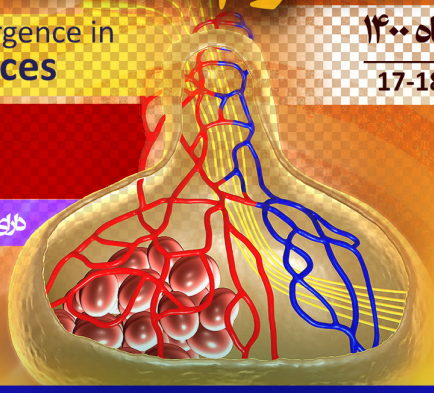

جمعه ۲۹ بهمن ۱۴۰۰ | ۱۱:۱۵ تا ۱۲:۴۵

پنل: همگرایی علم و سیاستگذاری سلامت

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Science Convergence and health policy

Panel Coordinator	Panelists	Special Speakers
Dr. Alireza Olyaeemanesh	*Dr. Aliakbar Haghdoost* *Dr. Arash Rashidian* *Dr. Hossein Adibi* *Dr. Fatemeh Rajabi*	*Dr.* Alireza Olyaeemanesh *Dr. Amirhossein Takian* *Dr. Reza Majdzadeh*

Special Speakers

Science Convergence Public Health

Presenter: Dr. Alireza Olyaeemanesh
Professor of Health Policy
Health Equity Research Center
Tehran University of Medical Sciences

Global health policy: An interdisciplinary symbol in achieving sustainable health development

Presenter: Dr. Amirhossein Takian
Department of Global Health and Public Policy, School of Public Health, Tehran University of Medical Sciences (TUMS), Tehran, Iran.
Email : takiana@gmail.com

Giving Voice to Social Values in Achieving Universal Health Coverage

Presenter: Dr. Reza Majdzadeh
Professor of Epidemiology
Department of Epidemiology and Biostatistics, School of Public Health
Knowledge Utilization Research Center
Tehran University of Medical Sciences

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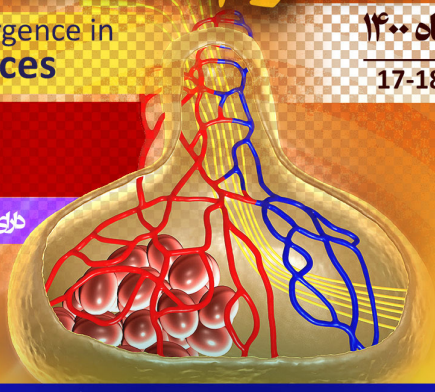
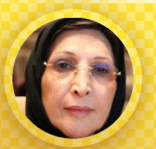


جمعه ۲۹ بهمن ۱۴۰۰ | ۱۴ تا ۱۵:۳۰

پنل: همگرایی علم و پزشکی بازساختی

سخنرانان ویژه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Science Convergence and Regenerative Medicine

Panel Coordinator	Panelists	Special Speakers
Dr. Jafar Ai	*Dr. Babak Arjmand* *Dr. Hamidreza Aghayan* *Dr. Amir Ali Hamidieh*	*Dr. Jafar Ai* *Dr. Babak Arjmand* *Dr. Hamidreza Aghayan* *Dr.* Parvin *Mansouri*

Special Speakers

Tissue Engineering and Regenerative Medicine in Iran

Presenter: Dr. Jafar Ai

Professor of Tissue Engineering

Department of Tissue Engineering and Applied Cellular Sciences, School of Advanced Technologies in Medicine

Brain and Spinal Cord Injury Research Center

Neuroscience Institute

Tehran University of Medical Sciences

Regenerative Medicine in Endocrinology; Facts and Future

Authors: Babak Arjmand[*1], Akram Tayanloo-Beik[1], Sepideh Alavi-Moghadam[1]

Presenter: Dr. Babak Arjmand

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Abstract

Medical science, as the science dealing with human health and treatment of disease, have the potential of possessing great economic and social benefits. Hence, proper and continuous updates of research in the sphere of healthcare are crucial. One of the multidisciplinary sciences that holds great promise of several breakthroughs in medical care and treatment, is regenerative medicine. Substantial evolves is expected in medical sciences due to valuable achievements in regenerative medicine research and studies with a special focus on stem cell research. In recent years, achievement to the functional use of regenerative medicine in the clinical setting is moving to come through. Particularly, cell therapy and regenerative medicine are received specific attention in different areas of medicine such as endocrinology. Application of stem cells from various sources has been provided several advantages in the optimization of treatment of different disease especially chronic and incurable ones like diabetes. Despite all achievements, medical science is still so far from completely cure such disorders. Herein, integrating the newly emerged sciences with the aim of answering to the various uncertainties in the field of endocrinology and proposing more applicable treatment strategies can cause advantageous medical breakthroughs.

Keywords: Medical science; regenerative medicine; stem cell research; Endocrinology

Commercialization of Regenerative Medicine Products

Presenter: Hamid Reza Aghayan, MD, PhD

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Abstract

Regenerative medicine (RM) is a promising approach to treat chronic and incurable diseases. This new branch of biomedical sciences has focused on the power and capabilities of stem cells. RM products can be classified into four categories: cell-based products, tissue engineered products, gene therapy products, and cell derivate. These products have been successfully applied in different clinical studies and few of them have been approved by the regulatory agencies. The scientists who work in the field of regenerative therapies should be familiar with the commercialization pathway and regulatory frameworks of RM products. To address this important issue, the current presentation describes international and national regulatory frameworks for RM products marketing. Additionally, the future challenges and perspectives for these products will be discussed.

Keywords: Cell therapy, Regenerative medicine, Regulation, Stem cell, Tissue engineering

Regenerative Medicine in Wound Healing

Presenter: Dr. Parvin Mansouri
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Email : mansorip@sina.tums.ac.ir

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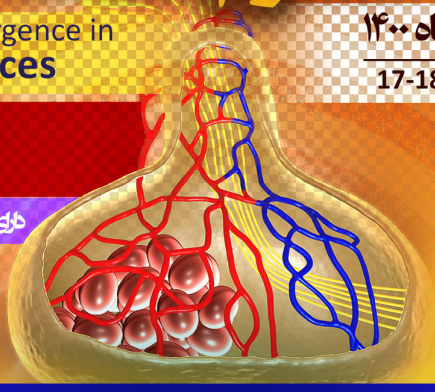

جمعه ۲۹ بهمن ۱۴۰۰ | ۱۵:۳۰ تا ۱۷

پنل: همگرایی علم و نوآوری در سلامت

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Science Convergence and health Innovation

Panel Coordinator	Panelists	Special Speakers
Dr. Reza Faridi Majidi	*Dr. Mohammad Reza Amini* *Dr. Neda Mehrdad* *Dr. Azadeh Ebrahim-Habibi*	*Dr. Ata Pourabbasi* *Dr. Azadeh Ebrahim-Habibi*
Oral Presentations		
Presenter	**Title**	
Elaheh Oliyaei	*endocrine disrupting chemical materials and their photocatalytic degradation processes*	
Parastoo Kazempour	*Endocrine disruptors in teleosts: Evaluating environmental risks and biomarkers*	
Ali Rayatinejad Dr.	*A review on endocrine disruptive compound nanosensors based on electrochemistry*	
Elham Sepahvand Dr.	*Evaluation of technology-based diabetes self-management training*	

Special Speakers

The role of innovation and technology ecosystem in changing the behavior of researchers

Presenter: Dr. Ata Pourabbasi
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Abstract

Objectives: Diabetes is one of the leading causes of death and health challenges in most countries and Iran. There is a domestic need to design an innovation system for healthcare through the integration of science and related industries in the country to overcome its specific challenges and complications. The present research aims to review the existing literature and experiences in designing a national innovation system in the field of diabetes and metabolic disorders to improve the research accountability in this field based on society's real needs.

Methods: Four steps were carried out as an examination of challenges and costs of diabetes, a thorough review of relevant literature and expert opinion, investigation of the status of research responsiveness to the real needs of society In Iran and the world, examination the types, components and the requirements of innovation systems and designing the National Innovation System for diabetes and metabolic disorders in Iran.

Results: We identified ten components for diabetes and metabolic disorders innovation system, which were classified under four categories.

Conclusions: The effective communication of 10 components, which are included in this study, is an essential element that can play a vital role in the effectiveness of diabetes and metabolic disorders innovation system in order to meet the community needs. Moreover, these components were categorized by experts in four groups of policymaking, financing, research and development, and education, as the functions of the National Innovation System for diabetes and metabolic disorders in Iran.

Keywords: innovation, technology ecosystem, researchers, metabolic disorders

Basic sciences role in health innovation: a multifaceted research example from EMRI modeling group

Presenter: Azadeh Ebrahim-Habibi
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Abstract

The United Nations has declared the year 2022 as the international year of "Basic Sciences for Sustainable Development". The aim of this designation is to increase awareness on the important role of basic sciences in the development of new technologies and solutions to everyday problems and challenges, including health issues. Sometimes, it would be very difficult to imagine a link between a new discovery made in basic sciences field and potential applications. In other instances, basic and applied sciences could very well be entangled in a research project. In this lecture, this relationship is demonstrated through a presentation of one of our recent projects on insulin aggregation. First, insulin amorphous aggregation was induced in vitro, with the use of harsh conditions, and the effect of adding arginine was observed on the process. With computation of various parameters obtained from the aggregation curves, arginine was found to affect multiple stages of the aggregation process. Results of in silico experiments showed a putative stable interaction occurring between arginine and the B-chain of insulin, and finally, with an in vivo insulin tolerance test, we found that heat-exposed insulin could very well stay functional in the presence of arginine. A continuation of this project could lead into a potentially more stable insulin formula. In conclusion, promoting these kind of collaborative projects could facilitate the translation of basic sciences results into applied uses.

Keywords: health innovation, modeling group

Oral Presentations

endocrine disrupting chemical materials and their photocatalytic degradation processes

Authors: Elaheh Oliyaei[1], Fereshteh Gholami[1], Amin Hajhosseini[1], Faezeh Shahryari[1], Mahshad Sehat[2], Seyyed Ebrahim Moosavifard[3*]

Presenter: Elaheh Oliyaei
Email:elaheh.oliyaee8081@gmail.com

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Abstract

Introduction: The endocrine system plays a vital role in the regulation of body hormones and homeostasis, so a slight interruption in their normal behavior by exogenous chemicals may damage the entire system. The compounds in question include natural estrogens, synthetic estrogens, and a wide range of compounds that have the ability to mimic estrogens (xenostrogens).

Method: In the forthcoming systematic review, the required data were collected using keywords and citing valid databases. The statistical population of the study included all studies conducted until 2021. After evaluating the data quality, 17 articles were analyzed.

Results: Previous studies have shown that photocatalysis is effective for the degradation of natural estrogens (E2, E1 and E3), synthetic estrogen (EE2) and some estrogens (bisphenol A, resorcinol). The most important processes involved in estrogen removal are: adsorption, aerobic or anaerobic decomposition, oxygen-free biodegradation, and photolytic decomposition. For example, in the photocatalytic decomposition of methyl parathion, the reactive radicals formed in the photocatalytic process are further adsorbed onto TiO2 by organic and inorganic compounds and oxidized or reduced. The efficiency of photocatalytic degradation depends on the concentration of the feed and its dose, and its process is strongly dependent on the pH.

Conclusion: Comparison of energy consumption with other advanced purification methods showed that photocatalytic degradation is more cost-effective than other processes. The range of substances that cause endocrine disrupting effects is diverse, and studies in this area are still expanding.

Keywords: EDCs, Photocatalytic degradation, Photocatalysts

Endocrine disruptors in teleosts: Evaluating environmental risks and biomarkers

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Abstract

Introduction: Endocrine disturbing molecules (EDs) are factors which meddle with some sort of cellular actions like secretion, binding, synthesis, etc. and removal of some hormones within the body. EDs are classified generally in 2 groups, the first group is synthesized by plants. Other EDs are synthesized by chemical, For instance polycyclic hydrocarbons. Thus fish can be an excellent experimental creature. They figure out the harmful effects of EDs as they appear sexually sensitive to sex hormones. This survey will offer a layout of ED function.

Method: In our study, keywords "Endocrine disruptors, Teleosts, Biomarkers ,Environmental risks" were searched in databases "Google Scholar, PubMed" without any time limition, and finally, the most relevant articles were examine.

Result: There are some challenges regarding to EDCs. First, it is practically impossible to be directly exposed to the consequences of a disease. Second, endogenous hormonal actions at different doses may have different effects, and these dose-response curves are common in physiological systems and EDC measures. Third, EDCs are not pure agonists or antagonists of a merely hormonal pathway. Based on the results obtained, more research on endocrine glands is needed.

Conclusion:EDs are known to provoke disarray of hormonally controlled physiological parameters (such as mineral and osmotic balances) or functions (such as growth, development and reproduction). development of improved and Eco relevant methodologies for ED and identification of more sensitive and specific biomarkers to screen EDs, would provide more information on endocrine-mediated effects in individuals as well as in populations on a global basis.

Keywords: Endocrine disruptors- environmental risks

A review on endocrine disruptive compound nanosensors based on electrochemistry

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Abstract

Introduction: The endocrine system has a crucial role in maintaining homeostasis and body functions such as growth and reproduction. Endocrine disruptive chemicals (EDCs) are environmental compounds that interfere with the endocrine system and therefore may cause metabolic or developmental disorders. Given the dispersion of EDCs and the serious harm they can cause, it is necessary to monitor their concentration. Among different methods of EDC evaluation, electrochemical sensors seem more promising.

Methods: We conducted a systematic search according to PRISMA protocols using the key words endocrine disrupting compound, electrochemical sensor and nanomaterial. We were able to identify 88 matching studies on divergent databases up to November 2021.

Results: Based on valid criteria, 28 articles were selected and analyzed. Among different methods, recent studies have focused on the determination of EDCs through electrochemical sensors as they are highly sensitive, inexpensive and easily accessible. In this regard, we have the Bentonite/CPE sensor, used to detect Bisphenol A, the CTpPa-2/GCE sensor, used to detect Bisphenol A and S, and the Cu-MOF-Tyr-Chit/GCE sensor used to detect Bisphenol E, B and Z.

Conclusion: In many studies, the destructive effects of EDCs have been proved and for this reason it is important to monitor their concentration in different samples. In this context, electrochemistry is a sharp, convenient and economical method. Moreover, the ability to redesign and modify nanomaterials bring forth innovative possible ways of EDC monitoring for future studies.

Key words: Endocrine disruptive compound, Nanosensor, Electrochemical sensor

ارزیابی آموزش خودمدیریتی دیابت مبتی بر تکنولوژی

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چکیـــده

مقدمه:

از زمان معرفی تلفن‌های همراه، فناوری به طور فزاینده‌ای برای آموزش و پشتیبانی از برنامه خود مدیریتی دیابت مورد استفاده قرار گرفته است. این بررسی سیستماتیک تأثیرات فناوری های موجود روی پیامدهای افراد مبتلا به دیابت، خلاصه می کند.

مواد و روش‌ها:

در این مطالعه به بررسی سیستماتیک مقالات متمرکز بر استفاده از فناوری در دیابت، آموزش خود مدیریتی و خدمات پشتیبانی پرداخته شد.

نتایج:

راه حل های خود مدیریت دیابت مبتنی بر فناوری به طور قابل توجهی A1c را بهبود می بخشد. مؤثرترین مداخلات شامل تمام مؤلفه‌های یک حلقه بازخورد خود مدیریتی مبتنی بر فناوری بود که افراد مبتلا به دیابت و تیم مراقبت بهداشتی آن‌ها را با استفاده از ارتباطات دو طرفه، تجزیه و تحلیل داده‌های بهداشتی تولید شده توسط بیمار، آموزش مناسب، و بازخورد فردی، به هم مرتبط می‌کرد. شواهد حاصل از این بررسی سیستماتیک نشان می‌دهد که سازمان‌ها، سیاست‌گذاران و پرداخت‌کنندگان باید ادغام این راه‌حل‌ها را در طراحی آموزش خود مدیریتی دیابت و خدمات حمایتی برای سلامت جمعیت و مدل‌های مراقبت مبتنی بر ارزش، در نظر بگیرند.

نتیجه‌گیری:

با پذیرش گسترده تلفن های همراه، سلامت دیجیتال و راه‌حل‌هایی که شامل مداخلات مبتنی بر شواهد و رفتاری می‌شوند، می‌توانند دسترسی به آموزش خود مدیریتی و حمایت مستمر در دیابت را بهبود بخشند.

کلید واژه‌ها: دیابت، تکنولوژی، آموزش خودمدیریتی