magnus Group

JOINT EVENT ON

OBESITY AND DIABETES

16-18
October, 2023

Boston
Massachusetts, USA

Venue:
Hilton Boston/Woburn, 2 Forbes Road,
Woburn, Massachusetts, 01801, USA

BOOK OF ABSTRACTS

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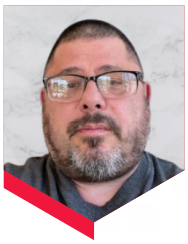

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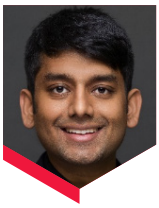

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Yi Hua Chin
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Ziyun Liu
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Thank You All...

Welcome Message

Dear congress visitors, I am thrilled to be a part of the Diabetes 2023 conference and want to welcome you to what should be a valuable opportunity to not only learn about new advances in the treatment and management of diabetes but to network with some of the world's leading researchers and scholars. We all know, to make significant progress in diabetes, we have to work together with scientists, physicians, social scientists, nutritionists, mental health professionals, and others to make sure we are attacking this disease from multiple perspectives. Behavior change is a key part of managing diabetes and patients need support and information from their primary care physicians to assist them in their journey. Welcome to all who are dedicated to reducing the effects of diabetes and finding new therapies and approaches to managing this disease.

Gretchen Holmes

Memorial Hospital at Gulfport, United States

Welcome Message

Welcome, attendees, participants, and organizing committee. We are gathered to discuss Diabetes: its causes, implications, and treatments at the 2nd Annual International Diabetes 2023 meeting. My interest is in Type II Diabetes. There appears to be 3 primary ways we can influence blood glucose concentrations. They are decreased absorption of carbohydrate in the small intestine, decreased hepatic glucose output, and increased tissue glucose uptake; 80 percent of tissue uptake in presence of insulin is in skeletal muscle. Each of these or a combination will lower the blood glucose concentration and the complications that arise from chronically elevated blood glucose concentrations. This then, should be the focus of interventions to treat high blood glucose ie. Type II Diabetes. Decreasing the rate of appearenbce in the blood sometimes called glucose Ra and increasing glucose disappearance from the blood sometimes called glucose Rd will lower the concentration of glucose in the blood. Decreased absorption of glucose and other carbohydrates in the small intestine will increase the passing of glucose and other carbohydrates in the feces and therefore lower blood glucose rate of appearance in the circulating blood. Reduced hepatic glucose output will also reduce the glucose Ra in blood. Increasing tissue uptake of glucose or glucose Rd will also lower the concentration of glucose in the blood. Therefore since these appear to be the 3 avenues to lower blood glucose. Interventions such as medicines, exercise, and weight loss, and their combination, should target these physiological processes. With this said, I cordially invite you to participate in the 2nd annual International Diabetes 2023 Conference by way of presentation and question and answers. As they say in Indianapolis: "ladies and gentlemen start your engines".

Charles P Lambert

Lambert Relentless R & D, LLC, United States

Welcome Message

I'm delighted to welcome you to this years' congress and to say a big thank you for making the time to include this important event in your annual diary.

We are globally fatter, sicker yet more malnourished than ever before in human history, which means we have gotten a number of things wrong in terms of how we are evolving as a species! Mass produced food plays a huge role in that, but so do many other lifestyle components and NOW is the time we started to join the ALL the dots, instead of just one of two, so that we can improve our quality of life and that of future generations.

Vicky Midwood

Vicky Midwood

Go Figure Coaching, United Kingdom

Welcome Message

Dear 3rd World Obesity and Weight Management Congress Attendees,

It is my pleasure to welcome you to Boston for this year's global conference on obesity and weight management.

Obesity is undoubtedly one of the most significant public health challenges affecting people of all ages and genders worldwide. This conference is an excellent opportunity for researchers, academics, healthcare providers, to discuss innovative solutions to manage and tackle obesity, and develop actionable strategies to promote healthy lifestyles. Over the course of the 3-day conference, we will delve into the latest research, evidence-based interventions, and best practices in the field.

We encourage you to actively engage in discussions, share your research and experience, and collaborate with fellow experts from around the world.

Together, we can raise awareness of the severity of the obesity problem and work towards a healthier tomorrow for all.

I look forward to an engaging and enlightening conference with you all.

Wishing you a fruitful and inspiring conference!

Warmest regards,

Andrzej Bissinger, MD, PhD

Medical University of Lodz, Poland

Welcome Message

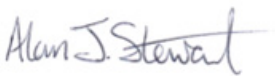
Dear conference participants, we are all united by an interest in a phenomenon that used to be almost non-existent, but which has now become a central problem in many countries around the world: obesity. As with finances, it seems to be an issue of distribution: one part has too little to eat and goes hungry, one part eats too much or the wrong food and is overweight. One could assume that it has to do with the industrial production of the food, because where the traditional market/bazaar offers the food, there is hardly any overweight. A natural cultivation and a direct marketing to the customers would probably look like a step backwards, but it could be a step forward. So greetings to all of you to participate in this important congress.

Manfred Doepp

Holistic Center, Switzerland

Welcome Message

Dear congress visitors, it is an honor and pleasure to write a few welcome notes. Diabetes affects 425 million individuals worldwide, with numbers projected to increase to >600 million in the next 20 years. Despite advances in therapies that help to control blood glucose levels, cardiovascular and neurological complications remain a major cause of morbidity and mortality in this population. Further research is required to understand the molecular and physiological consequences of diabetes, to identify new markers that allow early detection of complications and to develop new treatments. We are delighted to bring you all together for this meeting and provide you with the opportunity to showcase your recent work in this extremely important area of research.



Alan Stewart

University of St Andrews, United Kingdom

Welcome Message

Dear congress visitors, it is an honor and pleasure to write a few welcome notes.

Obesity means a huge problem in pediatrics. Hundreds of children experience rapid weight gain. There are many reasons: chromosomal aberrations, hypothalamic diseases, steroids therapies, immobilization, endocrine problems, but the most is associated with incorrect diet and limited physical activity. There are also relatively unknown causes that have been know from several years, concern children with low birth weight.

The scientific world is making every effort to fight with the obesity epidemic, understanding its causes and new treatment strategies.

Alicja Korpysz

Children's Memorial Health Institute, Poland

Welcome Message

Honourable guests, collaborators and respected speakers. It's a great pleasure to welcome you all to The 2nd Edition of International Conference on Diabetes, Metabolism and Endocrinology during October 16-18, 2023 in Boston, Massachusetts, USA. We are grateful to the members of the organizing committee who have arranged such a beautiful event.

I wholeheartedly welcome all the delegates from various countries. As you all know, we have seen the rapid increment in the prevalence of diabetes and the challenges in improving the healthcare system. Thus, we all have gathered to discuss the theme of Hitting Diabetes at the Sweet Spot: Recent Advancements and Innovations and mission to promote awareness and enhance research aiming in developing solutions for the challenges encountered.

The speakers in the programme are uniquely placed to debate, discuss and highlight the key points and enhance research and innovation in developing solutions for the challenges encountered. I thank the Magnus Group LLC, collaborators and speakers, for giving us a platform to raise the issues, collaborate and go through the solutions to such a burning issue.

Thank you and have a pleasant conference!

Wan Rosli Wan Ishak

Universiti Sains Malaysia, Malaysia

ABOUT
MAGNUS GROUP

Magnus Group (MG) is initiated to meet a need and to pursue collective goals of the scientific community specifically focusing in the field of Sciences, Engineering and technology to endorse exchanging of the ideas & knowledge which facilitate the collaboration between the scientists, academicians and researchers of same field or interdisciplinary research. Magnus Group is proficient in organizing conferences, meetings, seminars and workshops with the ingenious and peerless speakers throughout the world providing you and your organization with broad range of networking opportunities to globalize your research and create your own identity. Our conferences and workshops can be well titled as 'ocean of knowledge' where you can sail your boat and pick the pearls, leading the way for innovative research and strategies empowering the strength by overwhelming the complications associated with in the respective fields.

Participation from 120 different countries and 2000+ different Universities have contributed to the success of our conferences. Our first International Conference was organized on Oncology and Radiology (ICOR) in Dubai, UAE. Our conferences usually run for 2-3 days completely covering Keynote & Oral sessions along with workshops and poster presentations. Our organization runs promptly with dedicated and proficient employees' managing different conferences throughout the world, without compromising service and quality.

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R-Kane Nutritionals provides top-of-the-line weight loss and meal replacement products to physicians and medical facilities. For over 30 years, R-Kane Nutritionals has provided top-tier nutritional solutions exclusively to physicians and leading medical facilities worldwide. We're proud of our reputation as a National Leader in the nutritional medical field. With over 30 peer reviewed papers published on our products, we've earned our stripes as a trusted name in the industry. We believe in the fusion of quality and science, which sets us apart.

At R-Kane Nutritionals, we offer a complete line of high-quality protein meal replacements that are not only effective for low-calorie and very low-calorie diets but also surprisingly delicious. We understand the challenges of maintaining a healthy lifestyle, and our products are here to make your journey achievable and enjoyable.

Contact Information:

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DAY 01

KEYNOTE FORUM

JOINT EVENT ON

OBESITY AND DIABETES

Opportunistic panniculectomy during cesarean section in patients with truncal obesity: Is it safe?

Objective: To investigate the safety of opportunistic panniculectomy during cesarean section. The current recommendation is not to perform additional procedures during cesarean section.

Study Design: Seventy patients were included into the study. Twenty-six patients with truncal obesity underwent opportunistic panniculectomy (study group), and 44 served as controls. The following postsurgical outcomes were included into the analysis: fever, presence of seromas, hematomas, and wound dehiscence. Statistical analysis was performed using SPSS Version 20.0.

Results: Frequency of postpartum fever was 27% in the study group vs. 20% in the control group. Seromas were present in 14% vs. 11% respectively; hematomas, 8.6% vs. 6.5%, respectively; and wound dehiscence was 16.4% vs. 8%, respectively.

Conclusion: Performance of panniculectomy as a part of cesarean section does not appear to increase postsurgical complications in patients with truncal obesity.

Audience Take Away Notes

- Benefits and risks of opportunistic panniculectomy during cesarean section
- Panniculectomy as a surgical approach to truncal obesity

Boris M Petrikovsky

New York Institute of Technology, United States

Biography

Dr. Petrikovsky completed his postgraduate training at SUNY Downstate/Maimonides Medical Center (Brooklyn, NY) and his fellowship in Maternal-Fetal Medicine at the University of Connecticut in 1988. That same year, he was a visiting researcher at Kings College School of Medicine (London, UK), specializing in fetal medicine and surgery. From 1992-1999, he served as a Chief of Maternal-Fetal Medicine at North Shore University Hospital. From 1999 till 2009, he was a Professor and Chairman of the department of Obstetrics and Gynecology at Nassau University Medical Center. Dr. Petrikovsky is Board Certified in Obstetrics and Gynecology and Maternal-Fetal Medicine.

The 50-year diet: A patient's perspective on the trauma of weight-loss and obesity treatments

Obesity research and treatment options must not be considered without an effort to understand the profound emotional, spiritual, and physical trauma that accompanies obesity 'cures.' Proposed modalities that focus solely on addressing physical appetite, mood disorders and/or achieving and maintaining weight-loss may address the symptom of obesity but miss the point: "What if the thing you want to cure in me is not the part of me that's sick?"

Can we refocus proposed obesity treatments away from weight control and appetite reduction and towards healing a traumatized self-image? Can we design a gastric band-equivalent to patch a hole in the soul or stitch together a starved spirit? Historically, management of trauma created by the patient's experience of obesity has been relegated to psychiatrists, addiction specialists and other mental health professionals. This provocative presentation makes the case that understanding a patient's full emotional, cultural and spiritual ecosystem of experience living with obesity should be considered when designing treatment protocols, not simply as an adjunct to them.

Presented by a 50+ year survivor of Binge Eating Disorder (BED) and numerous obesity 'cures,' this session examines the complex experience and side-effects of patients who seek out and receive treatment for obesity. The opportunity is to more fully understand the social, cultural, spiritual, and emotional phenomenon that drive behavior-based weight gain, perpetuate a failing strategy for weight-loss, and, when integrated into design, may inspire new approaches to obesity treatment.

Audience Take Away Notes

- The most important thing obese patients won't tell you about themselves, that is also the most critical factor in successfully treating them
- Why obesity treatments intended to support weight reduction and maintenance of weight loss may increase a patient's emotional and spiritual trauma, leading to more negative outcomes
- How to consider cultural and medical fat-biases when designing obesity treatments, and why neutralizing these factors can increase positive outcomes
- Techniques to address and improve historically fearful and negative expectations of obese patients when seeking treatment from the medical community
- A template for integrating a whole-patient approach into research and clinical teams and settings that can inspire new obesity treatment design

Lorie Loe

Author and Influencer,
United States

Biography

Lorie Loe is a coach, consultant and a successful Silicon Valley entrepreneur who suffered for more than 50-years with binge eating disorder (BED). She hosts the podcast Imperfect with Lorie Loe and is the author of Mouth Hunger: Ten Healing Truths about Binge Eating Disorder that will Mend Your Heart and Set You Free.

A survivor of numerous commercial weight-loss programs and obesity treatments, Lorie works with clients to find recovery and healing from binge eating through live group coaching and self-paced online courses. She speaks internationally to highlight the damaging stigma around BED and expose the toxic danger of diet-culture that keeps us shamed and our eating disordered. Find her work at www.lorieloe.com

Navigating obesity, diabetes, and behavior change: A case study of a successful physician-patient partnership

Prevalence of obesity and diabetes are on the rise and have been since 1999. Physicians are frustrated at the lack of compliance from patients around behaviour change and patients are frustrated with physicians because they often need more tools and guidance to achieve successful behaviour change. This session will focus on a highly successful physician-patient partnership of a newly diagnosed diabetic patient's successful behaviour change journey resulting in a 112 lbs weight loss, a normal A1c, and returning to excellent health. This session will focus on the effective communication techniques and promising behaviour change theories and models that together, with a compassionate and supportive physician, contributed to the success of the patient's behaviour change journey.

Audience Take Away Notes

- Physicians will be able to apply the communication techniques to their everyday practice to support their patients in the behavior change journeys
- Patients will benefit by learning communication techniques to talk with their physicians about this uncomfortable and complex issue
- Both physicians and patients will benefit by applying the tools provided to create a more meaningful and supportive environment and relationship
- By understanding promising behavior change theories and models, physicians will be better able to help their patients become more successful in losing weight and managing their diabetes

Gretchen Holmes

Department of Graduate Medical Education and Clinical Research, Memorial Hospital at Gulfport, Gulfport, MS, United States of America

Biography

Dr. Gretchen Holmes is an award-winning and accomplished senior-level hospital executive, Graduate Medical Education (GME) DIO, Clinical Trials Leader, and an experienced social science researcher/methodologist who is driven by her passion to bring humanity back to medicine by fostering a learning environment that teaches future providers to be compassionate and competent and to embrace patient centered-care. She earned her BS and MA degrees from New York University and her PhD in Health Communication from the University of Kentucky with a Graduate Certificate in Medical Behavioral Science. She currently serves on the editorial board for the Journal of Patient Experience.

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DAY 01

SPEAKERS

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OBESITY AND DIABETES

Raheel Siddiqui
Online Fitness Coach, Gaithersburg, MD, United States of America

Raheel siddiqui: The wall breaker

My name is Raheel Siddiqui. I am from the Gaithersburg, MD region just outside of Washington D.C. I recently lost 175+ LBS and I am an online fitness coach also. I am a HUGE advocate for health & fitness. I was in Men's Health Magazine TWICE and my local NBC news did my weight loss story back in 2011 when I lost my first 150 LBS. My story is very deep and emotional on so many levels. I am in the greatest shape of my life and I can not wait to share my story with everyone in the conference and share with them how many walls I have broken to get to where I am now.

Audience Take Away Notes

- The audience will learn how to never give up, no matter what adversity they are facing especially in this specific topic about battling obesity/weight loss
- This will help the audience help take care of their mental health as well as their physical health. They will have more energy, more focus & more motivation to do their job more successfully. They will also have less fear of overcoming adversity and will have more of an "attack" mindset with their personal lives & professional lives
- Yes, my program has been designed to help people overcome obesity/as well sharpen their mental toughness
- Yes, I do believe so. Every problem has a solution. I was 405 LBS and I had to break many "WALLS" to get to where I am at now. My speech will discuss everything I went through in my life and will teach everyone how to break those "walls" in your life to become a more successful person
- Yes, please see my previous response as it also can be the same answer to this question also
- I will help everyone understand that life has so many "Walls" for us to break. Life is NOT fair. It is not about asking yourself "why" are these challenges happening to me? It is about how do I respond to adversity and BREAK this wall down. I went from 405 LBS to 230 LBS and my story has made me so much stronger physically, but mentally as well. The crowd will learn how I did it and hopefully will implement that in their daily lives as well

Biography

Raheel Siddiqui was born in Long Island, NY on September 1st, 1982. He graduated from the University of Baltimore, MD Baltimore County (UMBC) back in 2005 with a BA degree. He is married for 6+ years to his wife, Farah Moiduddin. They have a 3 year old son, Rayn (pronounced Rain) Raheel Siddiqui. They live in North Potomac, MD. Raheel is an online fitness coach & Senior Sales Executive selling cybersecurity services to the Government. Raheel was in Men's Health Magazine TWICE and his local NBC news in Columbia, MD reported his story about his fitness journey back in 2012.

Rohit Rustagi[1]* BS, Alexander Singh[1] BS, Hasan R. Syed[1,2], MD

[1]Alfie Health, Inc, New York, NY, United States of America
[2]George Washington University, Washington DC, United States of America

Regional disparities in access to obesity care: An analysis of wait times in top U.S. Hospitals

Obesity remains a massive public health concern in the US, with increasing demand for non-surgical specialty care. Access to obesity specialists is crucial for effective intervention, yet disparities in wait times may exist across regions and hospitals. This study aimed to investigate the average wait time to see an obesity specialist across the top 100 hospitals in the US, and to identify potential regional disparities. Data were collected through a survey of the top 100 US hospitals as defined by Statista, querying the average time to see a specialist. Hospitals were categorized by state and region. Descriptive statistics, including mean, median, and standard deviation, were computed for each hospital, state, and region. The average wait time to see an obesity specialist was approximately 5.08 months, with a standard deviation of 2.40 months. The shortest average wait time observed was 1 month, while the longest was 11 months, with a median of 5 months. Regional analyses demonstrated disparities, with regions such as the Northeast and Mid-Atlantic showing prolonged wait times compared to others. The average wait time is also likely higher as many hospitals who replied to appointments would be available "in the new year" were denoted as having a 5 month wait time at the time of study. The disparities in wait times to see an obesity specialist highlight a potential inequity in access to specialized obesity care and provide a background for the utilization of telehealth services to help increase access to medical services.

Audience Take Away Notes

- Understand the current obstacles to seeking obesity treatment
- Understand strategies that can be used to mitigate wait times so patients can receive appropriate care
- Highlights the need for more people to become familiar with obesity medicine and for health systems to take appropriate action

Biography

Rohit Rustagi studied biomedical engineering at the University of Virginia, bioethics at Harvard University, was awarded a Fulbright scholarship, and is on deferral from the MD program at the Stanford University School of Medicine. He is also a co-founder of Alfie Health, a venture-capital backed startup in obesity medicine which is bringing access to obesity medicine to clinics and hospitals through tech-enablement and data driven approaches. Rohit received his BS in biomedical engineering in 2019, master's degree in bioethics in 2020. He has published and presented previously in other medical specialties, including spine surgery.

Michelle Petties
Leaving Large: The Stories of a Food Addict, Annapolis, Maryland

The story of a (processed)food addict: How I won a 40-year battle with obesity

I am not a doctor, scientist, researcher, therapist, or nutritionist. I am a woman who lived with and fought food addiction and obesity for over 40 years. I have absolute clarity and no fear of ever gaining the weight back again. I discovered a truth that a 70-billion-dollar weight loss industry obscures. In my talk, I unpack that truth.

During my lifetime, I have gained and lost over 700 pounds. Not that long ago, I was obese, morbidly so, once tipping the scale at 260 plus pounds. For 42 years, I was in a fight for my emotional, physical, and spiritual life – unconsciously, eating for all the wrong reasons, battling subconscious Food Stories, and looking to food for joy, entertainment, companionship, pleasure, comfort, and status, using food to mask stress and daily discomforts that I never allowed myself to feel.

In my presentation, I will take the audience on a journey that chronicles a lifetime of food addiction, experiential eating, and emotional overeating. The decades-long journey began in the kitchens and backyards of a small town in the segregated south and continued throughout countless conference rooms and restaurants in Washington, DC. As a result of uncovering and understanding my Food Stories, I untangled long-held and mistaken beliefs about food and hunger. I learned to make peace with my mind, body, and eating.

As a former advertising insider, I excelled in an industry where image is everything, working for some of the most recognizable organizations in the media, including Disney/ABC and Radio One, negotiating client campaigns for iconic brands like McDonald's, T-Mobile, and Coca-Cola. I was an abject failure when it came to managing my weight. In the words of my former boss, media mogul, and Radio One founder, Cathy Hughes, “Information is power.” But what if the information you believe about food and eating is false? What if food is not family? Not culture? Not love? Or joy? What if cravings are a good thing? And “relationship with food” is a myth? What if “comfort food” is also a myth? What if the stuff we call food is really not food? What if our yet-to-be-unpacked Food Stories are silently standing between us and authenticity?

It is the one thing found at the intersection of race, culture, gender, identity, status, education, and economics—food. The truth is: It’s never about the food. It’s always about the story behind the food.

Presenting the truth in my Food Stories is my gift to the four out of five African American women who are obese or overweight and the rest of the population that is not far behind. These numbers break my heart and boil my blood. My presentation holds the secret to leaving those statistics in the dust and illustrates how everyday events, experiences, and memories inform our beliefs, attitudes, and habits around food, eating, and hunger, revealing that the answers to why we eat, and what we eat rest in our Food Stories.

Audience Take Away Notes

- We eat too much of the wrong stuff for the wrong reasons and we do it unconsciously
- We eat for reasons that have nothing to do with hunger or nutrition and everything to do with taste and pleasure

- That the only problem food solves is hunger. That is its purpose. The addiction grows when we insist on trying to make food do that which it can never do
- Techniques to differentiate between real hunger and the desire to eat. Food management is a skill
- We must question everything we put in our mouths. There are three powerful questions that can change our consciousness and allow us to understand emotional eating in a meaningful way
- Learned how to control desire, then we do not need willpower, self-discipline, or self-control. Creativity and a vivid imagination are more powerful than dogged determination
- Taste is not the only way to enjoy food. We have at least five other senses
- Food is an unnecessary magnet resting at the center of all activities: religion, education, career, social, cultural, identity, family, and friendship
- Our belief systems about food drive behavior. When we change our belief systems, everything else changes
- We have the power within us to learn and relearn how to use food in a healthier, better way. We eat too much of the wrong stuff for the wrong reasons and we do it unconsciously. When we change our Food Stories, our eating habits and behavior change
- Audience will learn how to connect to their own Food Stories, which will allow them to connect to others and this connection leads to healing the habits and feelings associated with this disease

Biography

Michelle Petties is an author, speaker, and food addict in recovery. Her memoir, Leaving Large – The Stories of a Food Addict, a category winner in The 2022 Memoir Prize for Books, features the award-winning essay, The Cake is in the Mail. After gaining and losing over 700 pounds, Michelle developed a process for making peace with her mind, body, and food. Her memoir illustrates how events, experiences, and memories inform our beliefs, attitudes, and habits around food, eating, and hunger. Michelle now teaches others how to find, face, rewrite, and replace their food stories during healing-through-writing-and-storytelling workshops and retreats.

Hye Lyn Lee[1]*, Su Jung Baik[2], Wan Je Cho[2], Da Hye Son[1,3], Yong Jae Lee[1]

[1]Department of Family Medicine, Yonsei University College of Medicine, Seoul, Republic of Korea
[2]Healthcare Research Team, Health Promotion Center, Gangnam severance Hospital, Seoul, Republic of Korea
[3]Department of Medicine, Yonsei Univeristy Graduate School, Seoul, Korea

Combined effect of body mass index and waist circumference in predicting non-alcoholic fatty liver disease

Purpose: Body Mass Index (BMI) and Waist Circumference (WC) are the most widely used anthropometric indices for identifying obesity. This study aimed to compare and clarify the usefulness of BMI, WC, and the combination of these two indicators in predicting Non-Alcoholic Fatty Liver Disease (NAFLD).

Methods: This cross-sectional study included 15,267 Korean adults. We defined four obesity categories using BMI and WC as follows: BMI non-obese and WC non-obese (BNWN); BMI obese and WC non-obese (BOWN); BMI non-obese and WC obese (BNWO); BMI obese and WC obese (BOWO). ANOVA was used to compare fatty liver severity across each category. The Odds Ratios (ORs) and 95% Confidence Intervals (CIs) for NAFLD were calculated using multiple logistic regression.

Results: Compared with BNWN, participants with BNWO were 3.235 (95% CI, 2.774–3.773) times more likely and participants with BOWN were 2.344 (95% CI, 2.045–2.687) times more likely to have NAFLD. Participants with BNWO had higher OR for NAFLD than those with BOWN. Moreover, BOWO participants had the highest OR of 4.788 (95% CI, 4.350–5.270) for NAFLD among all obesity categories.

Conclusion: Combined obesity classification by BOWO is the most reliable indicator for NAFLD presence in Korean adults.

Audience Take Away Notes

- This study showed that a combination of BMI and WC can be a useful screening tool for NAFLD in Korean adults. Moreover, WC obesity has more powerful association with NAFLD incidence than BMI obesity. People should maintain a healthy diet and exercise and closely observe changes in visceral adipose distribution. It is important to maintain WC within a normal range to prevent abdominal obesity, which could increase the risk for NAFLD. This study emphasizes the need to use BMI and WC simultaneously to better identify obese individuals and predict NAFLD incidence. People should focus on reducing their WC, not just on losing weight
- This study has several limitations. First, this was a single-center study with a homogenous ethnic cohort of Korean adults. Second, there is potential for selection bias, because study participants were self-referred for health screenings. Third, because this study had a retrospective cross-sectional design, it cannot confirm a causal relationship between each obesity group and NAFLD incidence. Future subsequent studies should include heterogeneous populations to ensure generalizability to other ethnicities

Biography

Dr. Lee studied Medicines at Yonsei University Medical School in Korea and graduated as MS in 2020. She then worked as a medical intern at Sinchon Severance Hospital. After completing internship, she is working as a resident of Family Medicine at Gangnam Severance Hospital.

Menatalla Ads*, Jesse Busa*, Norah Mulvaney Day, John T Lambert, Nicholas Carson

Department of Psychiatry, Cambridge Health Alliance/Harvard Medical School, Cambridge, MA, United States of America

Co-management of pediatric obesity in primary care: Partnering with behavioral health and nutrition

The prevalence of childhood obesity in the US has been steadily increasing over the past 15 years and, since the COVID pandemic, childhood obesity and mental health challenges have risen disproportionately. Most primary care providers report needing additional support managing obesity within the pediatric population. Patients in primary care need effective, accessible and weight inclusive interventions that significantly include mental health especially those in low-income, and communities of color, which have been particularly affected by both of these crises.

In preliminary work at Cambridge Health Alliance, we learned from surveys that many Primary Care (PC) providers seek more behavioral health support in co-managing pediatric obesity. As an alternative to specialty clinic programs, our pilot was an intensive PC program led by a multidisciplinary team (PC, nutrition, behavioral health). The intervention promoted whole body health by integrating culturally focused nutrition guidance and behavioral health interventions. We implemented the program in one clinic with minority-identifying 9-13 year-olds and their caregivers. Evaluation included pre-post measures to assess parental stress, child wellbeing, and nutritional behavior, as well as qualitative interviews with families and providers.

Fifteen parent/child dyads were recruited, 10 enrolled, and 4 completed the pilot program. Families who completed the group reported fewer familial stressors. Despite overall acceptability by the families, there were no notable differences in pre-post child wellbeing and nutritional behavior measures. Qualitative interviews with providers illustrated interest in continuing to partner across disciplines to improve access. Qualitative interviews with parents indicated that children shared knowledge they gained, while interviews with children described positive engagement. However, the attrition rate indicates that more culturally and family focused content (e.g., including more cultural perspectives) and less instructive content (e.g., more interactive group activities) may be necessary.

Successful implementation of integrated obesity and behavioral health programs for children in primary care settings may require increased coordination with parents and pediatricians. For example, pediatricians may follow up with an electronic medical record message or phone call to check in with families, provide praise, and encourage engagement. Participation of pediatricians in sessions may also be warranted to facilitate connection with participants. Future directions include using feedback from participants to inform future implementation, program expansion to other PC clinics, and studying the program's long term impact on BMI, child wellbeing, parental stress, and nutritional behavior.

Audience Take Away Notes

- Discuss the possible primary care treatment needs for children with obesity
- Explore ways to incorporate interdisciplinary and multicultural framework in treating pediatric obesity
- Treatment example for co-managing pediatric obesity in primary care

Biographies

Dr. Menatalla Ads joined Cambridge Health Alliance/Harvard Medical School in 2019 after completing her postdoctoral fellowships at Boston Children's Hospital and Cleveland Clinic in cardiac neurodevelopment and pediatric behavioral health. Before that, she completed her PhD in clinical psychology at the University of Detroit Mercy in 2016. In her current role as a pediatric psychologist, her research interests have included co-managing depression and pediatric obesity. She's passionate about working within primary care and working closely with her integrated care team to help co-manage chronic medication conditions and address mental health disparities with a focus on family-centered, culturally sensitive care.

Jesse Busa is a Registered Dietitian Nutritionist (RDN) currently working at Cambridge Health Alliance (CHA), an innovative health system dedicated to equity and excellence for all in Boston's metro-north region. She received an MS with a concentration in Food and Nutrition, specialization in Coordinated Program in Dietetics from Framingham State University, and a BS in Business Management and Health Administration from Quinnipiac University. Becoming a Dietitian is a second career for Jesse, her prior work experience includes management for a national DME provider and software marketing manager for an international company. While these positions may seem irrelevant, she pulls from previously developed skills daily. She enjoys working with a variety of patients from all economic and cultural backgrounds in primary care/family medicine (adults and pediatrics), prenatal, gastroenterology, endocrinology, oncology, cardiology, and other specialty services.

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Engaging through the online embla solution to reduce body weight and achieve clinically relevant endgoals (EMBRACE)

Background: Embla Aps was established to improve access to effective, sustainable, and cost-effective management of obesity. Embla's medically supervised digital program provides a scalable solution through our purpose-built application and approach combining medical treatment and lifestyle intervention. Our comprehensive obesity management program combines anti-obesity medication (AOM) with a proprietary lifestyle intervention, 1:1 coaching, and digital tracking. Embla´s obesity management program is currently available for citizens in Denmark and the UK.

Objective: Our primary objective was to explore the impact of a multi-disciplinary obesity management program during a 40-week follow-up period (26 weeks is the primary follow-up) with respect to change in body weight and use of AOM.

Methods: This study is a real-world, new-user cohort based on the Danish embla user database, including individuals signing up for the weight loss program no later than the 31st of March 2023. This cohort includes adult individuals with obesity in Denmark. All participant contact, data collection, and monitoring were completed through a mobile application and online calls. Participants were treated with the AOM semaglutide (as s.c. Ozempic with a max. dose of 2.0 mg, or s.c. Wegovy with a max. dose of 2.4 mg) based on evaluations of clinical appropriateness according to Embla's internal prescription and obesity management guidelines.

Results: In this real-world new-user cohort, a total of 1,057 participants were included. At 26 weeks, 324 were still in the study, as 222 stopped subscription early and 511 had less than 26 weeks possible follow-up. At week 40, 82 participants were still in the study. The Embla program produced an average weight loss of 13.1% (95%CI, 12.8% to 13.4%) at week 26 with sustained results at week 40 with an average weight loss of 16.1% (95%CI, 15.2 to 17.1) for the earliest participants.

The participants only used between 41 and 58% of the suggested cumulative dose while demonstrating a sustainable weight loss. In addition, 96.9% of the participants had lost > 5% of their body weight and 79.4% had lost > 10% of their body weight at week 26. Analyses of participants' outset (BMI at baseline) and their use of semaglutide (max. dose) revealed no difference between the different BMI-groups in terms of their achieved weight loss and their max. dose of semaglutide. Furthermore, there was no difference in lost body weight regardless of participants max. dose of semaglutide.

Conclusion: With a continued double-digit average weight loss, these analyses uncover an ongoing clinical impact of combining AOM with lifestyle intervention in a cohort of people impacted by obesity in a real-world setting.

Limitations include lack of control surrounding data collection and susceptibility to multiple biases due to the nature of the study design. Ongoing iterations and quality improvements of the Embla obesity management program is to ensure results that will continue to improve with scale, while future investigations

will provide insights on participants changes of habits as well as de-escalation of AOM.

In conclusion, regardless of the participants' BMI upon enrolment they achieve a clinically relevant weight loss through a dedicated lifestyle intervention in combination with a personalized dosage of semaglutide.

Audience Take Away Notes

- All communication with participants and retrieval of all relevant information was done through a dedicated mobile application and online calls
- This real-world new-user cohort including > 1,000 participants provides novel insights into the clinical usage and value of semaglutide for people impacted by obesity
- This digital obesity management program produced an average weight loss of 13.1 and 16.1% at week 26 and 40, respectively, while using approximately half of the expected cumulative dose of AOM
- Participants in this cohort achieved a clinically relevant weight loss regardless of their initial BMI and the amount of AOM dosed during a 26 to 40 week weight loss period
- These analyses provides novel insights into the value of combining AOM and lifestyle interventions through a digital obesity management program in a real-world clinical setting

Biography

Søren Seier has a master degree in Human Physiology from the University of Copenhagen and has lots of experience in exercise- and training physiology, nutrition and its link to health promotion and prevention. Søren has guided more than 200+ clients in nutrition, exercise and behavioural therapy for weight loss as well as co-author research experience including two articles in MSSE.

Kristina Zalnieraite
Nutrition & Wellness, Kilo Health/Vilnius, Lithuania

How can digital health tools provide better access to personalized nutrition?

Personalized Nutrition (PN), also known as precision nutrition, refers to tailored nutritional recommendations aimed at the promotion and maintenance of health, as well as the prevention of diseases. While there are clear general scientific guidelines for healthy eating, different foods have different effects on each person. The current health status, genetics, gut microbiome, metabolic profile, physical activity level, dietary pattern, food environment, and other socioeconomic characteristics all play a role.

Accelerating advancement in personalized nutrition will require:

- Enabling the development of user-friendly tools applying for technological advances, sensors, artificial intelligence, big data management, and analytics.
- Introducing the tools available to healthcare professionals and service providers to ensure interoperability and broader adoption of PN as medicine shifts toward preventive and personalized approaches.
- System-wide collaboration between stakeholders to advocate continued support for evidence-based PN, develop the necessary regulatory framework, and ensure a high quality of such interventions.
- Utilizing personalized nutrition ensures that the foods a person eats fit their current health status.

Using these principles in digital health tools allows new opportunities to automate the process. Combined, this ensures better access to the right types of nutrition for more people.

The adoption of wearable health devices and individualized health solutions grow as consumers get more educated about their health and seek out solutions that would allow them to prevent disease and stay healthy.

Audience Take Away Notes

- Providing a simple and accessible path to personalized nutrition management to both patients and nutrition specialists
- Offering precision nutrition on demand for individuals (short-term, long-term)
- Shaping a fully fledge digital personalized nutrition initiative within digital health, wellness, and weight management solutions
- Redefining the traditional approach to nutrition by democratizing precision nutrition and creating affordable and accessible PN services for the general population

Biography

Kristina Zalnieraite, LND is a registered and licensed dietitian and Head of Nutrition & Wellness at Kilo Health. So far, she has contributed and managed more than 20 digital health and wellness products and consulted more than 30 thousand clients. Kristina has a BA and MA in Public Health Nutrition, Food Safety, and Dietetics. Also, she continues to deepen her knowledge in Ph.D. studies of Medical Science and Nutrition. Kristina is a member of the Academy of Nutrition and Dietetics and the Lithuanian Dietetic Association. Main areas of expertise: nutrition, diet, food safety, wellness products.

Aboubacar Oumar Bangoura[1]*, Ahmadou Sadio Diallo[2], Yao Weirong[3], Qian He[3], Tang Jian[3]

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Fibersol-2 desalted by yeast and calcium chelated fibersol-2 for weight management

Dietary fiber has a number of other physiologically beneficial effects interrelated to reduced risk of cancer and heart disease. Soluble fiber can slow the digestion and absorption of carbohydrates, preventing wide swings in blood sugar levels, which aids in the control of diabetes. Certain types of fiber may be helpful in decreasing the risk of type II diabetes. Insoluble fiber, which can increase laxation and add fecal bulk, can also help to lessen the constipation and abdominal pain associated with diverticulosis. Also, the increased bulk from insoluble and soluble fiber contributes to a feeling of fullness, and because fiber is low in calories, this may help in contributing to weight loss (Barry V. and Leon P., 2001). All carbohydrates are similar in their composition, but not all carbohydrates are alike in their ability to prevent chronic disease. Complex carbohydrates are found in whole grain breads, cereals, fruits and vegetables. They are also found in white bread and sponge cake, but the former foods have properties which can lower cholesterol levels, prevent certain cancers and help you lose weight as well (Nancy, 2004).

Fibersol-2 is a soluble carbohydrate (indigestible dietary fiber) with specific physiological effects that are protective against degenerative diseases such as diabetes, obesity, coronary heart disease and large bowel disease (Matsuoka et al., 1992; Ohkuma et al., 1990). Fibersol-2 reaches the large intestines undigested where it is partly fermented by bacteria, producing short-chain fatty acids (SCFA) with the remainder being excreted in the feces. Fibersol-2 can also help regulate blood sugar and reduce the risk of some lifestyle-related diseases. Test show fibersol-2 can increase both bowel regularity and fecal volume (Matsutani Chemical Industry Co. Ltd., 1990).

The preparation of fibersol-2 by applying brewing yeast Saccharomyces Serevisiae for removing free glucose liberated during enzymatic hydrolysis of the pre-treated cornstarch, is called yeast application for desalting fibersol-2; followed by assessing the chelating capacity of this new product to calcium ions (A.O. Bangoura et al. 2006).

In this study, 36 mice were fed within 3 days to study the physiological effect of fibesol-2 desalted by yeast and calcium chelated fibersol-2. The feed types were as follows; stock feed: 6.977 mg/g of calcium content; fibesol-2 desalted by yeast: 0.462 mg/g of calcium content; calcium chelated fibersol-2: 9.274 mg/g of calcium content; and CaCl2: 11.1mg/ml of calcium content. The results in this study indicated that fecal volume were increased for the mice fed with fibersol-2 desalted by yeast and calcium chelated fibersol-2, compared to the references groups. These results were also the same for the weights of the urine from mice fed with fibersol-2 desalted by yeast and calcium chelated fibersol-2, which were also increased compared to the other groups with the same feed consumption. The results also indicated that, as fibersol-2 desalted by yeast; calcium chelated fibersol-2 were without any harmful component which was proved by the mice's health and their weight after feeding compared to mice fed with calcium chloride; with the same feed consumption. The consumption of fibersol-2 desalted by yeast and calcium chelated

fibersol-2 is not only regarded as protective against degenerative disease such as diabetes, coronary heart disease, large bowel disease, calcium deficiency disease; but also a good way for weight management.

Keywords: Fibersol-2, Fibesol-2 Desalted by Yeast, Calcium Chelated Fibersol-2, Fecal Volume, Weight Management.

Biography

Former Minister of High Education and Scientific Research, Guinea; b. 18 December 1963, Research Scientist; Educator. s. Oumar Bangoura and Traore Mariama; m. Aissata N'Diaye, Feb. 18, 2001; Children: Safiatou B., Ibrahim B., Kany B. & Aïcha B.. Education: PhD, Food Science, School of Food Science & Technology, Southern Yangtze University, China, 2005; MSc, Human Nutrition, School of Food Science & Technology, Wuxi University of Light Industry, China, 2000; B.Sc.Tech, Chemical Engineering, Food Technology, University Gamal Abdel Nasser of Conakry (UGANC), Guinea, 1991. Experiences: Head of Advanced Studies Services, UGANC, Dec. 2022; Head of Division in Advanced Studies Services, UGANC, March 2018; Assistant to Vice-rector in charge of Scientific Research, UGANC, Janv. 2012. Appointments: Assistant Lecturer, 2007 – 13; Assistant Professor, Research Lecturer, 2013-20; Professor, Director of Research, High education and Scientific research 16 November 2020; Publications: Comparative studies of ion exchange chromatography and yeast application for desalting fibersol-2 (Chapter of book Microbes in the Spotlight: Recent Progress in the Understanding of Beneficial and Harmful Microorganisms, Brown Walker Press., Boca Raton, Florida USA, 2016); Food application of fibersol-2 desalted by yeast and calcium chelated fibersol-2 (Chapter of book Industrial, medical and environmental applications of microorganisms: current status and trends, Wageningen Academic Publishers., 2014); In-vivo evaluation of fibersol-2 desalted by yeast and calcium chelated fibersol-2 (Chapter of book Microbes in Applied Research: Current Advances and Challenges, World Scientific Publishing Co., 2012); Yeast Application for Desalting Fibersol-2, International Journal of Food Science and Technology, UK, 2006); Honours : Who's who in the World, Marquis Publication, USA. 2016; Who's who in America, Marquis Publication, USA. 2016; Great Men and Women of Science, IBC, Britain 2018; Cambridge Certificate for Outstanding Scientific Achievement, IBC, Britain, 2016. Memberships: Formatex Research Center; EUREKA Science Ltd; Societe Ouest Africaine de la Chimie (SOACHIM). Address: Chemical Ingineering Department, Concentration of Food and Agriculture, University Gamal Abdel Nasser of Conakry, PO Box 1147, Conakry, Republic of Guinea.

Chao-Chun Wu[1], Shu-Li Chia[1], Shu-Ying Lo[1], Chen-Su Lin[1], Yi-Hua, Chin[1]*, Hung-Yu Chen[2], Wen-Yuan Lin[3], Hung-Chang, Lee[4]

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Enhancing medical professionals' literacy in obesity prevention: The Taiwanese experience through E-learning and online interactive workshops

High body mass index is a major risk factor for mortality, having risen from the 10th risk factor to the 4th risk factor globally in the last three decades, according to the Institute for Health Metrics and Evaluation. The World Health Organization has also identified overweight and obesity as major risk factors for a number of chronic diseases, contributing significantly to mortality rates. To address this issue, the Health Promotion Administration (HPA) of the Ministry of Health and Welfare in Taiwan has conducted a review of the literature and established evidence-based strategies and guidelines for obesity prevention.

To enhance the obesity prevention literacy of medical professionals, the HPA has partnered with a non-governmental organization to translate these guidelines into easy-to-understand e-learning training videos. Experts in different fields such as obesity medicine, nutrition, and exercise were invited to revise the guidelines and give lectures. The e-learning program includes common core curricula for expertise in obesity prevention, as well as advanced lectures that are divided into primary care clinic and hospital groups for case studies. The videos have been released on the HPA's official website, allowing medical professionals to access them at any time.

In addition, the HPA has conducted online interactive workshops led by senior physicians and physicians with experience in obesity intervention. By sharing their experiences, these workshops have helped medical professionals better understand the guidelines and develop practical skills. According to the satisfaction survey results of the workshop, 85% of participants were very satisfied with the "workshop teaching plan", 83% with the "workshop teaching mode", and 85% found the workshop to be beneficial to their clinical work. These results demonstrate that e-learning lectures and online interactive workshops are effective means of enhancing the obesity prevention literacy of medical professionals.

Key words: Obesity prevention and management, E-learning, Online interactive workshop

This work was funded by the Health Promotion Administration, Ministry of Health and Welfare.

Audience Take Away Notes

- The audience will learn about the strategies and evidence-based guidelines for preventing obesity that were established by the Health Promotion Administration, as well as the process involved in developing these materials
- The audience will gain an understanding of the e-learning training videos and online interactive workshops that were created by HPA, along with the various approaches that can be used in their development
- The audience will learn an effective method for enhancing the literacy of medical professionals in the area of obesity prevention
- The audience will be presented with feedback and suggestions from participants who have taken part in the online workshops

Biography

Yi-Hua Chin is currently the Section Chief of the Community Health Division at the Health Promotion Administration, Ministry of Health and Welfare in Taiwan. Her main focus is on developing policies related to obesity prevention and nutrition promotion to improve the health of the general public. Prior to her current position, she has held various roles related to tobacco control, health promotion, and clinical nutrition, working in a range of settings including hospitals and government agencies.

BOOK OF ABSTRACTS

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Seraina O. Moser[1]*, Andrei Moscalu[2], Roberts Cullen[2], Denise V. Winter[1], Cristina Gómez[1], Eric Sheu[2], Alex Odermatt[1]

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Changes in corticosteroid homeostasis after sleeve gastric surgery

Effects of glucocorticoids on metabolism are tied to mechanisms linked to insulin resistance, hyperglycemia and abnormal lipid levels, with glucocorticoid excess leading to increased circulating free fatty acids and lipid accumulation in skeletal muscle and liver. Obese individuals exhibit higher activity of the Hypothalamic-Pituitary-Adrenal (HPA) axis and increased expression of 11β- hydroxysteroid dehydrogenase type 1 (11βHSD1; reactivating cortisol from cortisone and corticosterone from 11-dehydrocorticosterone) in adipose tissue. Mice overexpressing 11βHSD1 in adipose tissue were found to become obese, insulin resistant, dyslipidemic and hypertensive, while liver-specific 11βHSD1 overexpression leads to insulin resistance and hypertension but not obesity.

Roux-en-Y-Bypass surgery rapidly improves conditions such as type 2 diabetes, dyslipidemia, and hypertension, with substantial reductions in cardiovascular disease and death risk. Woods et al. provided evidence for increased hepatic 11βHSD1 activity after Roux-en-Y-Bypass in severely obese patients based on an increased raised serum cortisol/cortisone ratio. However, subcutaneous adipose tissue 11βHSD1 activity was decreased, along with reduced total urinary cortisol metabolites, suggesting lowered HPA axis activity. Decreased subcutaneous adipose tissue 11βHSD1 activity was also reported in humans one to two years post-gastric bypass surgery, along with positive changes in insulin sensitivity and peripheral glucocorticoid metabolism. Others found that sleeve Gastric Surgery (SG) reinstated normal corticosterone production in mice fed a High-Fat Diet (HFD) and lowered 11βHSD1 expression in both liver and adipose tissue postsurgically. Inhibition of 11βHSD1 holds potential for diabetes and obesity treatment. Selective 11βHSD1 inhibitors have shown promising results in mouse models, improving glucose intolerance, food intake, and decreased weight gain.

This study assessed the improvement of weight change and glucose tolerance after SG, comparing levels with those of a lean control fed with normal chow (lean control, LC). Additionally, changes in the expression of 11βHSD1 and hexose-6-phosphate dehydrogenase (H6PD; restoring NADPH for the oxoreductase activity of 11βHSD1) were assessed in epididymal White Adipose Tissue (WAT) and liver. In WAT, 11βHsd1 and H6pd mRNA expression tended to be higher in Sham than in LC, which was reversed after SG. A similar pattern was observed for the transcription factors CCAAT enhancer binding protein alpha and beta (Cebpa and Cebpb), known to regulate 11βHSD1 expression. 11βHsd1 and H6pd mRNA expression was similarly increased in Sham compared to LC and reversed after SG in liver. Interestingly, 11βHSD1 protein expression was higher in LC than in Sham, with a trend decrease for SG vs Sham. H6PD protein expression pattern resembled that of mRNA. SG decreased Cebpa but not Cebpb mRNA. Measurements of the active glucocorticoid corticosterone and the inactive 11-dehydrocorticosterone in serum revealed higher glucocorticoid levels of LC compared to Sham, with a trend reversal after SG. The ratio of active to inactive glucocorticoids (B/A) showed the opposite pattern.

Overall, the findings indicate an impaired glucocorticoid reactivation by 11βHSD1/H6PD and involvement of Cebpa and Cebpb in the regulation of their expression in these obese mice, with at least partial reversal after SG.

Audience Take Away Notes

- Changes in corticosteroid homeostasis as a result of obesity
- Effects of sleeve gastric surgery on enzymes involved in glucocorticoid reactivation in liver and white adipose tissue in mice
- Targeting the glucocorticoid homeostasis, e.g. by 11βHSD1 inhibitors, as a potential treatment option for obesity

Biography

Seraina Olivia Moser graduated in Biomedicine at the University of Zurich (CH) in April 2021. She conducted her master thesis within the group of Kidney and Acid-base Physiology under the supervision of Prof. Dr. Carsten Wagner. Her project focus lied on the identification of basolateral phosphate transporter(s) in epithelial cells. In addition, she worked on the characterization of phosphate and calcium transport in salivary glands. In May 2021, Seraina started her PhD Project in the group of Molecular and Systems Toxicology at the University of Basel (CH) to investigate how sleeve gastric surgery improves dysregulated corticosteroid homeostasis.

Chia-Wen Lu

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Change of circulating galectin-1 among obese adults attending diet and exercise modification program

Objective: The aim of this study was to examine the changes in circulating galactin-1 levels among obese adults as they underwent weight loss through a personalized exercise and diet control program.

Method: This quasi-experimental study was conducted over a period of 24 weeks at a medical centre in Taiwan. Participants attended outpatient clinic visits at weeks 0, 12, and 24, where they received face-to-face education on diet and exercise. Additionally, case managers provided 10-minute phone consultations at weeks 2, 4, and 8, offering guidance and coaching. Based on personal habit, A total of 69 subjects were also provided with wearable devices and artificial intelligence apps for diet and exercise intervention. These devices monitored steps, heart rates, consumed calories, sleep conditions, and other variables. The primary outcomes measured were weight and waist circumference, while secondary outcomes included galactin-1 levels and various biochemical variables such as plasma glucose, alanine aminotransferase, creatinine, triglycerides, total cholesterol, and insulin.

Results: The study assigned 69 overweight and obese subjects to the case group (standard care and wearables plus apps) and 28 subjects to the control group (standard care only). After controlling for age, a strong positive correlation was found between Galectin-1 levels and BMI ($p = 0.001$). Further stratification of participants into BMI ≥ 30 kg/m2and BMI < 30 kg/m2 groups revealed a significant decrease in circulating Galectin-1 levels from pre-intervention (baseline) to post-intervention (week 24) ($p = 0.023$).

Conclusion: The findings of this study demonstrate a significant decrease in circulating galactin-1 levels among obese adults who underwent a 24-week diet and exercise modification program.

Audience Take Away Notes

- Previous literature has suggested that galectin-1 plays a role as a novel adipokine in adipocyte differentiation and adipose tissue homeostasis
- In human studies, positive associations have been observed between galectin-1 levels and waist/hip ratio, as well as adipocyte cell size in adults. Similarly, in obese children, circulating galectin-1 has been found to be positively correlated with body fat and waist circumference
- However, to date, there has been no investigation specifically examining changes in galectin-1 levels following a diet and exercise control intervention
- Our study fills this gap and provides evidence of a significant decrease in circulating galectin-1 levels among obese adults who participated in a 24-week diet and exercise modification program

Biography

Dr. Lu completed her medical studies at the College of Medicine, National Cheng Kung, earning an MD degree in 2007. In 2023, she obtained her PhD from the Graduate Institute of Clinical Medicine at the National Taiwan University College of Medicine. Since 2008, she has been working at the Department of Family Medicine in the National Taiwan University Hospital. Additionally, since 2019, she has held the position of Clinical Assistant Professor in the Department of Family Medicine at the College of Medicine, National Taiwan University. Dr. Lu has a remarkable research record, with over 30 research articles published in renowned SCI(E) journals.

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Development of a novel long-acting semaglutide, IVL3021, and its physicochemical and pharmacokinetic studies

Background: Obesity and diabetes are chronic conditions that need continuing care and it is crucial to ensure patient compliance with the medication to maintain the plasma drug concentration constant. For controlled and sustained delivery of medications, Long-Acting Injectables (LAIs) have been developed. LAIs have several advantages over traditional administration methods, including improving patient compliance, minimizing adverse effects (AEs), and maintaining the plasma drug concentration within therapeutic windows for predetermined time frames, thus maximizing therapeutic efficacy.

In recent years, semaglutide has received extensive interest due to its high effectiveness in managing both diabetes and obesity. It functions as a glucagon-like peptide-1 (GLP-1) receptor agonist, stimulating glucose-dependent insulin release, inhibiting inappropriate post-meal glucagon release and reducing food intake. Nevertheless, it frequently causes gastrointestinal (GI) AEs (e.g., nausea, vomiting), which are less common with LAIs than short-acting ones and the extent of them is known to be related to the dose strength. To maximize therapeutic efficacy while minimizing AEs, it is essential to employ LAI-mediated semaglutide administration with meticulous regulation of in situ drug release. However, encapsulating semaglutide, a high molecular and hydrophilic peptide requiring a narrow therapeutic window, into the LAI had remained a challenging project.

Herein, a novel subcutaneously administered, one-month LAI of semaglutide called IVL3021 is described. The LAI was developed and manufactured by IVL-DrugFluidics® technology using microfluidics, enabling precise drug release control through size-, morphology-, nanostructure-regulated microspheres. In the current study, the physicochemical properties of IVL3021 were characterized, and the pharmacokinetic (PK) profiles in SD rat models were investigated.

Methods: IVL3021 were prepared by Inventage Lab's microfluidics-based manufacturing technology, IVL-DrugFluidics® technology. The morphology of IVL3021 was examined by scanning electron microscopy (SEM), and the size distribution of the microparticles was measured by a laser particle size analyzer (PSA). The size distributions were expressed as span value and CV(%). The amount of semaglutide encapsulated in the microspheres were determined by HPLC, and encapsulation efficiency (EE, %) was calculated. Non-clinical models were used to optimize the formulation and to evaluate their pharmacokinetic properties. IVL3021 was administered to male SD Rats, and plasma concentrations were monitored for 6 weeks.

Results: The SEM images of the IVL3021 showed smooth spherical microspheres. The EE(%) of the microspheres was over 97.0% and the solvents used for manufacturing met the FDA's residual solvent guideline. The span value was less than 0.32% and the CV (%) was less than 11.17%, confirming that the particle size distribution was uniform. In the preclinical PK study, the plasma concentrations of semaglutide were maintained without an initial burst release over 4 weeks.

Conclusions: The IVL3021, size-controlled semaglutide-encapsulating PLGA microspheres have been successfully developed using IVL-DrugFludics® Technology. Including the size, and topology of the

vehicle particles, EE and PK of IVL3021 behaviors were characterized for further clinical investigation. In conclusion, the findings of the study indicate IVL3021 holds great potential to improve compliance and the quality of life in long-term treatment regimens for obese and diabetic patients.

Audience Take Away Notes

- The concept of microparticle-based LAI and its advantages in the obesity and diabetes treatment
- Superiority of microfluidics-based LAI-manufacturing technology over conventional technology
- Well-controlled and well-characterized microparticle-based drug release system
- Pharmacokinetics of LAI-mediated semaglutide in animal models: Comparison between conventionally delivered and LAI-mediated delivered active semaglutide

Biographies

Dr. Ju Hee Kim studied biochemistry at the Kyungpook National University in Korea and received her PhD degree at the same institution, majoring in biochemistry/neuroscience. She then joined several pharmaceutical companies from 1995 and founded Inventage Lab Inc with a novel microfluidics-based manufacturing platform in 2015. She is an active reviewer of The Korean Society of Toxicogeomics and Toxicoproteomics, and Molecular & Cellular Toxicology.

Donghoon Kim is a COO at Inventage Lab Inc., DH Kim is in charge of growth strategy and financing. Formerly he had worked for venture capital firms and PE consultancy in Korea. He majored Computer science and engineering from POSTECH, and MBA degree from SungKyunKwan Univ.

COO, Inventage Lab Inc.

Mega Investment Co. (Venture Capital in Korea)

Cube Venture Partners LLC

MBA, Sung Kyun Kwan Univ.

BE, Computer Science & Engineering, POSTECH

Mr. Soonho Song obtained his bachelor's and master's degrees in biological sciences from KAIST (Korea Advanced Institute of Science and Technology), specializing in Drug Delivery Systems. He began his career as a researcher at Dong-A Pharmaceutical in Korea and later pursued an MBA in Health Sector Management (HSM) at Duke University in the United States. Subsequently, he has primarily worked in marketing roles for diabetes and other metabolic therapeutic areas at global pharmaceutical companies such as Eli Lilly, AstraZeneca, and Ferring Pharmaceuticals. Since 2023, he has led the Strategic Planning Department at Inventage Lab Inc.

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16-18 OCT

DAY 01-VIRTUAL

SPEAKERS

JOINT EVENT ON

OBESITY AND DIABETES

Elena Cagnazzi
Spedali Civili Brescia University Affiliated Hospital, Italy

Awake videolaryngoscopic intubation: A series of cases

Introduction: Since the beginning of 2019, a protocol for videolaryngoscopic intubation has been developed in our department. The key elements of the protocol were:

1. A comprehensive explanation for patients.
2. A dexmedetomide-based sedation with fentanyl.
3. Careful local anaesthesia of the oropharyngeal cavity by means of a flexible Mad device.
4. A GAG reflex check.
5. A videolaryngoscopic local anesthesia of epiglottis, vocal cords and trachea with the 15 cm mad device.
6. A second videolaryngoscopy and intubation plus an assessment of the ETCO2 curve followed by general anesthesia.
7. An expert operator on call for active assistance during the procedure until all operators fill confident with the procedure.

After more than two years, the time has come to check how the protocol has been applied, and if further improvements and standardization could be achieved. We therefore want to retrospectively analyze the clinical records of patients awake intubated.

Methods: We retrospectively evaluated 24 patients (from January 2019 to June 2021). For descriptive purposes, there are five procedural "Times": T0, T1, T2, T3, T4 and T5. T 0 is the start of the dexmedetomidine charge dose and local oral-pharyngeal anesthetic. In T1, the GAG reflex check is performed. In T2 fentanyl or ketamine is delivered. In T3 the local anesthetic is nebulized on vocal cord and trachea, under videolaryngoscopic view. T4 is the tube passage through the vocal cords. T5 is the EtCo2 curve assessment.

Outcome measures:

1. Awakened VDL success is defined as the ability to identify good or poor glottic vision without breaking sedation or changing the Rass/Ramsay sedation level.
2. Awake VDL intubation success: successful tube passage and airway stabilization.
3. Number of intubations allocated to videobronchoscopic intubation, after awake VDL.
4. The kind of drugs used and dosage.
5. Level of sedation obtained.
6. Presence/absence of explicit memory of the procedure 2 hours after the end of general anesthesia.
7. Presence absence of pain or discomfort during the procedure.
8. Complications: procedure abandonment, desaturation above 90%, bradycardia above 40.

Result: 24 awake videolaryngoscopic intubations were identified from January 2019 since June 2021.

Most (23/24) of the surgeries were elective. The Indications for awake intubation were neck or facial anatomical abnormalities or morbid obesity or El Ganzouri Risk Index > six, or risk of aspiration. The mean

time from the beginning of the loading dose to intubation was 22 minutes (15-55).

1. Awake VDL was successful in 24/24 patients (100%).
2. Awake intubation was successfully undertaken in 23/24 patients.
3. One patient with C&L 4 was intubated with a video-bronchoscope.
4. Drug used: drug administration in T0, T1 T2 and T3 and Time to Intubation:
    - In T0 all the patients begun to receive dexmedetomidine. (Mean, median dosage and d.s. are reported in table 1).
    - In T0 all the patients begun to receive local anesthesia.
    - In T2 all but one patient received fentanyl.
    - In T2 14 of 24 patients received ketamine.
    - In T4 nine patients received a subanesthetic dose of propofol.
5. Level of sedation obtained.
    - Median Ramsay was 3.
    - Median Rass was -1.
6. Explicit memory was investigated in 12 patients; 4 of them reported intubation memory.
7. Pain /discomfort was investigated in 10 patients; One of them reported pain during the procedure and three of them a mild discomfort.
8. The lowest value of heart rate Systolic and diastolic blood pressure and oxygen saturation is reported in table 4. We found one transitory desaturation below 90% after successful endotracheal tube positioning.

The videolaryngoscopy showed a good glottic visualization (Cormack and Lehane 1 or 2) in 23/24 patients and a poor glottic view in 1 patient (Cormack and Lehane 4).

Conclusion: The awake VDL intubation has become a routine option for the eight-anesthesiologists interviewed. The procedures analyzed were always successful and well tolerated. The time spent for patient preparation (mean 22min) is limited and affordable without alter the daily Operating room program and we hypnotize that it could be improved with further procedure standardization through a written protocol.

There is a variability in the ketamine use, but the procedures were successful also in patients without ketamine. We hypnotize that the use of ketamine could in this setting be avoided to improve patient cooperation. The Rass and Ramsay Scale ability is limited in describing the sedation level in this dynamic setting and we need a new sedation scale for this purpose.

Biography

My name is Elena, I live and work in Brescia, a city located in Lombardy, a region in the north of Italy. Lombardy is the largest region of the country. Brescia is quite a small city, with only 300.000 inhabitants. It is a very nice city: living and moving here it's quite easy due to the small dimensions and the green surroundings. Brescia is nestled at the slopes of hills and mountains (Prealps) and it's located between two beautiful lakes (lake Garda and Lake Iseo). Unfortunately, the spread of the covid-19 pandemic in Italy began between Brescia and Bergamo. In Lombardy, we had 46000 deaths (50- 85% death increase in Brescia and Bergamo respectively). Today we are out of the pandemic nightmare and these two cities are now united in a cultural and rebirth initiative since they both have been nominated cities for Culture 2023. Brescia is an ancient city with remains of the first Galli Cenomani settlement dating back to 32 b.C. There's also a Roman forum and a theatre. In the countryside nearby the city, there are several vineyards. The Franciacorta white wine is a famous brut from this area. Brescia is the only city with a vineyard in the city center, located on the hill above the city castle.

I work as an anesthesiologist in the Operating Room of the Spedali Civili Brescia, a university affiliated hub hospital. I graduated in Brescia, I worked briefly in Cambridge, UK, and then at Spedali Civili. I've been dealing with bariatric patients scheduled for gastric bypass since 2011and I have developed several perioperative and intraoperative protocols to manage them optimally and enhance their safety to obtain a prompt recovery after surgery. Besides my job, I'm married with children and, outside the hospital, I'm their taxi driver for school and other activities.

Laura Weiner Kiser
Change By Challenge, United States of America

Redefine your relationship with food

Knowing what, when and how to eat to be healthy is insanely frustrating. All anyone wants is a guide for what to eat and what not to eat so they can live happily ever healthy..... But it's not that simple, knowing isn't enough. In today's culture there is an understanding that food helps us cope with challenging emotions. This has us leaning on food whenever we feel bored, stressed or anxious.

This eye opening and interactive presentation will help your audience understand how their relationship with food influences their mind creating a cycle of self-sabotage.

Laura will teach the 3 steps necessary to get your mind and body to collaborate. Through this collaboration your audience will be able to redefine their relationship with food igniting an internal power to achieve their desired state of health.

Audience Take Away Notes

- Discover the impact your relationship with food has on your life and how it is influenced
- Reconnect with your body so you can nourish all of your mind and body hungeis
- Learn how to rewire your thinking around food to redefine your relationship to feel empowered

Biography

Laura Weiner Kiser is a certified health coach, life coach, personal trainer, nutrition specialist, and mobility specialist. Her purpose in life is to help people enhance their relationship with their body and mind. She is here because know what it feels like to struggle with how your body affects your mind, and can help. She believe in a different approach to reach your health and fitness goals. She don't just focus on your body, she focus on the connection between your body and your mind. Change by Challenge isn't just a service, it's a way to transform your life. It creates a bridge between who you are and who you want to be. With her coaching, you will be able to see the results you want by creating a balanced lifestyle you will love.

Jeannette Paxia
Pax Coaching, Modesto, CA United States of America

The top 3 tips to attain and sustain a healthy lifestyle

This presentation is designed for the attendees to implement immediate changes to attain their healthy lifestyle goals. I have based this speech on the steps I used to shed 85 pounds and sustain that healthy lifestyle. I have also used these steps with thousands of clients who have succeeded, and some have shed over 100 pounds. The information and tools provided can be applied to anyone, we are all unique and my goal is for the audience to be able to implement the information so that it applies to them and their life. In addition, what works for us will change throughout our life, it is important that we can flex with those changes to sustain what we have already achieved. It is frustrating when you attain your goals and then run into a life event that completely derails you. This talk will include information on how to get back on track when you are faced with these challenges, how to persevere when you want to just quit. There is so much information out there on how to shed weight, including all the quick fixes, this talk will allow those who are listening to weed through all the information and apply what will work for them. I am passionate about supporting children and adults live healthier happier lives. Life is too short to live unhappily, and a healthy lifestyle helps people have more energy, sleep better, have clearer thought processes and live life to the fullest. The mission of this interactive talk is to help the audience create a plan that will support them in attaining their goals for a healthy lifestyle.

Audience Take Away Notes

- How to implement a permanent lifestyle change
- Where to begin when making a change
- How to find what works for you, we are all unique
- Tools that you can use to start now

Biography

Jeannette Paxia as a National Board-Certified Health and Wellness Coach and Certified Canfield Success Principles Trainer, Jeannette is passionate about supporting people in attaining their goals. Jeannette has worked in the medical field for over 25 years as a Doula, Nurse, and Coach. There has always been one common thread in her roles and that is helping people attain a healthy lifestyle. In addition to her work as a coach and speaker, Jeannette is a #1 International Bestselling Author, through her writing Jeannette is able to offer an additional way to inspire people to live life to the fullest.

Renea Paulsen
Renea Paulsen LLC, United States

How to kick food cravings from a recovered food and sugar addict

Renea Paulsen aka The Sugar Detox Coach is a recovered food and sugar addict that has lost over 120 pounds and helped countless women kick food cravings, lose weight and feel fabulous for good! In this keynote, Renea shares that millions are battling food addiction and don't even know it. All while women continue to be told that it is their own fault they can't lose weight. Obesity and food cravings are on the rise and Renea teaches simple, actionable tools on how to win the battle on cravings, lose weight and feel fabulous.

What to Expect:

- Understand more about how food/sugar addiction is affecting us and the world.
- Determine why food cravings can feel out of our control and how our brains are being highjacked constantly to crave.
- Learn powerful tools on how to activate different parts of the brain to get back in control of cravings in the very moment and have success in the longterm.

Biography

Renea Paulsen is public speaker, author, coach and consultant helping people take back control of their weight, their health and their life. I have over 15 years of pharmacy and healthcare experience, including specialties in compounding, oncology, fertility, organ transplant and ophthalmology.

magnus Group

16-18 OCT

DAY 02

KEYNOTE FORUM

JOINT EVENT ON

OBESITY AND DIABETES

From self-loathing to self-loving: A compassionate approach for the overweight or obese person to help to heal themselves

By focusing on 'fixing' symptoms, which is the allopathic medicine model we are missing the opportunity to help to heal the whole person. Success comes when we take the focus off weight and obesity and put it on HEALTH in all areas, emotional, mental, physical and spiritual.

If we talk health and self-worth, self-care and self-understanding along with education on nutrition, setting boundaries, re-learning self-talk and re-connecting to their own body we can empower people to make permanent changes that will make a difference. Can we stop judging people, chastising people, speaking to them like they are stupid, have no control and telling them off for not being able to 'stick to a plan'?

The current way of treating obese and overweight people is a broken and flawed as that of treating underweight and Anorexic people by focusing only on weight and numbers. Its not only not working, it makes recovery 100% harder!

This practical, powerful and provocative presentation presented by a fully recovered bulimarexic alcoholic, exercise addict looks at the how we need to have a total overhaul of food addiction, eating and weight disorders, the system as it stands is harming not healing.

This is an opportunity to fully understand the importance of looking at body, brain, bacteria, biomes, beliefs, boundaries, language, life experiences, attitude, self-worth, and trust, that are the KEY principles to changing habits, thoughts, feeling and behaviours around food and weight.

Audience Take Away Notes

- Why weight is a symptom and only treating symptoms is destined to fail as a long-term solution to any health issue
- Why the language, attitude, and the understanding of 'whole person health' from weight and obesity professionals and specialists must change moving forward
- How the environment and enablers affect outcomes and what can be done to provide a support system that works
- Why we need to look at the multiple causes of obesity and decide on better solutions
- Why encouraging and empowering the person to help themselves by focusing on the right stuff in the right order works long term

Vicky Midwood

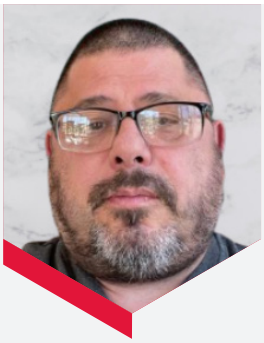
Integrative Health, Nutrition & Lifestyle Coach, Eating Freely Therapist, Personal Trainer & Fitness Instructor, Author, Podcaster (Raw Chatter) and creator of the B.L.A.S.T method to food and alcohol freedom for life, North Finchley, London, United Kingdom

Biography

Vicky Midwood - AKA: The Addictions Eliminator is an integrative health, nutrition, and lifestyle coach and has been in the fitness and wellness world for over 30 years. Creator of the BLAST Method to Feeling Fabulously Free based on science and personal experience she helps, smart, educated, high achievers over 35 reduce anxiety, shame, and guilt by eliminating the compulsion to self-sabotage with food or alcohol or both so they can thrive, not just survive day after day. She is Author of the book: Thrive Not Strive: A practical Guide to Feeling Happy, Confident & Healthy Again. Author of the Chapter: The Messy Madness That Set Me Free in the book Women Thrive – Inspiring True Stories of Women Overcoming Adversity and runs a weekly Podcast: Raw Chatter focused on the taboo topics others don't delve into.

Exercise: The panacea for overconsumption of carbohydrate

Exercise induced muscle carbohydrate oxidation and its mechanisms are the panacea for overconsumption of carbohydrate. To my knowledge, muscle contraction is the only mechanism for Glut-4 protein translocation from within the cell to the cell surface for glucose uptake. Additionally, exercise is the only non-pharmacological way to reduce glycogen in the skeletal muscle as skeletal muscle does not contain Glucose-6-Phosphatase. Exercise allows muscle to act as a "sink" for carbohydrate and its disposal and oxidation. Similar results are seen with exercise and fat oxidation. The simple message is: "get moving"!



Charles P Lambert

Lambert Relentless R&D, LLC, United States of America

Biography

Charles Paul Lambert, Ph.D. was born in Toledo, Ohio May 26, 1965. He was brought up in a suburb of Toledo, Sylvania, Ohio where he wrestled, played football, and some baseball in junior high school and high school at Sylvania Southview. Noteworthy of wrestling career was that he achieved 50 takedowns his Senior year and was awarded the Takedown Trophy. Also, in 1981 under the auspices of the AAU he was Second in the State Greco-Roman Tournament where he lost in the finals to Joe Ghezzi 0-6, being underarm spun with a go behind 6 times. Dr. Lambert was 19-6 his Senior year for Sylvania Southview High School, a three year varsity letter winner, and Co-Captain his Senior year. With regard to football, he started at Varsity offensive guard (145 lbs) as a Sophomore, Junior, and Senior and started at inside linebacker his Senior year and was the runner-up or leading tackler his Senior season. He was also Co-Captain of the Football team his Senior year. Upon graduation from Sylvania Southview High-School in 1983,

Dr. Lambert entered the University of Toledo and graduated with a 3.55 GPA in Human Performance (now Exercise Science) in 1988. This GPA and research experience and publications with Michael G. Flynn, PhD helped him get a "free ride" to Graduate School at the Human Performance Lab at Ball State University. Dr. Lambert excelled in this fertile academic setting and it was the most rewarding two years of his life achieving a 3.93 GPA (including a year of Biochemistry in the Chemistry Dept.) and learning a great deal about applied physiology research including rehydration after dehydration under Dr. David L. Costill. After graduation in 1990, Dr. Lambert worked in Dr. Ron Maughan's lab at the University of Aberdeen Medical School, Aberdeen, Scotland for one year. This also was a great experience for Dr. Lambert studying mechanisms of fluid replacement and metabolism during high-intensity exercise. Dr. Lambert then worked with John O. Holloszy, M.D. for one year at the Washington University Medical School. Dr. Lambert completed his PhD at the University of Toledo in 1997 again under the auspices of Dr. Michael G. Flynn. His area of research for his dissertation was Exercise and Immunology. His doctoral GPA was 3.88. After teaching for a year at Eastern Michigan University Dr. Lambert became a Post-Doctoral fellow in the Nutrition, Metabolism, and Exercise lab of William J. Evans, Ph.D. within the Dept. of Geriatrics at the University of Arkansas for Medical Sciences. Dr. Lambert spent eight years primarily performing research at UAMS publishing some 21 papers in those eight years and procuring two National Institutes of Health grants dealing with muscle hypertrophy in the elderly. He was an Assistant Professor when he left UAMS. After UAMS, Dr. Lambert went to Washington University School of Medicine for 2 years bringing 90% of his salary with him in grant money. He was a Research Assistant Professor in the Dept. of Geriatrics and Nutritional Science within Internal Medicine. There Dr. Lambert completed his NIH/National Institute on Aging R21 grant titled: "Effects of Albuterol on Muscle Protein Synthesis". Dr. Lambert left Washington University and went to the Univ. of Louisville, taught, performed research, and mentored students. After two years Dr. Lambert left U of L to be with his aging father. After a number of years away from academia Dr. Lambert taught for Stautzenberger College for two years. Currently, Dr. Lambert is writing and applying for Tenure Track positions in Exercise Physiology/Science. Dr. Lambert has published ~65 peer reviewed papers and been first author on at least 30 of these. He has acquired two National Institutes of Health Grants, and other various grants. He is a member of the International Network of Wrestling Researchers, a Bronze Certified Coach through USA Wrestling, and was a Mat Official for USA Wrestling for four years. In his spare time, Dr. Lambert is a Powerlifter having Bench Pressed 336.2 lbs in competition at the age of 54 and is currently ranked 9th in the USA in the USPA with a total of 1003 lbs. Recently, Dr. Lambert qualified for the USPA Nationals with a total 1102 lbs and is hoping to qualify for Worlds at this meet.

Cardiovascular risk of sleep apnea in obesity

Obesity and sleep apnea are two interconnected health conditions that can significantly increase the risk of cardiovascular problems. Sleep apnea is a sleep disorder characterized by pauses in breathing or shallow breathing during sleep. When combined with obesity, it can have detrimental effects on the cardiovascular system.

One of the primary mechanisms linking sleep apnea and obesity to cardiovascular risk is the development of metabolic abnormalities. Both conditions are associated with insulin resistance, dyslipidemia, and increased inflammation. These metabolic disturbances can lead to the development of conditions like type 2 diabetes and atherosclerosis, which significantly raise the risk of heart disease, heart attacks, and strokes.

Sleep apnea, particularly Obstructive Sleep Apnea (OSA), is result of repeated episodes of partial or complete obstruction of the upper airway during sleep. This obstruction leads to intermittent drops in oxygen levels and increased carbon dioxide levels in the blood. These fluctuations trigger a cascade of physiological responses, including increased sympathetic nervous system activity and systemic inflammation. Over time, these responses can contribute to the development of hypertension, arrhythmias, and endothelial dysfunction.

Obesity exacerbates the effects of sleep apnea on the cardiovascular system. Excess body weight, especially in the abdominal region, puts additional pressure on the airways, further contributing to airway obstruction during sleep. The combination of obesity and sleep apnea can create a vicious cycle: obesity increases the risk of sleep apnea, and sleep apnea, in turn, worsens obesity-related metabolic abnormalities and cardiovascular risk.

Furthermore, sleep apnea and obesity can independently contribute to the development of other risk factors for cardiovascular disease. For example, both conditions are associated with increased levels of C-Reactive Protein (CRP), a marker of inflammation linked to atherosclerosis. They can also lead to the development of abnormal lipid profiles, including elevated triglycerides and decreased levels of High-Density Lipoprotein (HDL) cholesterol.

Addressing the cardiovascular risk associated with sleep apnea in obesity requires a comprehensive approach. Weight loss through a combination of dietary changes, increased physical activity, and behavioral modifications is crucial for managing both conditions. Continuous Positive Airway Pressure (CPAP) therapy is the gold standard treatment for sleep apnea, and regular use of CPAP can help improve sleep quality, alleviate symptoms, and reduce cardiovascular risk.

Andrzej Bissinger

Medical University of Lodz, Poland

Biography

Dr. Andrzej Bissinger is a cardiologist and cardiac electrophysiologist. He graduated Medical University in Lodz, Poland in 1993, received his PhD degree in 1997 at the same institution. He is certified cardiologist since 2003 and Cardiac Device Specialist of European Heart Rhythm Association since 2007. He is a member of International Society of Holter & Noninvasive Electrocardiology; Polish Cardiac Society; European Society of Cardiology; European Heart Rhythm Association. He has published more than 76 research articles in SCI(E) journals. He was an investigator in several clinical studies. At present he works as a Head of Cardiac Electrophysioloy Lab in Department of Cardiology, 'Kopernik' Hospital, Lodz, Poland. His fields of work are general cardiology, non-invasive and invasive treatment of arrhythmias and treatment patients with heart failure.

In conclusion, the combination of sleep apnea and obesity significantly increases the risk of cardiovascular problems. The interplay between these two conditions leads to metabolic abnormalities, inflammation, and physiological changes that contribute to the development of hypertension, atherosclerosis, and other cardiovascular diseases. Managing weight, treating sleep apnea with CPAP therapy, and addressing other cardiovascular risk factors are essential for reducing the impact of these conditions on heart health.

Audience Take Away Notes

- The lecture about the cardiovascular risk of sleep apnea can be beneficial for various audiences, including healthcare professionals, dieticians and researchers, They can learn about the underlying mechanisms, diagnostic approaches, and treatment options for sleep apnea. This knowledge can help them identify and manage patients at risk of cardiovascular complications associated with sleep apnea more effectively
- The listeners can understand the importance of maintaining a healthy lifestyle, including weight management, regular exercise, and good sleep hygiene, to reduce cardiovascular risk factors
- The lecture can enhance understanding, facilitate early detection, and promote effective management of sleep apnea to reduce the associated cardiovascular risks in obese patients

BOOK OF ABSTRACTS

magnus Group

16-18 OCT

DAY 02

SPEAKERS

JOINT EVENT ON

OBESITY AND DIABETES

Philippe P Pagni[1]*, Nikole R Perdue[2], Hadas Lewinsky[3], Priyanka Vijay[3], Sara Murray[2], Alisa Greenberg[3], Marisa Mariani[3], Ramneek Gupta[4], Moran Elishmereni Landau[3], Alena Jiraskova[3], Iveta Mrizova3, Per Greisen2, Chirag Sachar3, Johnna D Wesley1

[1]Novo Nordisk U.S. Research & Development Hub, Lexington, MA, United States of America

[2]Novo Nordisk Research Center, Seattle, Inc., Seattle, WA, United States of America

[3]Immunai, Inc., NYC, United States of America

[4]Novo Nordisk Research Center, Oxford, England

Impact of liraglutide treatment on gene expression in peripheral T-cell populations from adults with recently diagnosed Type 1 diabetes

Type 1 diabetes is an autoimmune disease characterized by attack from immune cells infiltrating the pancreas and loss of functional beta-cell mass, requiring exogenous insulin treatment. Novo Nordisk has conducted a randomized, double-blind, placebo-controlled, phase 2 trial assessing whether the combination of GLP-1R agonist liraglutide and anti-IL-21 antibody could preserve beta-cell function. A collaboration with Immunai was established, leveraging a single cell multiomic approach to assay mRNA, protein, and TCR sequences with the 10x genomics platform, using select PBMC samples from the placebo (n=13) and liraglutide (n=11) arms of this trial, at baseline, (WK0) and end of treatment (WK54).

A combination of public and proprietary computational techniques was used to process sequence data, integrate samples, annotate cell types, and compare cell type abundances and differential gene and pathway expression between WK0 and WK54 samples in the liraglutide and placebo arms. Downstream analysis focused on genes and pathways that changed from WK0 to WK54 in the liraglutide arm but did not show statistically significant changes from WK0 to WK54 in the placebo arm.

Compared to WK0, liraglutide-treated patients at WK54 have indicated decreased proliferation, cytotoxicity, and other markers of effector functions in NK and CD8+ T cells while indicating increased proliferation and suppressive function in Tregs. Of note, public human data repository analyses further substantiated a novel role for GLP-1R in Treg function, supporting the notion that GLP-1R might play a role in Tregs involved in autoimmunity and thereby guiding future clinical trials assessing GLP-1R agonists in type 1 diabetes.

Audience Take Away Notes

- Better understand how liraglutide and anti-IL-21 perturb the immune response of individuals diagnosed with type 1 diabetes
- Address the impact that liraglutide may have on cell subset abundance and differential gene and pathway expression, relative to pre-treatment baseline and placebo arms
- The audience will learn that we are only beginning to understand and uncover the anti-inflammatory properties of GLP-1R agonist liraglutide, some of which may be accounted for by direct or indirect stimulation of peripheral immune cells in humans.

Biography

Phil Pagni holds a PhD in Immunology from Aix-Marseille University obtained at the Center of Immunology of Marseille-Luminy. He pursued his postdoctoral training at the La Jolla Institute for Immunology (LJI) in Prof. Matthias von Herrath's lab, evaluating immune-mediated combination therapies to prevent or reverse the course of type 1 diabetes in mouse models. At Novo Nordisk since 2013, Phil is a scientist experienced in immunology and autoimmunity including type 1 diabetes. As Head of the Immunobiology department in Lexington, Phil's mission is to provide safe, immune-mediated targets across various cardiometabolic and rare diseases within Novo Nordisk's pipeline.

Maureen E Groer[1]*, Amanda Elliott[2]

[1]College of Nursing, University of Tennessee, Knoxville, Knoxville, TN, United States of America

[2]Department of Psychiatry and Behavioral Neuroscience, Morsani College of Medicine, University of South Florida, Tampa, FL, United States of America

Diabetic retinopathy and GDM in hispanic pregnant women with toxoplasma gondii

Retinal photography was performed in pregnancy and postpartum in pregnant Hispanic women with latent Toxoplasma Gondii (TG) infection (N=158) A comparison group of TG negative women (N=532) was included for data from the electronic health record (EHR).The goal was to assess for parasite reactivation in TG positive (TG+) women as evidenced by characteristic lesions, so retinal photography, usually at prenatal visits 2 (17 +/- 3.35 weeks) and 3 (26.3+/-1.75) weeks, were done on TG+ women. Fifty six (43%) had retinal photography at the postpartum visit.

From the 690 recruited at the first prenatal visit, 128 TG– women and 158 TG+ women were enrolled in a prospective study. The TG- women (N=404) not enrolled in the prospective study provided data at the first prenatal visit and throughout their pregnancy and birth through the EHR. This allowed comparison of health and outcome data for the TG+ compared to a larger number of TG- Hispanic pregnant women.

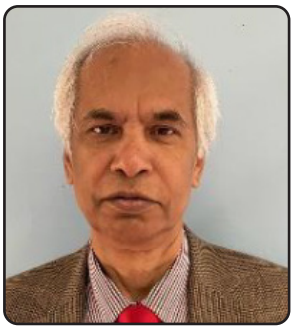
While there was no evidence of reactivation of ocular toxoplasmosis during pregnancy, there was a surprisingly large number (42%) of TG+ women with diabetic retinopathy (DR). We also observed that TG+ women had a 20% incidence of gestational diabetes mellitus (GDM) compared to 11.3% in the TG- women ($p = 0.01$). At postpartum (mean 5.6 weeks), 23 of 30 women with DR showed no DR in the postpartum. These data suggest that chronic TG infection was associated with increased incidence of GDM, and that, in general, Hispanic pregnant women's risk for latent TG infection, diabetes, and DR are underappreciated. Retinal photography may need to be considered an innovative approach to screening.

Audience Take Away Notes

- The increasing need to screen for GDM in the Hispanic population, particularly in those who are TG positive
- GDM is diagnoses with standard criteria, requiring both 1 hour and 3 hour tests to be positive, but we found retinopathy in women with an abnormal 1 hour and normal 3 hour test
- The presence of diabetic retinopathy in pregnancy may unmask a pre-diabetic state
- Diabetic retinopathy could provide a window into the vascular changes of pregnancy in other organs

Biography

Dr. Maureen Groer is a professor in the College of Nursing at the University of Tennessee, Knoxville. Before this position, which she began in 2023, she was a Distinguished University Professor at the University of South Florida. Her work has focused on pregnancy and the postpartum with research areas in immunology, infectious disease, and the microbiome. She has had several large NIH grants, has over 140 publication, and has an H index of 41.



Jagannath Malo[1], Md Jahangir Alam[2], Salequl Islam[3], Md Abdul Mottalib[4], Md Mehedi Hasan Rocki[1], Ginok Barmon[1], Shamema Akter Tinni[1], Swapan K Barman[1], Tapas Sarker[1], Md Nayeemul Islam Khan[4], Kanakaraju Kaliannan[5], Muhammad A Hasanat[6], Salimur Rahman[6], Md Faruque Pathan[4], AK Azad Khan[1,4], Madhu S Malo[1, 4]*

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Do the stap test --- Prevent the diabetes

Type 2 diabetes mellitus (T2DM), characterized by hyperglycemia (≥126 mg glucose/100 ml blood after overnight fasting) and insulin resistance, is a major global health problem. Globally, approx. 6.7 million people died from diabetes in 2021, and total health expenditure due to diabetes was $966 billion. In the USA, the direct healthcare cost of diabetes was $237 billion, 25% of the national healthcare cost.

The etiology of T2DM is poorly understood. Low-grade systemic inflammation has been implicated to play a pivotal role in the pathogenesis of T2DM. Death of intestinal microbes releases the endotoxin Lipopolysaccharides (LPS) that is usually excreted with stool. However, increased gut permeability and increased intake of a high-fat diet, alcohol, and fructose, cause LPS to translocate to blood circulation. Recently, 'metabolic endotoxemia', defined as persistently increased levels of LPS in blood, has been shown to induce low-grade systemic inflammation leading to insulin resistance, hyperglycemia (T2DM), dyslipidemia, and fatty liver in mice.

Previously, we have shown that LPS is detoxified by Intestinal Alkaline Phosphatase (IAP), a gut enzyme secreted by villus-associated enterocytes and excreted with stool. IAP functions as an anti-inflammatory enzyme by detoxifying LPS and other bacterial toxins through dephosphorylation. We have demonstrated that mice deficient in IAP (IAP knockout, Akp-/-) develop the metabolic syndrome (hyperglycemia, dyslipidemia, and fatty liver) that can be prevented by oral IAP supplementation. Our subsequent case-control human study identified that the average IAP level was 35 U/g stool in diabetes patients, and it was 65 U/g stool in healthy people. Accordingly, an IAP level of ≥65 U/g stool is considered high (normal) and protective against T2DM. The obese people with normal IAP levels did not develop T2DM. We hypothesized that IAP Deficiency (IAPD) might be an independent etiological factor of T2DM in humans.

We conducted a 5-year prospective cohort study on a non-diabetic healthy cohort (30-60 years old), comprising 188 participants without IAPD (IAP level: ≥65 U/g stool) and 386 participants with IAPD. We measured stool IAP (STAP) and fasting plasma glucose and calculated Risk Ratio (RR) using the log-binomial regression model. T2DM incidence rates were 8.0%, 11.7%, 25.6%, and 33.3% in participants with 'persistent no IAPD' (IAP level: always ≥65 U/g stool), 'remittent IAPD' (IAP level: increased from <65 to ≥65 U/g stool), 'persistent IAPD' (IAP level: always <65 U/g stool), and 'incident IAPD' (IAP level: decreased from

≥65 to <65 U/g stool), respectively. Compared to 'persistent no IAPD' the risk of developing T2DM with 'incident IAPD' was 270% higher. With 'persistent IAPD' the risk was 230% higher. 'Remittent IAPD' showed no risk.Sensitivity analyses of persistent IAP levels revealed that compared to participants having always >115 U IAP/g stool, the rate of increase of fasting glycemia was double, and the risk of developing T2DM was 1,280% higher in participants having always <15 U IAP/g stool. A diabetes pathogenesis model is presented.

We conclude that IAPD is an etiological factor of T2DM, and regular STAP tests would predict individual vulnerability to T2DM. Oral IAP supplementation might prevent T2DM.

Audience Take Away Notes

- The audience will know about the breakthrough discovery that intestinal alkaline phosphatase deficiency (IAPD) causes diabetes. The audience will know about STAP test to diagnose IAPD, and thus take pre-emptive measures to prevent diabetes
- The audience will have the knowledge on the etiology and pathogenesis of diabetes that will equip the audience to design and develop new technology for prevention of diabetes
- Of course, other faculties will be able to use this knowledge to teach and develop new technology for prevention, treatment and cure of diabetes
- This discovery will be able to eliminate (eradicate) 85% non-genetic diabetes
- It is a de novo technology
- Soon, diabetes will be a history for humanity

Biography

Dr. Madhu S. Malo is currently working as the Chief Scientist of Stapgen LLC (Reading, MA, USA). Dr. Malo is an Adviser of the Diabetic Association of Bangladesh. He is also a Visiting Professor at BSMMU and BIRDEM, Bangladesh. Dr. Malo was an Assistant Professor at Massachusetts General Hospital, Harvard Medical School, and a Postdoc at MIT. He had his medical degree MBBS from Dhaka Medical College in Bangladesh in 1977, and in 1988, he obtained his PhD in Molecular Biology from the Department of Biochemistry, Sydney University, Australia. He has many publications related to IAP and Diabetes.

Johnna D Wesley[1]*, Burcak Yesildag[3], Joan Mir-Coll[3], Aparna Neelakandhan[3], Claire B Gibson[2], Nikole R Perdue[2], Chantal Rufer[3], Maria Karsai[3], Adelinn Biernath[3], Felix Forschler[3], Patricia Wu Jin3, Patrick M Misun[3], Alexandra Title[3], Andreas Hierlemann[3], Matthias G von Herrath[4]

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Challenges in drug development for T1D: Model systems and biomarkers

Drug development is often challenged by the available human disease-relevant models that are available to understand targetable mechanisms and biomarkers of disease progression or response. Type 1 Diabetes (T1D) is an autoimmune disease that leads to loss of beta cells and eventual dependence on exogenous insulin. The cause of T1D is unknown though there is clear evidence that T-cells mediate much of the beta cell loss associated with the disease. Targeting T-cells or associated immune mechanisms is an obvious path of development, however, the risk of immune suppression, understanding how much or little immune changes are meaningful, and identifying the relevant pathway(s) to target remain unclear. Further, with the approval of teplizumab for the delay of T1D, activities related to curing, reversing, or preventing T1D are increasing, but without biomarkers to track disease progression and regression, the field of drug development is challenged with how to progress.

For drug development to succeed for T1D prevention or delay, access to biomimetic model systems and robust methods to assess response are critical needs for drug development in diabetes. We have developed a novel islet-immune assay in collaboration with Insphero AG to begin to understand and model the immune mechanisms leading to beta cell loss and are continuing to refine this system for drug development to meet one key need. This model has utility in understanding immune-mediated beta cell loss, screening for relevant targetable biology, and testing predictive biomarkers.

Audience Take Away Notes

- Understanding in vitro model challenges and needs in biomarker development will help the audience apply concepts to their own work and be aware of the model availability through InSphero for their own use
- Designing or building better models and better biomarker assays will improve the long-term success and clinical translatability of their work
- Yes

Biography

Johnna D. Wesley, MPH, Ph.D., is the Scientific Vice President of Type 1 Diabetes (T1D) and Immunology at Novo Nordisk. Dr. Wesley and her colleagues across the globe work on finding curative or preventative therapies for T1D and to understand the role of immune dysfunction in cardiometabolic diseases. This work involves characterization of the disease pathology in humans; translational biomarkers for predicting drug responses and disease outcomes; and novel in vitro platform development for screening compounds and mechanistic studies. Dr. Wesley holds a Master of Public Health from the University of Alabama at Birmingham and a doctorate from Brown University.

Hadagali Ashoka[1]*, K. V. Venkatesh[2]

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Meta analysis and model simulation of effect of nutraceuticals on fasting blood glucose in type II diabetic patients

Type 2 Diabetes Mellitus (T2DM) is a metabolic disease characterized by high blood glucose levels resulting from defects in insulin secretion. A systemic review and meta analysis was conducted to determine effect of well known natural food supplements consumption on markers of glycemic control and lipid profile in T2DM patients. A systemic literature search using PubMed, Scopus and Web of Science yielded a total of 153 Random Controlled Trial (RCT) reports belong to 29 active ingredients were included in the study, with 9284 T2DM patients divided into 4877 in the intervention group and 4407 in the placebo group. RCTs reporting sufficient amount of data including the baseline and endpoint values or net changes between the two points for the intervention and control groups for T2DM disease were chosen. The meta-analysis revealed that saffron consumption significantly affected glycemic indices like FBG, Glycated Haemoglobin (HbA1c), and lipid profile indices like Total Cholesterol (TC), Triglyceride (TG), Low-Density Lipoprotein cholesterol (LDLc), and High-Density Lipoprotein cholesterol (HDLc) levels when compared to controls and other supplements. Several mathematical models have been used in studying the effect of drugs on T2DM. Of the several mathematical models available, a model developed by Dalla Man et al which is approved by Food and Drug Administration (FDA) was used to simulate the effect of nutraceuticals on FBG T2DM patients to match the meta-data.

Audience Take Away Notes

- The meta-analysis result may show either a benefit or a lack of benefit of a treatment strategy, as indicated by the effect size, which is the phrase used to define an intervention's treatment effect. The treatment effect is the difference between the experimental and control groups in terms of gain (or loss)
- Audience can think of more sustainable solutions to the pandemic disease (diabetes) which is ruining the county's wealth
- This research could be adopted by any other faculty in their research or teaching
- This meta analysis is a comprehensive search that includes 153 clinical trial outcomes and gives a full review of each dietary supplements effects on diabetes
- This analysis would give new insights into the diabetes treatment strategies to reduce the regular drug dosage on daily basis
- Researchers can use meta-analysis to merge smaller studies into one large study, which may assist reveal an effect. A meta-analysis can also help to improve the accuracy of the results. This is also because it effectively expands the scope of the investigation

Biography

Hadagali Ashoka has studied Bachelor of Engineering in Biotechnology at the Visvesvaraya Technological University, Karnataka and master of technology in Biotechnology at the SRM University Chennai. He then joined B.M.S. College of engineering as a Faculty since 2009 to till date. Presently he is perusing PhD under the guidance of Prof. K.V. Venkatesh

at the Department of Chemical Engineering, Institute of Technology Bombay, Mumbai on deputation from B.M.S. College of Engineering, Bangalore, Karnataka-560 019, India. Mr. Ashoka has presented more than 10 research papers at the national and international conferences and published papers as well.

Hsing Luh

Department of Mathematical Sciences, College of Science, National Chengchi University, Taipei, Taiwan

A data-driven modeling approach to predicting the risks of T2DM complications

The objectives of this research are to utilise competing risk methods in T2DM modeling by using patient data to subsequently evaluate which diabetic complication comes first. The analysis was performed using a simulation model of people with T2DM. The model simulated a cohort of 10000 patients over a 30 year time horizon. This study has demonstrated that competing risk based modeling is suitable for T2DM modeling and further research should be continued to establish along this direction.

Audience Take Away Notes

- The audience will be able to understand about the competing risks
- Understanding risk analysis is helpful for the audience in their job
- Modeling this research that other faculty could use to expand their research or teaching
- By computer simulation this provide a practical solution to a problem that could simplify or make a designer's job more efficient

Biography

Dr. Luh, receiving his Ph.D. degree in Operations Research at North Carolina State University in 1992, is a distinguished professor of Mathematical Sciences of National Chengchi University (NCCU), Taipei. He serves as Dean of the college of Science now. His research articles have been published in highly regarded journals, such as Management Science, Operations Research in Health Care, European Journal of Operations Research, Annals of Operations Research, Mathematical Biosciences, Computers and Mathematics with Applications, Information, Health Services Research and Managerial Epidemiology, etc...

Pradeep S
Indian Institute of Technology Bombay, India

Mathematical modelling of glucose dynamics: A systems biology approach for food and drug intervention

Type-II diabetes is one of the most prevalent lifestyle diseases in the world, and the number of diabetic patients is rising quickly. It is crucial to consider how lifestyle factors like eating habits, exercise routines, stress levels, and others affect glucose-insulin dynamics and determine whether a person will develop diabetes or not. To examine the dynamics of glucose, we have developed a mathematical model to study the dynamics of glucose. In order to describe the emergence of the disease, the parameters were grouped to produce both perfect adaptation and non-adaptive situations in which the concentrations of glucose and insulin may reach a new steady state following the perturbation. The model was bench marked with the clinical samples of Oral Glucose tolerance test (OGTT) data of over 200 individuals. A scoring system was formed with the area under the curve, peak glucose value, and extent to reach homeostasis. Parameter sensitivity analysis were performed to analyse the most impacting parameters. The model was then simulated with the sensitive parameters to observe how an individual subject might shift from a healthy to a diabetic state using the scoring system. The model was simulated with the parameters to create virtual population studies were conducted over 8000 individuals which resembles the actual global statistics data of healthy and diseased states. The pharmacokinetics of metformin and gliclazide were linked in the model in order to evaluate the impact of the medications. The model could be able to shift the diabetic population to a healthy population in accordance with clinical data. The model.

The model can tailor a diet based on the individual response to match the glycaemic index desired by a certain person to control glucose dynamics. The model can be employed to optimize the disease treatment plan and customise the dose based on the response of the patient.

Keywords: OGTT, simulation, Type-II diabetes, Mathematical model, glycaemic index

Biography

I Mr. Pradeep. S graduated with a Master of Technology focused in Bioinformatics from SASTRA University. Currently I am pursuing Ph.D. in the Department of Chemical Engineering, Indian Institute of Technology Bombay, Mumbai, India. I am working as Assistant professor in the department of Biotechnology, B.M.S. College of Engineering, Bengaluru, Karnataka, India from past 13 years. I constantly focus on professional development to help update my knowledge and advance my skills as expert practitioner. I have published more than 12 research articles in peer reviewed journals.

BOOK OF ABSTRACTS

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Margarita Saenz-Herrero*, Rafael Segarra-Echevarria
Department of Psychiatry, Cruces University Hospital, University of Basque Country, Bilbao, Spain

Mental health and psichiatric disorders in morbid obesity and the impact of bariatric surgery. A gender perspective

Morbid obesity (defined as a Body Mass Index, BMI, > 40) is a severe and increasingly prevalent condition in developed countries. A large proportion of these patients suffer from psychosocial dysfunctions and psychiatric disorders. Prior to bariatric surgery a substantial percentage of patients suffer from binge eating disorder or binge eating symptoms. Surgery is carried out not only to reduce short-term morbidity and mortality in patients with morbid obesity, but it also gives a chance for a long-term weight loss. To achieve this goal many patients need some kind of Mental Health and Psychiatric intervention.

Objective: The principal aim of this study is to evaluate the impact of bariatric surgery on psychiatric disorders and psychological dysfunctions of patients with morbid obesity over the course of a year following surgery. Special consideration is given to the presence of psychiatric comorbidity, eating disorders, body image dissatisfaction and self-esteem.

Design: Longitudinal, psychiatric intervention previous and one year after surgery.

Results: The mean age of the patients was 41.7 years (s d 2.4) The mean weight was 121.8 kg (22.5) which corresponds to a mean BMI of 45.7 (7.7) The sex distribution is 20% male and 80% female patients. Psychiatric disorders (International Classification of Diseases- ICD-10 criteria), were present in 32.5 %. Among them eating disorders were the most prevalent (38.5%).

Following bariatric surgery there was a significant improvement in eating disorders and eating symptoms (according to the Eating Disorders Inventory and the Bulimic Test of Edinburgh) and in body image satisfaction (measured by Body Shape Questionnaire- BSQ) and self-esteem (Rosemberg). A multiple regression analysis of clinical factors associated to weight loss showed that 40% of it is determined by the decrease of bulimic symptoms detected by the Bulimic Investigatory Test BITE-symptoms.

Conclusions: Morbid obesity is a risk population for psychiatric disorders and psychological dysfunctions. Bariatric Surgery reduces over one year the severity of this morbidity. The impact of increased self-esteem through the increase of body image satisfaction and of the increase in control over food intake seems to be the major factor in these changes.

Keywords: Morbid Obesity, Bariatric Surgery, Psychiatric Comorbidity, Eating Disorders, Impulsivity.

Audience Take Away Notes

- The audience will be able to understand mental health disorders associated with morbid obesity
- It will help the audience in manage Mental Health in Morbid Obesity
- This research introduce the necessity to improve detection in Psychiatric Disorders in Morbid Obesity prior to surgery
- This research provide a perspective in how Eating Disorders and self-steem improve post to surgery
- It is necessary to improve the accuracy of a design and include a Gender Perspective in this area

Biography

Dr. Margarita Saenz-Herrero studied Medicine and graduated as MD and as Psychiatrist in 1998 in Madrid, Spain. She joined as a visiting Doctor for 4 months in the research group of Prof. Dr. Halmi at the Eating Disorder Program at Cornell University NY in 1998. She received her PhD degree in 2004 at Complutense University in Madrid supervised by Dr. Lopez-Ibor, Spain and she obtained the position of an Associate Professor at the Complutense University and after in Basque University. She is interested in including the Gender perspective in Clinical Psychiatry and Research projects. She has written articles on this topic and has published articles and edited several books including Psychopathology in Women. Springer 2015 and 2nd edition in 2019. Advisory Board member of the IAWMH till 2019.

Harris Phillip
National Health Service, United Kingdom

Diabetes the devil is in the name

There are 4.3 million people living in the UK with diabetes in 2023. In the USA there are 34 million with the disease. By 2025, it has been predicted that in the USA, the numbers will increase to 53.1 million with 72.9% or 38.7 million diagnosed and a further 27.1% or 14.4 million remaining undiagnosed. The diabetologist tells us there is no cure for the condition and our best chance for delaying complications is by taking our medications- Insulin, sulphonyl urea's and biguanides as metformin. I there say the world is on the brink of losing hope, since our medicaments are rarely decreased but their dosages continue to increase. We are therefore failing to cure the disease and maybe we are inadvertently worsening the condition. We are suggesting a new approach in the management of this condition. One we believe will be made clear to you and will help you get off these medications with a bit of discipline. We believe strongly that the treatment is in the Name. DIAB-E_TE_S: Eat with discretion, try exercise and stress management.

Paraskevi Theofilou
Hellenic Open University, School of Social Sciences, Patra, Greece
General Hospital of Thoracic Diseases SOTIRIA, Athens, Greece

Depression among Type ii diabetes mellitus outpatients: Is there a relation to gender, glycosylated hemoglobin and type of treatment?

Diabetes is a chronic illness that can occur in different periods of the person's life. The purpose of this study is to investigate the correlation of depression levels with HbA1c glycosylated hemoglobin values and gender, to determine the rate of depression in patients with type II diabetes in relation to the presence of co-morbidities and how depression is associated with the type of treatment (diet, insulin). The study involved 150 diabetic outpatients. A questionnaire consisting of two sections was used to collect the research data: (a) the Zung Depression Rating Scale (ZDRS); and (b) the Questionnaire designed by researchers, which deals with demographic and somatometric data. In the evaluation of the association of depression with the value of glycosylated hemoglobin, the results did not show a statistically significant correlation between the two above-mentioned variables ($r = 0.098$, $p = 0.258 > 0.05$). Those on a diet had lower levels of depression (62.57) than those who did not follow a diet (77.50, $p = 0.029 < 0.05$). Those with diabetic neuropathy experienced higher levels of depression (104.25) compared to those who did not suffer (66.81, $p = 0.010 < 0.05$). The presence of complications as well as the treatment seem to influence the depression variable.

Biography

Paraskevi Theofilou is a Post Doc Researcher (2016-2018, University of Peloponnese, Department of Nursing, Sparta, Greece). Ph.D. in Health Psychology (Panteion University of Social and Political Sciences, Department of Psychology, Athens, Greece) Ph.D. in Personnel Management (University of Peloponnese, Department of Nursing, Tripoli, Greece) M.Sc. Health Services Management (Frederick University, School of Health Sciences and School of Law and Business Administration, Cyprus) M.Sc. Social exclusion, minorities and gender (Panteion University of Social and Political Sciences, Department of Sociology, Athens, Greece) Social Administration - Management of Health Services (National School of Public Administration, Athens, Greece) B.Sc. in Psychology (Panteion University of Social and Political Sciences, Department of Psychology, Athens, Greece) B.Sc. in Social Work (Technological Educational Institute of Athens, Athens, Greece).

Oscar Mauricio Santamaria Nino*, Da Costa C S, Merlo E, Zanol J F, Graceli J B

Post-graduation Program in Physiological Sciences, UFES, Vitoria/ES. Faculty of Human Sciences and Education, Universidad de los Llanos, Villavicencio, Meta, Colombia

High-refined carbohydrate diet induced a disruption of the reproductive function in female rats

Obesity is a growing epidemic in the world and impacts all functions of the body, including reproduction. An increase of consumption of diet containing fat or refined carbohydrate contributes to obesity and related diseases. Although studies have shown the obesity effect induced by high fat diet in reproduction, no reproductive data are available in obesity animals as result of fed High-Refined Carbohydrate-Containing (HCD) diet. In this study, we assessed whether HCD diet results in reproductive abnormalities. Adult female Wistar rats were fed regular chow (Socil, CON) or HC diet for 15 days. The HCD diet was composed of 45% condensed milk, 10% refined sugar, and 45% chow diet. The macronutrient composition of the chow diet (4.0 kcal/g) was 65.8% carbohydrate, 3.1% fat, and 31.1% protein; the HCD diet (4.4 kcal/g) was 74.2% carbohydrate, 5.8% fat, and 20% protein. It is important to note that HCD diet contains at least 30% refined sugars, mostly sucrose.

We further assessed the reproductive tract function, inflammation, oxidative stress, fibrosis and metabolic parameters. All the protocols were approved by the Ethics Committee of Animals of the Federal University of Espirito Santo. All data are reported as the mean ± SEM. Comparisons between the groups were performed using Student's and Mann-Whitney t- tests for Gaussian and non-Gaussian data, respectively. A value of $p < 0.05$ was regarded as statistically significant.

HCD diet led to increased body weight and adiposity compared with CON rats ($p<0.05$, n=10). An irregular estrous cyclicity, with longer estrous cycle length (54 %), tendency to increase basal LH, FSH and estrogen levels were observed in HCD rats 30 and 48 % respectively ($p=0.09$, $p=0.05$ and $p=0.05$, respectively, n=10). A reduction in ovarian follicular reserve was observed, with low primordial and primary follicles numbers in HCD rats compared with CON rats 30 and 15 % respectively ($p<0.05$, n=6). Impairment in ovarian follicular development was observed in HCD rats, with reduction in preantral, antral follicles and corpora lutea numbers 15 and 25 % ($p<0.05$, n=6). HCD diet led to uterus atrophy, reduction in the endometrium and myometrium area and uterine gland numbers (10% $p<0.05$ and 12% $p<0.001$, respectively, n=6).

HCD diet was able to increase ovary and uterus inflammation by increase mast cells number (Alcian blue staining, 52 and 46 % respectively, $p<0.05$, n=6). Imbalance in oxidative stress was observed in reproductive tract in HCD rats, with increase in TBARS 86 % respectively, $p<0.05$, n=5 (the thiobarbituric reactive species) and DHE uterine (superoxide anion indicator) 23 % respectively, $p<0.05$, n=5). Ovarian and uterine fibrosis was observed in HC rats using a Picrosirius Red staining (32 and 30 %, respectively, $p<0.05$, n=5).

Other metabolic dysfunctions were observed in fat HCD rats, with abnormal serum lipid profile impairment in insulin sensitivity and glucose tolerance tests, an increase in the serum leptin and a reduction in the adiponectin levels 33 and 53 % respectively ($p<0.05$, n=6). Thus, these data suggest that HCD diet is responsible to abnormal reproductive and metabolic functions in female rats.

Biography

Oscar Mauricio Santamaria Nino Graduate in Physical Culture with a master's degree in Therapeutic Physical Culture and Human Physiology from the University of Sciences of Physical Culture and Sports -- Havana- Cuba (2001-2007). PhD in Physiological Sciences, I was in toxicology Laboratory in Vitoria Brazil for 5 years. My desire to continue training in the area of physiological sciences in the area of reproduction and endocrinology. Federal University of Spirito Santo- Vitoria - Brazil - 2017-2022, I have had experience as a researcher in the field of physical activity for health, breast cancer and physical exercise, toxicology and endocrinology, currently I work as a Professor University student in the Biomedical area in the chair of Human. Physiology and as Coordinator of the Laboratory of Physiology of Effort at the University of Los Llanos - in Villavicencio - Meta - Colombia.

Brandon Lucke Wold
University of Florida, United States of America

Diabetes management in the context of cranial tumors

The study of the association between cancer and Diabetes Mellitus (DM) has been under investigation for decades. Particularly, in the field of neurology and neurosurgery, increasing attention has been paid to comorbid DM in cranial tumor patients, namely those afflicted with the most common and invasive type of malignant adult brain tumor Glioblastoma (GBS). Several mechanisms have been described in the attempt to elucidate the underlying association between DM and GBS, with the metabolic phenomenon known as the Warburg Effect and its consequential downstream effects serving as the resounding culprits in recent literature. Since the effect seen in cancers like GBS exploit an upregulated form of aerobic glycolysis, the role of a sequalae of DM, known as hyperglycemia, will be investigated. Specifically, in the treatment of GBS, there is a notable predisposition to hyperglycemia due to the administration of corticosteroid therapy in conjunction with surgical resection and subsequent chemotherapy and/or radiotherapy. Unsurprisingly, comorbid DM patients are significantly susceptible to this disposition. Further, this fact is reflected in recent pre-clinical and clinical studies on the impact of hyperglycemia on cancer advancement and patient outcomes. Thus, this review aims to highlight the importance of diabetes/glycemic control via standard of care treatments such metformin administration, as well as to describe emerging treatments such as insulin-like growth factor signaling pathway modulation and the employment of the ketogenic diet.

Biography

Brandon Lucke-Wold was born and raised in Colorado Springs, CO. He graduated magna cum laude with a BS in Neuroscience and distinction in honors from Baylor University. He completed his MD/PhD, Master's in Clinical and Translational Research, and the Global Health Track at West Virginia University School of Medicine. His research focus is on traumatic brain injury, neurosurgical simulation and stroke. At West Virginia University, he also served as a health coach for the Diabetes Prevention and Management program in Morgantown and Charleston, WV, which significantly improved health outcomes for participants. In addition to his research and public health projects, he is a co-founder of the biotechnology company Wright-Wold Scientific, the pharmaceutical company CTE cure, and was a science advocate on Capitol Hill through the Washington Fellow's program. He has also served as president of the WVU chapters for the American Association of Pharmaceutical Scientists, Neurosurgery Interest group and Erlenmeyer Initiative Entrepreneur group. In addition, he has served as vice president for the graduate student neuroscience interest group, Nu Rho Psi Honor Society and medical students for global health. He was an active member of the Gold Humanism Honor Society and Alpha Omega Alpha Honor Society.

He is currently a member of the UF House Staff Council, Positive Culture Committee, Quality Improvement Committee, Board of Directors Alachua County Medical Society, and Accreditation Requirements Review Committee. He is married to Noelle Lucke-Wold and has two children. As a family, they enjoy running with their dogs, rock climbing and traveling. In his spare time, Brandon frequently runs half marathons and 10ks together with his wife. Brandon also enjoys reading, playing piano, discussing philosophy, and playing chess. He is currently a Pgy5 neurosurgery resident at University of Florida with pursuing endovascular enfolded training and was awarded the Dempsey Cerebrovascular Research Fellowship.

Shreya Rao[1]*, Howard Maibach MD[2]

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Comparative analysis of the impact of rolled inner seam strap design on pressure distribution at the toehold area of flip-flops: A prospective study in healthy volunteers

Background: Foot ulcers, especially dorsal foot ulcers caused by straps in footwear, can lead to discomfort, pain, and severe complications, particularly in individuals with diabetes and leprosy. While plantar foot pressure measurements have been extensively studied, research on the impact of strap-induced pressure on the dorsal foot aspect remains limited.

Research question: The main research question of this prospective study is: Does the implementation of a Rolled Inner Seam strap design (RIS) in flip-flops result in reduced pressure at the toehold area compared to traditional strap designs (Control) in healthy volunteers?

Methods: We studied 5 healthy female volunteers, with 10 feet (5 left and 5 right) per arm of the study. Two types of flip-flops, RIS and Control, were compared in a standardized 5-step walk trial on a hardwood floor. Pressure at the toehold was measured using Pressure Sensitive Switches with portable, accurate, ultra-thin pressure sensors. Paired t-tests compared the maximum pressure at the toehold between RIS and Control flip-flops ($p < 0.05$).

Results: The study revealed a statistically significant difference in pressure at the toehold between the RIS and Control flip-flops ($p = 0.0014$). The mean difference of -40.90 grams (95% CI: -61.22 to -20.58) indicated that the RIS exerted significantly lower pressure than the Control flip flops. The RIS group had a mean pressure of 29.30 grams. The Control group had a mean pressure of 70.20 grams at the toehold area.

Conclusion: The findings of this study have significant clinical implications for individuals at risk of foot ulcers, particularly those with neuropathic conditions such as diabetes and leprosy. The implementation of the RIS design in flip-flops may offer a practical and cost-effective solution to reduce strap-induced pressure and mitigate the risk of strap-related foot ulcers, especially in resource-limited settings where comprehensive foot care is lacking.

Audience Take Away Notes

- Discover the innovative RIS design for open-toe footwear, specifically flip-flops, which are the primary footwear in the developing world
- Benefit individuals in resource-limited settings, where comprehensive foot care is often lacking, by reducing strap-induced pressure and minimizing the risk of foot ulcers caused by flip-flop straps
- Prevent foot ulcers effectively, offering a practical and cost-effective solution to improve foot comfort and promote foot health in vulnerable populations
- Provide a valuable addition to foot care strategies in developing nations, where flip-flops are popular due to simplicity, convenience, and breathability, but can pose risks of foot ulcers
- Enhance foot health outcomes and well-being for those who heavily rely on flip-flops as their primary footwear, making the RIS design particularly impactful in the developing world

Biography

Shreya Rao is a talented student at Durham Academy, with a passion for foot health and innovative solutions. Collaborating with esteemed specialists like Dr. Maibach, a dermatologist at UCSF, Shreya focused on addressing the issue of strap-induced pressure in open-toe footwear, particularly flip-flops, which can lead to dorsal foot ulcers. Her dedication to research and creative problem-solving led to the development of the rolled inner seam (RIS) design, offering a practical and cost-effective solution to reduce foot pressure. Shreya's work demonstrates her commitment to improving foot health and making a positive impact in the field of podiatry.

Sujith Rajan[1]*, Michael Verano[2], Jose O Aleman[2], M Mahmood Hussain[1,3]

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Positive adipose liver crosstalk protects adipose MTP knockout mice from hepatic steatosis on an obesogenic diet

Introduction: Our previous study demonstrated that adipocyte MTP regulates intracellular lipolysis by inhibiting ATGL activity. Adipose-specific MTP knockout mice (A-Mttp$^{-/-}$) had smaller adipocytes and showed increased thermogenesis, and gained less weight on an obesogenic diet. They also exhibited moderately high plasma triglyceride levels and less hepatic steatosis compared to wild-type counterparts. In this study, we have elucidated the mechanism behind less haptic lipid accumulation and moderately high plasma TG in A-Mttp$^{-/-}$ mice.

Methods: We characterized lipoproteins using FPLC and studied hepatic ApoB production. We have analyzed adipose-liver crosstalk using two strategies 1) by performing lipidomics of adipose tissue, plasma, and liver. 2) Adipokine profiling of A-Mttp$^{-/-}$ and Mttp$^{f/f}$ mice plasma. Further, we have used western blotting and qRT-PCR to check signaling and gene expression.

Results: Plasma lipid profiling revealed increased TG content in the VLDL and LDL fraction of A-Mttp$^{-/-}$ mice compared to Mttp$^{f/f}$ mice. Additionally, A-Mttp$^{-/-}$ mice showed significantly increased hepatic triglyceride production compared to the wild type. Lipidomic analysis revealed the movement of fatty acids from adipose tissue to the liver, resulting in significantly higher amounts of oleate, palmitate, linoleate, and stearate in the liver of A-Mttp$^{-/-}$ mice compared to Mttp$^{f/f}$ mice. A-Mttp$^{-/-}$ mice liver also showed significantly increased expression of genes involved in fatty acid uptake and utilization such as Cd36, Mcad, Fatp2, and Cpt1a compared to Mttp$^{f/f}$ mice. Further adipokine profiling showed a significantly higher amount of adiponectin and decreased amount of proinflammatory cytokines such as leptin in the plasma of A-Mttp$^{-/-}$ mice compared to Mttp$^{f/f}$ mice. We also found decreased ceramide levels and significantly increased phosphorylation of AMPK in the liver of A-Mttp$^{-/-}$ mice compared to Mttp$^{f/f}$ mice.

Conclusion: We conclude that increased availability of substrate for TG production might contribute to increased ApoB secretion by the liver of A-Mttp$^{-/-}$ mice. In addition, positive cytokine profile in these mice may protect A-Mttp$^{-/-}$ mice from hepatic steatosis. Our study highlights the significance of adipokines and the movement of FFA from adipose tissue to the liver as essential for maintaining a healthy liver.

Audience Take Away Notes

- Audience will learn how adipose tissue regulates liver triglyceride secretion and helps in maintaining healthy liver. Researchers attending the conference could further expand the study and discover new therapeutic targets for diabetes and its related complications

Biography

Dr. Sujith Rajan, did his MS in biomedical science from the University of Wolverhmapton, United Kingdom. He joined Central Drug Research Institute in India for his PhD and worked on adipocyte biology. He is currently working as a research associate at NYU Long Island School of Medicine in deciphering the role of microsomal triglyceride transfer protein in adipocyte biology. He is been working in adipocyte biology for more than a decade and has published numerous articles in different peer-reviewed journals and have more than 500 citations. He is a member and recipient of

American Heart association post-doctoral fellowship. His one of the prominent works highlighted deleterious effect of chronic hyperinsulinemia on brown adipocyte function and insulin sensitivity.

Makhlouki H.[1]*, Jafri A[2], Elarbaoui M[1], Moumine H[3], Fathi F[1], Bayna S[1], Belhouari A[1], Derouiche Abdelfettah[1]

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[2]Faculty of Medicine, Mohammed VI University of Health Sciences (UM6SS), Casablanca, Morocco
[3]Faculty of Science, Hassan II University, Morocco

Impact of food profile on nutritional status of school children in the peri-urban area of Casablanca, Morocco

Between 1975 to 2016 childhood obesity in children aged 5 to 19 increased from 1% to 6 and 8% in girls and boys respectively (WHO). The Global Nutrition Report 2020 revealing that childhood obesity will exceed underweight by 2022 and which would be due in particular to the existence of a strong association between eating disorders and obesity. This study focuses on the impact of eating behaviour, eating habits and lifestyle on the weight status of 219 children aged 7 to 12 in the peri-urban area of Casablanca, Morocco.

Materials and Methods: We conducted a cross-sectional survey and recruited children aged 7 to 12 from the region of Tit mellil peri-urban area of Casablanca, Morocco. All participants completed a CAP Scoring Assessment Questionnaire. The questionnaire was divided into three sections: food groups, eating behavior and lifestyle. The height measurement was carried out by a vertical measuring rod, the weight and the BMI using an impedence meter (krada scan). Body status was assessed by comparing BMI to WHO 2008 reference standards.

Results: The study involved 219 children (including 125 girls and 94 boys), the mean age was 9.53 ± 1.48, the prevalence of overweight and obesity was 14.2% (95% CI (19.30, 20. 49)) and 11.9% (95% CI (22.13, 24.40)) respectively according to the 2008 WHO references. Several characteristics differentiate overweight or obese children from normal-weight children: overweight or obese children are less likely to eat breakfast often (10.95% vs 26.48%). The majority of overweight or obese children do not practice any sporting activity (7.3%), and sleep less than 8 hours at night than normal-weight children (12.87% vs 29.26%).

Conclusion and perspectives: In Morocco overweight and obesity are variable, with prevalence of 8% and 3% respectively according to WHO standards in children aged 8 to 15 years (Sebbani et al., 2013). The overweight and obesity estimated respectively at 14.2% and 11.9% according to the 2008 WHO references, hence the interest of implementing a preventive strategy in order to slow the progression of this problem is necessary. Accordingly, the promotion of a healthy diet and the establishment of regular extracurricular physical activity in youth centers and the encouragement of the creation of health and sports clubs in schools is also of great importance.

Audience Take Away Notes

- Children's and adolescent's obesity is a major health public problem in developed and developing countries
- This study will serve them to recognize the nutritional state and the nutritional status of children living in the peri-urban area of a city located in Morocco
- This will be useful for setting up an international strategy to fight or slow down childhood obesity
- To study impact of the dietary profile on the nutritional status of school children in the peri-urban area of Casablanca, Morocco

Biography

Dr. Makhlouki Houria studied Biology and Health at Ben M'Sik Faculty of Science, Hassan II University, Morocco, she had her Master's Degree in 2014. She then joined the research group of Prof. DEROUICHE Abdelfettah at Nutrition Research Unit, Laboratory of Biology and Health, at the same University. She received her PhD degree in 2023 at the same institution. She has published more than 8 research articles in SCI(E) journals. and more than 60 national and international communication.

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16-18 OCT

DAY 03-VIRTUAL

KEYNOTE FOURM

JOINT EVENT ON

OBESITY AND DIABETES

Incorporation of dietary fibres from selected vegetation for diabesity market

High intake of refined carbohydrates with low consumption of Dietary Fibres (DFs), particularly from vegetables and has increased the risk of CVD, diabetes and other illnesses. The prevalence of chronic diseases is increasingly skyrocketing with the number of diabetic individuals expected to rise from 180 million in 2010 to 368 million in 2030. This is the main cause of morbidity and mortality all over the world because it can lead to the problems in health and affect the quality of life and wellbeing. The aim of this study is to investigate the effects of incorporation of dietary fibres from selected vegetation for diabesity market. The GI was determined according to WHO/FAO 1998's protocols as outlined by Brouns (2005) while the macronutrients was determined according to AOAC 2000. A low GI diet is beneficial to reduce the risks and complications of different health conditions such as diabetes. Mechanistically, the DF enhances glycemic response by raising the rate of absorption of glucose in the small intestine, thereby lowering the GI value. The incorporation of agricultural by-products from banana (over-ripe banana), oyster mushroom and cornlettes in a few baked-based products such as cookies, pasta, cakes, muffins and flatbread are successfully formulated and scientifically proven in improving nutritional composition and DF content while lowering the GI values. A low GI diet will make us feel full for a longer duration while minimizing overeating at the same time. Besides, the Scanning Electron Microscopic (SEM) observation reveals that the damaged cornlettes starch reduces starch hydrolysis, thus slowly raises blood glucose. Also, the ethyl acetate fraction of cornlettes was possessed higher antioxidant and scavenging capacities followed by other fractions in the antioxidant assay tested. Being physically active and eating a sufficient amount of DF from fruits and vegetables are vital in reducing the risks of having diabetes, maintaining the health status and sustaining quality of life and societal well-being.

Audience Take Away Notes

- The audience will be able to apply or practice the use of any locally available agricultural by-products from selected vegetation for the development of nutritious and low glycemic index foods in their diet
- The audience should be able to identify various types of cheap available raw materials in the food products they want to develop
- The audience shall explore the possible joint research and innovations with relevant food companies to joint develop food that is not only healthy but also exhibits therapeutic benefits
- Any agencies or NGOs are also may use this knowledge and findings to promote and convince the communities to increase their daily intake of dietary fibres selected vegetation for the reduction of the prevalence of non-communicable diseases especially diabetes

Wan Rosli Wan Ishak[1]*, Nurraihana Hamzah[1], Majid Khan Majahar Ali[2]

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[2]Department or Applied Statistics and Operations Research, School of Mathematical Sciences, Univerisiti Sains Malaysia, Main Campus, 11800 Minden, Penang

Biography

Wan Rosli Wan Ishak is a professor of Nutrition Program at the School of Health Sciences (SHS), Universiti Sains Malaysia (USM), Health Campus, Kota Bharu, Kelantan, Malaysia. Currently, he is a Dean of the SHS of USM. His research theme emphasizes more on the utilization of natural agricultural by-products into popularly consume processed foods. Various low Glycemic Index (GI) based on these agricultural by-products has been developed. Wan Rosli has been appointed as Junior Faculty Member from SEAMEO-TROPMED RCCN, Indonesia in the Training of Leadership for Nutritionists in Jakarta Indonesia. He was selected among Top 10 Innovators for SYMBIOSIS project funded by Malaysian Technology Development of Malaysia (MTDC) to facilitate the commercialization of functional and health cookies from oyster mushroom (Nutri-Mush® Cookies). He has published more than 120 articles in various indexed journals.

IUGR as a risk of carbohydrate metabolism disorder

IUGR refers to child with too low birth weigt and/or lenght (<-2SD) compared to gestational age, for gender and population. Insulin resistance is a metabolic disorder which can associate IUGR children. A number of gene polimorphisms were found: INSVNTR, PPARγ2/ Pro12 Ala, ACEI/D, CDKN1; the old theories a Baker thirty phenotyp", abnormal phosphorylation of thyrosin kinase the β-insulin receptor subunit- decreased GLUT4, increased IGF1 during „catch up growth". In the light of new reports, the following are seen in children with IUGR: oxydative stress during pregnancy, epigenetic regulation in fetal period (methylation of co-activator 1αPPARγ) and central insulin resistance (increased IRS-1 phosphorylation in the ARC).The role of adipocytokines (leptin resistance and hypoadiponectinemia) is also important in insulin resistance process. In our old study we have received statistically significant increased of HOMA and QUICKI in IUGR prepubertal children and not statistically but increased leptin and decreased adiponectin leveles. Children with IUGR needs a special attention concerning obesity and metabolic X syndrome. The progression of exploration in this area requires constant broadening of knowledge.

Alicja Korpysz

Endocrinology & Diabetology Department of Children Memory Health Institut, Warsaw

Biography

Dr. Korpysz studied at Warsaw Medical Academy (Poland) and graduated as MD in 1994. She then joined the research group of Prof. Romer at The Children's Memorial Health Institute in Warsaw. She received her science doctorate in 2010 at the same institution. She graduaded the Science Fellow Ship at INSERM UNIT 690- Hospital Robert Debre in Paris (France) (2006-2007) and finally she obtained title of specialist in Pediatric Endocrinology and Diabetology - PARIS – SORBONA, UNIVERSITY V (2007-2008). She obtained the position of senior assistant at Endocrinology and Diabetology Department The Children's Memorial Health Institute and the director of Private Endocrinology and Diabetology Clinic in Warsaw. She has published a lot of paper concerning IUGR children's in terms of endocrine and diabetic disorders.

Could brown fat be a solution for weight loss?

Mammals and humans have white and brown fat. The brown fat has special properties. It stores heat instead of calories. The heat is produced in the mitochondria when ATP is not produced, but heat is. How to activate this process? It is mainly coolness and cold, which stimulates this production. Apart from staying in cold, the organism can be made to do this through cold chambers. This produces less white fat and more brown fat. The weight decreases.

Manfred Doepp

Holistic Center, Switzerland

Biography

Manfred Doepp was Born in Bad Berleburg/Germany. Medical studies in Munich and Giessen, exams and doctorate in 1971. Scientific assistant at the clinical centre of the Justus Liebig University at Giessen until 1978. Senior physician for nuclear medicine at the clinical centre in Hanau until 1985. Founder of the "International Institute for Experiential Medicine" www.iifeh.de ; Founder of the "Diagnostic Centre for Mineral Analysis and Spectroscopy DCMS. From 2011 to 2018 Head Physician of the Quantisana Health Centre for Holistic Diagnostics and Therapy in CH 9404 Rorschacherberg. Since 2018 Head of the HolisticCenter in CH 9030 Abtwil. Many oral and written publications in the field of complementary and energy medicine. Many videos on Youtube, Google and complementary portals. Reviewer of international journals. Co-founder and Deputy President of DGEIM (German Society for Energetic and Information Medicine, Stuttgart www.dgeim.de).

Magnesium supplementation as potential means to reduce thrombotic risk in Type 1 diabetes

Type 1 Diabetes (T1D) is associated with vascular complications that increase mortality risk, underpinned by extensive vascular disease coupled with an enhanced thrombotic environment. Previously, we investigated potential associations between fibrin clot properties and plasma magnesium concentrations in 45 individuals with T1D and 47 age/sex-matched controls without diabetes. Fibrin clot characteristics were assessed using a validated turbidimetric assay and associations with plasma magnesium concentration were examined. Plasma concentrations of fibrinogen, Plasminogen Activator Inhibitor-1 (PAI-1), and lipids were measured and fibrin fibre diameters assessed using scanning electron microscopy. Fibrin clot maximum absorbance was unchanged in subjects with T1D compared with controls, while lysis time was increased. No differences in fibrin fibre diameters or in lipid profile were observed between T1D and controls. PAI-1 concentration was lower in the T1D group compared with the controls and positively correlated with lysis time. Plasma magnesium concentration was lower in the T1DM group compared with controls. Magnesium concentration negatively correlated with both clot maximum absorbance and lysis time. A turbidimetric fibrin clot lysis assay performed in a purified system that included PAI-1 and up to 3.2 mM Mg2+, showed a shortening of lysis time with increasing Mg2+ concentrations. Our findings revealed that plasma magnesium concentration is associated with changes in fibrin clot and lysis parameters. Hypofibrinolysis predicts cardiovascular outcomes in diabetes and targeting this pathway has the potential to reduce thrombosis risk. We hypothesise that adequate plasma magnesium concentrations are important for normal haemostasis. Going forward, we propose to examine the role(s) of magnesium in regulating fibrinolysis using in vitro/in vivo approaches and employing a clinical study of magnesium supplementation in deficient T1D individuals. We will analyse the effects of magnesium on thrombotic/fibrinolytic potential, glycaemic and insulin resistance measures as well as patient well-being. We also will determine whether magnesium deficiency (and subsequent supplementation) induces molecular changes in coagulation factors that may influence fibrinolysis. This work will provide a mechanistic understanding of how magnesium controls fibrinolysis and will determine the usefulness of monitoring plasma magnesium in T1D and correcting abnormally low levels. In turn, this will pave the way to new T1D management strategies that reduce the mortality risk using a safe and affordable supplementary therapy.

Audience Take Away Notes

- Type 1 diabetes can lead to poor health outcomes including an increased risk of vascular disease

Alan J Stewart*, Matthew Campbell, Ramzi A Ajjan

School of Medicine, University of St Andrews, St Andrews, United Kingdom

Biography

Dr. Alan Stewart graduated from the University of Edinburgh with a BSc (Hons) degree in Biochemistry in 1999 and a PhD in 2003. In 2009 After postdoctoral positions in Edinburgh at the Roslin Institute and MRC Human Reproductive Sciences Unit he moved to the University of St Andrews. His research focusses on metal ions in disease. To date his work has attracted grant funding from UK Research Councils and various medical charities. He has published over 90 research papers, many in world class and field-leading journals. He has sat on several UK Research and Innovation grant panels and sits on the Editorial Boards of the journals, Scientific Reports and Nutrients. He has an H-index of 36 (Google Scholar).

- We have found that low plasma magnesium is negatively associated with hyperfibrinolysis in type 1 diabetes
- Magnesium supplements are widely available and may be of benefit to some individuals
- To assess this, we will carry out a trial to assess the usefulness of magnesium supplements in this context

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SPEAKERS

JOINT EVENT ON

OBESITY AND DIABETES

Chileka Chiyanika[1,2]*, Steve Hui[2,3], Winnie Chu[2]

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[2]Department of Imaging and Interventional Radiology, The Chinese University of Hong Kong, Hong Kong
[3]Russell H. Morgan Department of Radiology and Radiological Science, The Johns Hopkins University School of Medicine, Baltimore, Maryland, United States of America

Impact of brown fat activation and white fat browning in obesity after lifestyle modification

Background: Obesity and its comorbidities have been increasing at an alarming rate and have thus become a major public health concern worldwide. Recently, Brown Adipose Tissue Activation (BAT) and White Adipose Tissue (WAT) browning have emerged as potential targets for combating obesity and metabolic disorders, largely triggered by the revolutionary discovery of the presence of active BAT in adult humans and its capacity to counteract obesity and metabolic disturbances in animals. However, human data on the impact of BAT activation/WAT browning on humans remains scarce, especially that there is a considerable discrepancy in thermogenesis mechanism between mice and humans. Similarly, studies have also shown that food restriction/exercise in mice can activate BAT and induce beige fat. However, it remains unclear in humans as to whether these known interventions such as Lifestyle Modification Program (LMP) in the treatment of obesity can activate BAT/induce WAT browning. Mostly because LMP studies have only been focused on the treatment of obesity and have scarcely been focused on activation of BAT/induction of WAT browning in humans. Thus, the aim of this pilot study was to assess the activation of BAT, browning of white fat, and to detect reversal of metabolic syndrome, Non-Alcoholic Fatty Liver Disease (NAFLD), Non-Alcoholic Fatty Pancreas Disease (NAFPD), and altered insulin resistance over 6-month period.

Methods: 9 morbidly obese and 9 health lean control subjects were recruited in this pilot study. LMP was employed to induce weight loss and consequent activation of BAT and induction of WAT browning in morbidly obese subjects. MRI was used to measure BAT/WAT in the neck region (BAT depots) at baseline and 6 months by measuring their T2* and fat fraction using a validated in-house algorithm. Blood biochemistry and anthropometrics were also measured.

Results: A median %weight loss of -1.15%, p=0.593 was achieved. This %weight loss resulted in:

- Significant % decrease in pancreatic and liver fat fractions (-15.04%, p=0.021 and -31.77%, p=0.015, respectively).
- % decrease in BAT fat fraction of -3.22%, p=0.953 and BAT T2* of -4.47%, p=0.953.
- % decrease in WAT fat fraction of -25.74%, p=0.008 and WAT T2* of -57.63%, p=0.021. Indicating the possible occurrence of WAT browning.
- No difference between the intervention group-WAT fat fraction vs. control- BAT fat fraction (66.65% vs. 60.18%, p=0.853) and no difference between the intervention group-WAT T2* vs. control- BAT T2* (28.94ms vs. 17.22ms, p=0.060). Suggesting the occurrence of WAT browning vis-à-vis increased metabolic activity in WAT of the morbidly obese subjects to the levels of BAT metabolic activity in the lean control subjects.
- No statistically significant differences in the BAT fat fraction and BAT T2* between the intervention group and control group (66.22% vs. 60.18%, p=0.310 and 30.19ms vs. 19.43ms, p=0.171, respectively). Implying that the BAT metabolic activity in the intervention group was similar to that of the control group.

- BAT/WAT T2* at 6 months of LMP group showed a trend of inverse correlation with obesity, metabolic disorder components, certain pro-inflammatory cytokines and adipokines.

Conclusion: LMP may be an effective method in inducing WAT browning but seems to have minimal effect on BAT activation, nonetheless, this outcome requires confirmation using large sample sizes. BAT and WAT browning could be a potential treatment of obesity and its comorbidities.

Audience Take Away Notes

- It could contribute to the academic field to understand the mechanism of activation of brown fat and induction of browning in white adipose tissue as a potential treatment for obesity and related comorbidities
- It could indirectly promote healthful eating and living habits among the population with or without obesity resulting in a healthier population
- It could help enhance more personalized treatment especially that clinicians often have difficulties in managing obesity as this is purely dependent on an individual's chosen lifestyle with limited intervention from the clinicians. Further, this could aid a reduction in waiting time/costs of those earmarked for bariatric surgery and a reduction in the workload of the clinicians/medical personnel responsible for managing such patients

Biography

Chileka Chiyanika completed his PhD in 2022 from the Chinese University of Hong Kong under the supervision of Professor Winnie Chu. Soon after his graduation, he was employed as a Research Assistant Professor at The Hong Kong Polytechnic University. He has published a number of papers in reputed journals.

Su Bu[1]*, Anran Xiong[1], Xunyong Zhou[2] and Fuliang Cao[3]

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[3]Co-Innovation Center for Sustainable Forestry in Southern China, Nanjing Forestry University, Nanjing, Jiangsu, China,

Bilobalide exerts multiple functions in regulating lipid metabolism in 3T3-L1 adipocytes

Bilobalide, the only sesquiterpene compound from Ginkgo biloba leaf, exhibits numerous beneficial bioactivities, such as neuroprotective, antiinflammatory, and antioxidant activity. Certain bioactive components of Ginkgo biloba extract have previously been reported to have potential to attenuate lipid metabolism. However, the effect of bilobalide on lipid metabolism remains unclear. In this study, we used 3T3-L1 cells as the cell model to investigate the effect of bilobalide on adipogenesis and lipolysis. The results showed that bilobalide inhibited 3T3-L1 preadipocyte differentiation and intracellular lipid accumulation. The expression of several specific adipogenic transcription factors and genes was downregulated on both mRNA and protein levels in response to bilobalide treatment. By contrast, bilobalide treatment upregulated the expression of important lipolytic genes such as adipose triglyceride lipase (ATGL), hormone-sensitive lipase (HSL) and carnitine palmitoyltransferase-1α, and stimulated the phosphorylation of AMP-activated protein kinase (AMPK), acetyl-CoA carboxylase 1, and HSL and stimulated the phosphorylation of AMP-activated protein kinase (AMPK), acetyl-CoA carboxylase 1, and HSL. Furthermore, bilobalide treatment partially restored AMPK activity following its blockade by compound C. Notably, bilobalide also exerted the dose-dependent cytotoxicity specific to the mature adipocytes only, indicating its potential for regulating apoptosis in them. We then evaluated the apoptotic effects of bilobalide on 3T3-L1 mature adipocytes and elucidate the underlying mechanisms thereof. FACS assay revealed the pro-apoptotic effects of bilobalide on these cells. Bilobalide induced early apoptosis by reducing the mitochondrial membrane potential (MMP). DNA fragmentation was confirmed using TUNEL staining. Additionally, bilobalide increased the intracellular reactive oxygen species (ROS) levels and activities of Caspases 3/9. Pretreatment with NAC (an ROS scavenger) confirmed the role of ROS in inducing apoptosis. Moreover, bilobalide up- and down-regulated the expression of Bax and Bcl-2, respectively, at the mRNA and protein expression levels; upregulated the Bax/Bcl-2 ratio; triggered the release of cytochrome c from the mitochondria; and increased the protein expression of cleaved Caspase 3/9, and PARP cleavage. Taken together, these findings suggest that bilobalide exerts multiple functions including inhibiting adipogenesis, promoting lipolysis in 3T3-L1 cells by activating the AMPK pathway, and inducing apoptosis in mature 3T3-L1 adipocytes through the ROS-mediated mitochondrial pathway. Bilobalide may therefore offer a potential novel treatment for obesity.

Biography

Dr. Bu got her Ph.D. from the Dept. of Biochemistry, the Chinese University of Hong Kong. She pursued her postdoctoral research at the University of Alabama at Birmingham (UAB). She then continued to work at UAB as a research associate until she returned to China. In 2014 she joined Nanjing Forestry University (NJFU) and held an Associate Professor position since then. She has published more than 20 research articles in SCI. Dr. Bu's current research interest focused on studying the effects of forest-derived bioactive substances (such as bioactive components in Ginkgo biloba leaves, concentrated extract from Prunus mume fruits, etc.) and edible and medicinal fungi (Ganoderma lucidum etc.) on adipogenesis, lipolysis, adipocyte beiging/browning as well as the regulatory mechanism involved using mammalian adipocytes and mouse model. She aims to provide a scientific basis for the development of weight loss and lipid-lowering products or leading compounds using these bioactive ingredients and provide new ideas for improving and reventing metabolic diseases such as obesity and type 2 diabetes.

Tatiana A Korolenko[1]*, Nina I Dubrovina[1], Erik Korolenko[2]

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Autophagy inducer trehalose: Decrease weight and behavior alleviation in obese db/db mice

Autophagy attenuation has been found in aging, obesity, neurodegenerative diseases, diabetes mellitus. In experimental models of neurodegenerative diseases, the correction of autophagy in the brain reverses neuronal and behavioral deficits and hence seems to be a promising therapy for obesity and neuropathologies. Our aim was to study the effect of an autophagy inducer, trehalose, on brain autophagy and behavior in a genetic model of diabetes with obesity (db/db mice). A 2% trehalose solution was administered as drinking water during 24 days of the experiment. Expressions of markers of autophagy (LC3-II), Neuroinflammation (IBA1), Redox State (NOS), and Neuronal Density (NeuN) in the brain were assessed by immunohistochemical analysis. For behavioral phenotyping, the open field, elevated plus-maze, tail suspension, pre-pulse inhibition, and passive avoidance tests were used. Trehalose caused a decreasing weight, reduction in increased blood glucose concentration, considerable autophagy activation, and a decrease in the neuroinflammatory response in the brain along with improvements of exploration, locomotor activity, anxiety, depressive-like behavior, and fear learning and memory in db/db mice. Trehalose exerted some beneficial peripheral and systemic effects and partially reversed behavioral alterations in db/db mice. Thus, trehalose as an inducer of mTOR-independent autophagy is effective at alleviating neuronal and behavioral disturbances accompanying obesity in experimental diabetes.

Audience Take Away Notes

- Obesity is a serious problem in contemporary society and new approaches in prevention and treatment obesity are important
- New approaches to prevent obesity, especially among young persons
- It is possible that our research could be used to expand research
- There is possible practical solution for prevention obesity (in complex with other methods)

Biography

Dr. Tatiana A. Korolenko studied Medicine at Novosibirsk Medical University, Russia and graduated as MS in 1965. She then joined the research group of Prof. Yacobson G.S. at the Central Research Laboratoty of Novosibirsk Medical University. She received her PhD degree in 2004 at the same institution. After postdoctoral fellowship supervised by Dr. Hans Fritz Munchen, Germany she obtained the position of an Associate Professor at the Research Institute of Physiology, Academy of Medical Sciences of Russia. She has published more than 70 research articles in SCI(E) journals.

Pratima Tripathi

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Vascular dysfunction and diabetes mellitus: A pathophysiological association

Points of Discussion: Prevalence of Diabetes, Effect of Diabetes on vascular dysfunction, Biomarkers targeting vascular dysfunction in diabetic condition, possible treatments.

There are around 100 million people worldwide who have diabetes mellitus. 5% to 10% of people have type 1 diabetes, also known as insulin-dependent diabetes, while 90% to 95% have type 2 diabetes, also known as non-insulin-dependent diabetes. As a result of lifestyle choices causing obesity, type 2 diabetes incidence is probably going to increase. As vascular disorders are the leading causes of mortality and disability among diabetics, cardiovascular specialists are seeing a lot of these patients. Atherosclerosis and medial calcification are examples of the macrovascular manifestations. Retinopathy and nephropathy, which are microvascular sequelae, are significant contributors to blindness and end-stage renal failure. To best treat these patients, doctors must be aware of the key characteristics of diabetic vascular disease.

In a healthy state, endogenous reparative activities reduce endothelial cell damage. Patients with diabetes have an imbalance between repair and damage, which causes micro-vascular alterations, including micro-vascular cell death, which eventually culminates in problems from diabetes. Changes in proliferation, barrier function, adherence of other circulating cells, and susceptibility to apoptosis are indicative of endothelial dysfunction in diabetes mellitus. The angiogenic and synthetic capacities of endothelial cells may also be altered by diabetes mellitus.

Research on biomarkers is also pacing up to find out some innovative combinations or target molecules to be treated as biomarkers and is capable of showing it's efficiency throughout the course of the disease. In her talk the speaker will focus on the Prevalence of Diabetes, Effect of Diabetes on vascular dysfunction. Biomarkers targeting vascular dysfunction in diabetic condition and possible treatments

Audience Take Away Notes

- Through this talk the research and student community will understand the significance of endothelium and it's direct involvement in peripheral vascular disease
- They will understand Dysfunction of the vascular endothelium is a hallmark of human diseases and hence will apply the concept in their advanced research assignments
- Targeting the biomarkers/changing parameters could be used in the development/discovery of biomarkers in vascular diseases

Biography

Dr. Pratima Tripathi attained her Ph.D. degree in 2012 from University of Lucknow, Uttar Pradesh, India. Post Ph.D she worked as faculty at different organisations for 7 years after which she choose to pursued her research career as Post-doctoral Fellow from 2019 till 2021 at Dr. Ram Manohar Lohia Institute of Medical Sciences, Lucknow, Uttar Pradesh, India. Currently she is a faculty at National Institute of Pharmaceutical Education and Research (NIPER) Raebareli, Uttar Pradesh, India. She has an expertise in clinical biochemistry and translational research. She has worked on diabetes induced vascular dysfunction, cardiovascular disorders, the underlying mechanism of CVD and development of

suitable biomarkers for screening of the disease and its treatment. At NIPER, her research team is targeting to design suitable drugs/drug conjugates to treat inflammation in diseases specially CVD and also to study the inflammatory pathways that exaggerate the diseased condition leading to the insult of the normal body physiology.

P C Manoria
Director Manoria Heart & Critical Care Hospital Bhopal MP India

Lipid management for ASCVD: Flash back and vision ahead

Dyslipidemia is the most common major modifiable risk factor for ASCVD.

Low-density lipoprotein cholesterol: There is unequivocal evidence that LDL-C is causally related to atherosclerosis. The era has come when we are able to stabilise the plaque, arrest the progression of atherosclerosis, and even achieve regression of atherosclerosis. Due to this, LDL-C targets are being slashed again and again by various guidelines.

Statins are the foundational therapy for lowering LDL-C, and HI statins decrease LDL-C by approximately 40 mg/dL. If the LDL-C goals are not achieved with statins, ezetimibe (10 mg per day) is added, which will further decrease LDL-C by 15-20%. If further lowering of LDL-C is required, a triple combo of high-intensity statins, ezetimibe, and bempedoic acid (180 mg/day) is very useful and decreases LDL-C by 70–80%. For those patients who do not tolerate statins or have FH, PCSK9 MoAbs like evolocumab and alirocumab can be used. Both of these molecules decrease LDL-C by 50–60%, irrespective of baseline therapy. Inclisiran acts by inhibiting the synthesis of PCSK9 in the liver. After an injection of 300 mg every six months, it decreases LDL-C by 50%, and this remains so for a period of six months. Therefore, two injections per year are emerging as a new way to target ASCVD, but this is also a very costly molecule.

Familial hypercholesterolemia: For patients with FH, in addition to the usual drugs, lomitapide and mipomersen can also be used. Evinacumab, a monoclonal antibody against ANGPTL3, is a boon for HoFH because its action is independent of the density of the LDL-C receptor.

The PCSK9 vaccine is being evaluated, and a single dose of the vaccine decreased LDL-C by 50%, which remained there for a period of one year. High-density lipoprotein cholesterol (HDL-C).

HDL Cholesterol: HDL-C is a fallen angel, and all trials of HDL-C elevation on top of statins have been flop trials.

Triglycerides: The role of TG as a causal factor in ASCVD is still evolving. All trials of triglyceride lowering on top of statins, including the ACCORD, STRENGTH, and recently completed PROMINENT trials with pemafibrate, have been negative. Subgroup analysis in the ACCORD LLA with TG > 204 mg/dl and HDL-C < 34 mg/dl showed positive results, but subgroup analysis is only hypothesis-generating. The REDUCE IT trial with icospent ethyl has shown a reduction in ischemic CV events in patients with established CVD or diabetics with other RF on statins and elevated TG between 135 and 499 mg/dL, but the mechanism of benefit does not seem to be related to lowering TG because the benefit was similar in subgroups of patients with TG > 150 and <150 mg/dL. Saroglitazar, which is a dual PPAR agonist, is only available in India. It lowers TG by 45–62% and has been approved in India for the treatment of diabetic dyslipidemia and nonalcoholic steatohepatitis.

Remnant Cholesterol: The Remnant cholesterol = total cholesterol - HDL-C - LDL-C. The RC has not been incorporated into any of the lipid guidelines as yet.

Lipoprotein (a): Pelacarsen, an antisense to apo A, is undergoing evaluation in a phase 3 HORIZON trial.

Gene editing: Gene editing could stop the biggest killer on earth. A volunteer in New Zealand has become the first person to undergo DNA editing in order to lower his blood cholesterol. The HEART-1 trial with Verve 101 has been planned to treat 40 people with FH with this technology. Thus, the future of lipid management for ASCVD seems very bright.

Audience Take Away Notes

- The audience will be able to learn about the treatment of dyslipidemia in different subsets of patients. They will also utilise the knowledge from the presentation regarding the selection of drugs to reach the LDL-C goal in their patients, and this will impact the CV outcome of the patients. The talk will also provide information regarding newer developments in dyslipidemia like Inclisiran, Pelacarsen, Evinacumab, the PCSK9 vaccine, gene editing, etc. The presentation will also provide some information on familial hypercholesterolemia

Biography

Dr. Prof P C Manoria did his MBBS from Gandhi Medical College, Bhopal Barkatullah University, in December 1970 with distinction in preventive and social medicine and ophthalmology. He got his MD in medicine from Gandhi Medical College on his first attempt. He did his DM Cardiology from the Post Graduate Institute of Medical Education and Research, Chandigarh, in his first attempt. He was Professor and Head Department of Cardiology at Gandhi Medical College, Bhopal. He took voluntary retirement in 1998, and he is currently director of Manoria Heart and Critical Care Hospital, Bhopal. He is past national president of the Cardiological Society of India and the Association of Physicians of India, the two largest professional bodies in the country. He has 74 publications in various national and international journals.

Rajat Goyal[1], Dinesh Kumar Mishra[2], Rupesh K Gautam[2]*

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Insights on role of nutraceuticals in diabetes mellitus and metabolic syndrome

The metabolic syndrome is a provocative clinical entity that is characterized by several cardiometabolic risk aspects including obesity, hypertension, and insulin resistance. This confluence is associated with an augmented peril of type 2 diabetes and cardiovascular disease. Diabetes is a majorly growing public health concern around the world. This disease has a high rate of mortality, morbidity, and long-term consequences, and it is still a significant risk factor for cardiovascular disorders. Diabetes is a leading cause of kidney failure, heart attacks, stroke, blindness, and amputation of lower limbs. Oxidative stress and systemic inflammation may play a vital role in the pathogenesis of diabetes mellitus, metabolic syndrome, and their vascular complications such as subclinical, low-grade inflammation, alteration in antioxidant status, and tenacious platelet activation. Several clinically used nutraceuticals have been evidenced to target the pathogenesis of diabetes mellitus and metabolic syndrome. These compounds include flavonoids, antioxidants, vitamins, conjugated linoleic acid, minerals, omega-3 fatty acids, α-lipoic acid, dietary fibers, and phytoestrogens, The major objective of this study is to acquire more information about the prevalence and factors that influence the usage of nutraceuticals by diabetic patients, as well as to provide a methodological agenda for the clinical research on nutraceuticals usage in diabetes mellitus and metabolic syndrome.

Keywords: Diabetes Mellitus, Metabolic Syndrome, Oxidative Stress, Inflammation, Antioxidants.

Biography

Dr. Rupesh K. Gautam is currently working as Department of Pharmacology, Indore Institute of Pharmacy, IIST Campus, India. He did his Ph.D. from Faculty of Pharmaceutical Sciences, JNU, Jodhpur, India, M. Pharm in Pharmacology from Rajasthan University of Health Science, Jaipur and B. Pharm from Rajiv Gandhi Proudyogiki Vishvidyalaya, Bhopal. He is having more than 15 years of teaching and research experience. More than tsixty research and review articles are in his credit in various journal of repute.

Sanniya Nanda
Pediatrics department Fayetteville, NC, United States of America

The tunnel between primary care pediatrics to obesity medicine

The adoption of healthful lifestyles by families can result in a reduction of obesity. Pediatricians should use a longitudinal, developmentally appropriate life-course approach to help identify children early on the path to obesity and base prevention efforts on families. The obesity prevention has to be emphasized in every phase of development beginning from prenatal, preschool, school age right till adolescence. Pediatricians should identify children at risk of developing obesity. For children aged 2 years and older, BMI changes should be monitored at every health care visit. Maternal smoking during pregnancy is a risk factor for early childhood obesity. So pediatricians should promote smoking cessation for mothers. Parents should also be educated that during the preschool years, a new food may need to be offered as often as 15 to 20 times before it is accepted and that they should not conclude too rapidly that the child does not like a food. In the first 2 years of life, overly controlling feeding practices should be discouraged. Adolescents should be screened for eating disorders. Motivational interviewing is a technique that has shown promising results for obesity prevention. Most behavior-modification techniques also involve self-monitoring, To successfully implement self-monitoring, families should be instructed to partner with their children on maintaining a diary of food, physical activity, and/or sedentary activities on a daily basis, The obesity-treatment literature emphasizes that family-based interventions are more effective. Parents and other family members should be strongly encouraged to implement the same changes as the child and model healthier behaviors as a family. Pediatricians should promote a diet free of sugar-sweetened beverages, of fewer foods with high caloric density, and of increased intake of fruits and vegetables. It is also important to promote a lifestyle with reduced sedentary behavior and with 60 minutes of daily moderate to vigorous physical activity All forms of sedentary entertainment, should be excluded for infants and children up to 2 years of age and limited to 2 hours per day for children 2 years and older. School lunches and breakfasts remains heterogeneous among school districts. Therefore, families should be encouraged to review school menus and provide alternatives if healthy choices at school are lacking. Children who received less than 9 hours of sleep have 1.5 times the risk of being obese. Pediatricians should identify sleep issues and help parents to improve sleep patterns. The pediatrician's advocacy within the community can be an important adjunct informing families about farmers' markets or local grocery stores that have a good supply of frozen or canned vegetables and fruits. Pediatricians should also become familiar with federal food assistance programs. Educate the family If local restaurants offer healthier take-out options. Providers may want to help families find local opportunities that are safe and sustainable, such as sports clubs, parks with walking or bicycle trails, or playgrounds. Pediatricians should play an important role in obesity prevention because they are in a unique position to partner with families and patients and to influence key components of the broader strategy of developing community support.

Audience Take Away Notes

- Approach pediatric obesity in a primary care setting
- Understand the etiology, investigate and then come up with practical solutions
- Aim to create patient friendly empathetic environment without bias

Biography

Dr. Nanda is a Board certified Pediatrician practicing in Fayetteville, NC heading the Strong Nutrition Clinic at the practice. She obtained her Medical degree and Diploma in Child Health from Government Medical College, Jammu, India. Also completed her Pediatric residency at Woodhull Medical center affiliated to NYU and recently got certified in American Board of Obesity Medicine and became one of the 507 pediatric obesity specialist in the country. Dr. Nanda is member of American Academy of Pediatrics and Obesity Medicine Association. She is also Culinary Medicine Specialist. It is her passion to provide better nutrition to children globally.

Guy Treves
Eisenhower Medical Center, United States of America

Large scale single node bariatric robotic surgery data: Analysis and conclusions

Background: Bariatric surgery plays a key role in the definitive treatment of Obesity and the use of the daVinci robotic platform has been well integrated into the field. While meta analyses of the outcomes of patients who had undergone robotic bariatric surgery have been performed for over 10 years, they do not include studies with large patient populations. The goal of this paper is to increase the robustness of future meta analysis studies of the field by providing demographic and outcomes statistics of a large pool of robotic patients, and to suggest preoperative and continuum of care protocol enhancements based on trends derived from the published data.

Results: 18,906 total encounters of 1,457 operative patients were analyzed, averaging 13 visits per patient including 2.5 weight submissions through the practice's online portal. Males were a minority with 77.6% of the patients being female. On average, males underwent surgery significantly later in life when compared to females (45.2 vs 50.2, $p<0.05$). Average presenting BMI was 44.92. Average patient retention is 443 days, reduced to 431 days when excluding online portal weight checks ($p=0.22$). Average male retention is 458 days post surgery, and average female retention is 439 days ($p=0.28$). 22 patients did not present for any follow up encounters. Analysis of patient loss to follow up showed double percentage digit declines after the one year milestone. BMI trend analysis showed a flatlining and ultimate reversal of weight loss around the second and fourth year, respectively. 2,217 non-operative patients were also analyzed separately.

Conclusions: There does not appear to be a criteria where the assistance of the robotic platform in bariatric surgery significantly changes patient outcomes, however the results derived from our patient pool largely align with published trends and should enhance further studies. The use of an online portal for weight checks was a useful tool to track patients even if they did not meet with office staff. Since males tend to undergo bariatric surgery later in life with higher severity of illness yet only account for a quarter of patients, there is a seemingly apparent necessity for increasing awareness among males that bariatric surgery is a viable option for treating obesity, and identifying reasons for this gender discrepancy warrants further study. Based on the evident dropoff in follow up percentages aligning with flatlining and ultimate reversal of BMI reduction over time, we recommend considering innovation in the protocols for postoperative patient management.

Biography

Guy Treves, MD, is a first generation immigrant with interests in engineering, bioinformatics, and large data analytics. In his free time, he enjoys collecting coins and stamps, catching up with friends and family across the world, and participating in outdoor sports like flying cessnas and hiking. Dr. Treves is a graduate of UC Davis with a degree in computer science, a graduate of St. George's University School of Medicine, and a current Internal Medicine resident at Eisenhower Medical Center in Rancho Mirage, California. He is interested in practicing medicine in the outpatient setting.

Ayse Arzu Yigit, Sevtap Kilinc, Rukiye Olcuoglu*, Elif Azra Arnous
Baskent University Faculty of Medicine, Department of Physiology, Ankara, Turkey

The effects of orlistat on spatial memory, recognition memory and hippocampal tissue in experimentally induced obesity in rats

Aim: This study aimed to investigate the impact of orlistat on spatial memory, recognition memory and hippocampal tissue in experimentally induced obesity in rats.

Method: Twenty-four 200-250 gr weighed rats were fed with high-fat diet for 15 weeks for induced obesity. They were divided into three groups as Control (C), Obese (O), and Obese+Orlistat (ORL). After the obesity, while the C and O group received the tap water, the ORL group received 10 mg/kg ORL during 7 weeks. At the last week, rats were subjected to Novel Object Recognition (NOR) and Morris Water Maze (MWM) tests. At the end of the experiment, animals sacrified and TNF-alpa and IL1-beta in hippocampal tissue was measured.

Results: The orlistat group had significantly lower body weight compared to the obese group ($p<0.05$). According NOR, in the ORL group, a significant increase in the percentage of interest was observed compared to the obese group ($p=0.01$). In the Morris water maze test, the obese group exhibited increased latency in finding the platform from 2nd to 4th days compared to the control group ($p<0.05$). In contrast, the orlistat-treated group showed significantly decreased latency, approaching values similar to those of the control group ($p<0.05$). The obese group demonstrated a decrease in the time spent in the platform zone compared to the control group, while the ORL-treated group exhibited an increase in the time spent to control group ($p<0.05$). The TNF-alpha level exhibited a significant increase in the obese group compared to the control group ($p=0.002$), whereas a significant decrease in the ORL group compared to the obese group ($p=0.002$). IL-1 beta level showed a significant reduction in the ORL group compared to the obese group ($p=0.024$). According to the correlation between the results of the spatial learning and memory test and the levels of TNF-alpha and IL-1 beta in the hippocampus, only a significant negative correlation was identified between TNF-alpha and NOR ($p=0.003$; $r= -0.637$).

Conclusion: Our study demonstrates that orlistat administration exerts beneficial effects on spatial learning and hippocampal tissue in experimentally induced obesity in rats. These findings suggest that orlistat may have potential therapeutic implications for obesity-related cognitive impairments and hippocampal dysfunction.

In addition to its weight-reducing effect,

- Orlistat has been shown to have a protective effect on spatial learning and memory.
- Furthermore, it has been found to anti-inflammatory effect when evaluating the levels of TNF-alpha and IL-1 beta in the hippocampus.
- Due to its positive impact on cognitive functions, orlistat may be considered a preferred choice in clinical practice compared to other anti-obesity medications.
- Further clinical studies are needed in this field to clarify the effects observed in our study related to orlistat usage.

- It is important to provide detailed education on the use and effects of anti-obesity drugs in both clinical and basic sciences within medical faculties.

Biography

Dr. Olcuoglu graduated from Middle East Technical University, Turkey, Department of Biology in 2009. She then completed her master's (2015) at Yildirim Beyazit University, Faculty of Medicine, Department of Physiology and second M. Sc. (2015) at Hacettepe University, Institute of Educational Sciences, Measurement and Evaluation in Education. Later, she received her Ph.D. (2022) at Baskent University, Faculty of Medicine, Department of Physiology. Since 2022, she has been working as a lecturer at Baskent University, Faculty of Medicine, Department of Physiology.

Sevtap Kilinc*, Rukiye Olcuoglu, Ayse Arzu Yigit
Baskent University Faculty of Medicine, Department of Physiology, Ankara, Turkey

The impact of orlistat on nitrosative stress and paraoxonase-1 enzyme activity in serum, heart, kidney, and testicular tissues of rats with experimentally induced obesity

Aim: This study investigate the impact of Orlistat (ORL), an anti-obesity drug, on nitrosative stress and Paraoxonase-1 (PON-1) enzyme activity in serum, heart, kidney, and testicular tissues of rats with experimentally induced obesity.

Method: 24 Wistar albino rats were allocated into 3 groups as Control (C), Diet (D) and diet+ORL. A high fat diet used for 8 weeks to develop obesity. Thereafter, ORL given for 6 weeks (10 mg/kg/day; po). During the study, the rats' weight was monitored weekly, and their serum, heart, kidney and testis tissues were analyzed for measurement of TNF-alpha and IL-1 beta levels in the serum, determination of nitric oxide, nitrotyrosine level and paraoxonase-1 enzyme activity, urea, creatinine, lactate dehydrogenase, and creatine kinase activities in the serum and also testosterone level.

Results: Body weight was lower in the orlistat group compared to the obese group ($p<0.05$). According to biochemical analyses, obese group increased in TNF-alpha; nitric oxide level in serum, heart, kidney; nitrotyrosine level in serum, kidney and testis tissue compared to control group ($p<0.05$). Orlistat group decreased in TNF-alpha and IL-1beta; nitric oxide level in serum, heart, kidney; nitrotyrosine level in all tissues; urea, creatinine, lactate dehydrogenase and creatine kinase levels compared to obese group ($p<0.05$). However; orlistat group increased in paraoxonase-1 enzyme activity in heart, kidney and testis tissues compared to obese group ($p<0.05$). Lastly, orlistat group decreased in urea, creatinine, lactate dehydrogenase and creatine kinase levels compared to control group ($p<0.05$).

Conclusion: Treatment with orlistat resulted in a reduction of inflammatory activity and an enhancement of antioxidant PON-1 enzyme activity, indicating a defensive response against the heightened nitrosative stress associated with obesity. Therefore, it is crucial to consider its systemic effects when employing orlistat as a therapeutic intervention.

In addition to its weight-reducing effect,

- Orlistat has been shown to have a protective effect on nitrosative stress in the heart, kidneys, testes, and serum.
- Furthermore, it has been found to enhance the activity of paraoxonase-1, an antioxidant enzyme.
- When evaluating the decrease in kidney and cardiac enzyme values in orlistat compared to the control group, it can be associated with the side effects of orlistat usage.
- Therefore, individuals using orlistat should be assessed clinically for kidney function and cardiac enzymes.
- Further clinical studies are needed in this field to clarify the side effects observed in our study related to orlistat usage.
- It is important to provide detailed education on the use and side effects of anti-obesity drugs in both clinical and basic sciences within medical faculties.

Biography

Dr. Kilinc graduated from Baskent University, Turkey, Department of Nursing in 2011. She then completed her master's (2014) and PH.D (2022) education at Gazi University, Faculty of Medicine, Department of Physiology. Since 2022, she has been working as a lecturer at Başkent University, Faculty of Medicine, Department of Physiology.

Lobar Nigmatova

Associate Professor of the Department of Therapeutic Areas No. 1 of the Tashkent State Dental Institute, Candidate of Medical Sciences, doctor of the highest category in pediatrics, Tashkent city, Republic of Uzbekistan

Possible ways to solve the problem of obesity in children

Annotation: The problem of childhood obesity is laid in early childhood and even in the prenatal period. In this regard, the prevention of obesity should begin antenatally. Promotion and support of breastfeeding is one of the factors in the prevention of obesity in children. Weight correction in a child must necessarily include lifestyle changes, diet therapy, and increased physical activity. When obesity becomes pathological, pharmacological agents are used. Efforts need to be focused on raising the awareness of physicians in outpatient clinics about new therapies for obesity, including pharmacotherapy with new classes of drugs like glucagon-like peptide-1 analog. Today, in general, children with impaired fat metabolism should be referred to specialized specialists as soon as possible.

Audience Take Away Notes

- The audience will be able to convey this information to primary care physicians and promote it among the parents of the child population.
- In their work, this will serve as factors in the prevention of the pathogenesis of obesity among the child population.
- It can reduce the incidence of lipid metabolism disorders that cause obesity associated with the formation of a wide variety of pathologies, including cardiovascular and pulmonary.

Biography

Nigmatova Lobar Muradovna was born in Tashkent in 1977. In 2001 he graduated from the Central Asian Institute of Pediatrics with a degree in pediatrics, received the qualification of a general practitioner (No. 266489). 2001 - junior researcher of the scientific department of immunoprophylaxis of childhood infectious diseases of the Research Institute of Pediatrics of the Ministry of Health of the Republic of Uzbekistan. In 2007 she received the degree of Doctor of Philosophy (PhD) in the specialty 14.00.09 - Pediatrics. In 2010, an assistant at the Department of Pediatrics of the Tashkent Pediatric Medical Institute. Since 2011, an assistant at the Department of Emergency Medical Care of the Tashkent Pediatric Medical Institute. In 2013, Associate Professor of the Department of Emergency Medical Care of the Tashkent Pediatric Medical Institute. Since 2013, Senior Researcher at the Laboratory of Immunopathology and Immunopharmacology of the Republican Scientific Center for Immunology of the Ministry of Health of the Republic of Uzbekistan. In 2018, she continued her work as an associate professor of the anatomy department of the Tashkent State Dental Institute. From 2019 to the present, I am an associate professor of the department of therapeutic subjects No. 1 of the Tashkent State Dental Institute. Author of 81 scientific papers, 2 textbooks, 2 monographs, 1 software patent and 7 teaching aids. Pedagogical experience - 12 years. Total experience - 22 years. I am married, have 2 children and 1 grandson.

Jendayi Stafford
Director of Training and Professional Development at BreakThrough, LLC, United States

Psychological treatment for mental and metabolic health disorders

Integrated Weight Management Therapy (IWMT) is a fully supported intervention that provides a framework for understanding and working with the key mental health disorders and conditions that contribute to the development of metabolic disorders such as obesity and type II diabetes. The presentation includes a unique perspective on brain functioning, self-view, MH conditions (depression, anxiety, trauma, & addiction) as well as social and environmental factors relevant to patient recovery and success. The differences and similarities between mental and Behavioral Health (BH) interventions are discussed with guidance for how health providers can support MH recovery for sustainable BH change. The presentation reviews key aspects of developing and implementing successful interventions in individual, group and virtual settings. Participants will appreciate the knowledge, humor, tools, and practices that help patients recover. The session closes with a review of integrated care initiatives and our success with evidence-based online and in-person interventions (approved by the American Counseling Association, NADAAC, & NBCC) that meet mandates for integrated care.

Biography

Dr. Jendayi A. Stafford, a medically retired Navy veteran, is a developmental psychologist and integrative nutrition health coach dedicated to educating and advocating for holistic healing and transforming the lives of those suffering from chronic diseases. She holds a Bachelor's degree in Social Science with an emphasis in Psychology, Sociology, and Criminal Justice, 3 Masters degrees in Psychology, Developmental Psychology, and Organizational Leadership, as well as a Ph.D. in Developmental Psychology. She also holds certifications as a pharmacy technician and integrative nutrition health coach.

Dr. Stafford is one of the dedicated members of Dr. Heather Hamilton's BreakThrough! team. She serves as the Congressional Lead for the fourth district of Virginia on the Homeopathy Action Team with the Americans for Homeopathy Choice. Dr. Stafford also serves with the American Institute of Homeopathy's National Homeopathic Product Certification Board as a member of the Outreach Committee. She unwavering dedication, expertise, and compassionate nature make her a revered figure in the fields of psychology and holistic healing. Through her profound insights, she inspires and empowers individuals to achieve health, happiness, and overall well-being.

Fakunle Ramotu*, Egbo kammaluchukwu Abigail, Ademola Ayomide Miracle

[1]Nutrition and Dietetics, Bowen University, Iwo, Osun State, Nigeria
[2]Nutrition and Dietetics, Federal University of Agriculture, Abeokuta, Ogun State, Nigeria

Assessment of the physical activity level and the nutritional status among students in Bowen University, Iwo, Osun state, Nigeria

Background: Physical activity and nutritional status influence the health status and cognition of young adults. Lack of physical activity increases the likelihood of developing obesity which leads to the risk of heart diseases and other risk factors like high blood pressure, high blood cholesterol, diabetes etc.

Objective: The objective of this study was to assess the physical activity level and Nutritional status of undergraduate students of Bowen University, Iwo, Osun, state.

Methodology: The study employed a cross-sectional study design. The study used a multi stage sampling techniquemulti- stage sampling technique; Purposive, for the selection of colleges that would be used, stratified random sampling for stratifying the colleges into departments and the simple random sampling for the selection of each respondent from the departments. Structured questionnaires were used to obtain data from the respondents and pre-tested anthropometric instruments were used to get the weight and height of the respondents and statistically analyzed using SPSS version 22.0and the TDA (Total dietary allowance) software which was used to analyze the nutrient intake of the respondents.

Results: This study showed that they comprised of 50.1% males and 40.9% females. Slightly above average 51.8% were between ages of 15-19 with mean age being 19.57 years; ages 20-24 were slightly below average at 45.7%. The male students 58.7% had vigorous physical activity, whereas majority of females 76.5% had light physical activity level. 39.1% of the male students carried out physical activity 2-3 times per week while One third of the female students (38.3%) carried out physical activity 6-7 times per week. Majority of the respondents had InadequateProtein- 63.8%, Carbohydrate- 60.2%, and Dietary fiber- 88.8. 36% eat rice 4-6 times per week. Majority of the respondentshad inadequate fruit and vegetables (Efo, Banana,) at 47.7%, 40.6% respectively. Using Body mass index, (63.2%) have normal weight. 22.9% are overweight, 6.8% are underweight, 5.4% have grade 1 obesity and 1.6% have grade II obesity. There was a statistically significant association between the physical activity of the respondents with their nutritional status (p=0.037), physical activity and sex (p=0.000), nutritional status and amount spent on food daily (p=0.007).

Conclusion and Recommendation: The study concluded that the physical activity level of the respondents, most especially the females were low; One third of the students were malnourished therefore, there should be an urgent need for improving the overall health status of students by providing the students with well-equipped gyms and other sporting equipment's that would make them participate actively and keep fit.

Audience Take Away Notes

- This presentation will add to be body of existing knowledge, making the audience to have more understanding of obesity and physical activity among youths
- This presentation will facilitate and encourage intellectual discussion among different researchers about factors affecting nutritional outcomes and taking note of geographical variations
- The results and recommendations of these presentation may give another researcher to embark on another researcher that will provide more clarity to the subject matter

Biography

Dr. Fakunle R. A. studied Nutrition and Dietetics at the Federal University of Agriculture Abeokuta and received her Ph. D in the same institution in 2019. She was the head of Nutrition and Dietetics Department in University College Hospital, Ibadan all in Nigeria, where she Supervised research projects of Dietetics interns. She has solely authored and co-authored books in Nutrition and Dietetics and published research articles. She is presently the programme coordinator of Nutrition and Dietetics Programme, Bowen University Iwo, Osun State Nigeria.

Rohan Suri[1]*, Sanniya Nanda[2]

[1]Junior at Flint Hill School in Oakton, Virginia, United States of America
[2]Pediatrics department Fayetteville, NC, United States of America

Increase in childhood obesity during covid pandemic

Childhood obesity is a serious problem in the United States, putting children and adolescents at risk for poor health. Obesity prevalence among children and adolescents aged 2-19 years in 2017-2020 was 19.7% and affected about 14.7 million children and adolescents. The percentage of US children and adolescents affected by obesity has more than tripled from 5% in 1963 to 19% in 2017. A predictive epidemiologic model estimates that if 2017 obesity trends hold, 57% of children aged 2 to 19 years will have obesity by the time they are 35 years of age, in 2050.

Covid 19 pandemic unsurfaced another coexisting pandemic, obesity. Children were the worst affected. Many children depend on school meals to ensure appropriate nutrition, and these meals were disrupted during lockdowns. Food insecurity increased from 32.6% to 36% between March and July 2020.

Covid reduced physical activity, increased screen time, worsened mental illness and decreased sleep. A recent meta-analysis reported 42% greater risk of obesity with more than 2 hours per day of screen time. Children 13 years and younger with short sleep duration (~10 hours) had a 76% increased risk of overweight or obesity compared with their counterparts with longer sleep duration (12.2 hours).

Childhood obesity increases the risk of hypertension, mental health challenges, bullying, and poor school achievements, and in the longer term, it leads to adult obesity, type 2 diabetes, cardiovascular diseases, and other non-communicable diseases that cause preventable premature morbidity and mortality.

Obesity is the most common comorbidity in severe cases of Covid-19, suggesting that immune dysregulation, metabolic unbalance, inadequate nutritional status, and dysbiosis are key factors in the complex mechanistic and clinical interplay between obesity and Covid 19.

The Covid 19 pandemic has taught us that nutrition education interventions, access to healthy food, as well as family nutrition counselling should be covered by pediatric services to prevent obesity.

Audience Take Away Notes

- Significant statistics of prevalence of childhood obesity
- Causation of worsening of childhood obesity during covid
- Interplay of pathophysiology of obesity with covid

Biography

Rohan Suri is a junior at Flint Hill School in Oakton, Virginia. He is the founder of non-for-profit NourishMeRight, geared towards increasing awareness in childhood nutrition, and the president of the Healthy Eating and Wellness Club in his high school. He regularly volunteers with INOVA Hospital's initiative towards childhood obesity: INOVA Healthy Plate Club, where he helps teach young children the importance of choosing the right foods in school. Rohan has co-authored multiple research papers, published in the International Journal of Social Science and Economic Research, investigating AI's involvement in modern medicine. Currently, Rohan is working to create a new chapter of Team Kid Power, a program focusing on behavioral aspects of nutrition in children, based out of the Children's National Hospital in Washington, DC.

BOOK OF ABSTRACTS

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OBESITY AND DIABETES

Ziyun Liu[1]*, Haiqin Wang[2], Dazhi Fan[3,4], Tingting Xu[5], Fuzhen Wan[6], Qing Xia[7]

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Asia and china's growing contribution to obesity surgery research: A 40-year bibliometric analysis

The escalating global prevalence of obesity constitutes a severe public health crisis. This situation necessitates immediate and effective interventions to mitigate the escalating problem.

Bariatric surgery is increasingly recognized for its role in addressing obesity and related health conditions, sparking significant research interest. This bibliometric study explores the evolution and emerging trends in bariatric surgery research across Asia, with a particular focus on China. We analyzed a total of 3,904 publications from Asia (with 1,221 from China) between 1980 and 2022. The research output showed a notable acceleration until the COVID-19 pandemic. China emerged as the leading contributor, outpacing other Asian countries from 2010 onwards. We identified an extensive network of collaboration among researchers, with a clear propensity towards robust intra-regional cooperation, likely due to geographic proximity and similar economic circumstances. Keyword analysis illuminated the emergence of 'laparoscopic sleeve gastrectomy' and 'non-alcoholic fatty liver disease', indicating a shift in research focus within this field.

Despite observable regional disparities and a current gap in interregional collaborations, the accelerating research output and the improving quality of publications point to a promising future direction. Going forward, enhanced collaborative efforts across different countries and regions, along with better standardization of surgical practices, are recommended to further elevate the quality and global impact of Asia's, and more specifically, China's bariatric surgery research. This study serves as a valuable reference for future research directions and policy-making within this crucial field. It underscores the importance of this region's contributions and signals a call to action for fostering a more integrated and collaborative research environment to advance bariatric surgery science and practice.

Audience Take Away Notes

- China's rising significance is shown as it leads in Asian bariatric surgery research
- Pandemic's impact is seen in research volume decline post-COVID-19 period
- Intra-regional research collaborations reflect economic and geographic similarities
- 'Laparoscopic sleeve gastrectomy' remains central; 'nonalcoholic fatty liver disease' emerges as a new focus

Biography

Ms. Liu studied Economics and Finance at the Xi'an Jiaotong Liverpool University, Suzhou, China since 2020. Her research interest is mainly health economics, including well-being economics and obesity surgery. She has published research article in SCI journal.

Sanniya Nanda
Pediatrics department Fayetteville, NC, United States of America

Use of semaglutide as pediatric anti-obesity medication

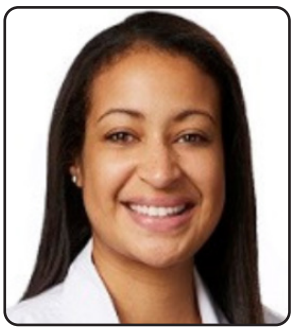
In the U.S., an estimated 1 in 5 adolescents between the ages of 12 and 19 have the disease of obesity. Obesity in adolescents is influenced by a variety of factors that include genetics, socioeconomic and environmental factors. This serious, chronic, progressive and misunderstood disease requires long-term management to prevent the development of weight-related problems like hypertension, dyslipidemia, type 2 diabetes, and many others. It is not a disease of willpower; there are underlying biological and societal mechanisms that impede weight loss in the pediatric population. STEP TEEN investigations have revolutionized pharmacotherapy in adolescents. The recommended dose is once weekly 2.4mg dose of s/c Semaglutide to treat obesity in adults. Medication is done as adjunct to reduced calorie diet and adequate physical activity. RCT were conducted in adolescents 12 to 18 years of age with BMI >95th centile or 85th centile with weight related comorbidity. After 68 weeks BMI reduced by 16.1%, weight loss of 5%. There was remarkable improvement in cardio metabolic risk factors (waist circumference, HbA1C, lipids, liver enzymes like ALT). Semalutide is a GLP-1 receptor agonist, which increases insulins secretion, blood sugar disposal, improving glycaemic control. It inhibits production of glucagon hence reducing glycogenolysis and gluconeogenesis. It decreases appetite and slows down gastric emptying. Most common adverse side effect of the medication are gastrointestinal like nausea, vomiting and diarrhea. Also it is contraindicated in people with personal or family/o medullary thyroid cancer and in patients with MEN syndrome type 2. Most common disadvantage is the cost of the medication and it's relative shortage in early 2022.

Audience Take Away Notes

- Approach Pediatric Obesity with Pharmacotherapy
- Describe mechanism of action, side effects and contraindications of Semaglutide
- Understand that optimistic results of weight loss after use of medications is far more motivating for lifestyle changes
- Aim to create advocates for our patients to encourage better insurance coverage for such medications

Biography

Dr. Nanda is a Board certified Pediatrician practicing in Fayetteville, NC heading the Strong Nutrition Clinic at the practice. She obtained her Medical degree and Diploma in Child Health from Government Medical College, Jammu, India. Also completed her Pediatric residency at Woodhull Medical center affiliated to NYU and recently got certified in American Board of Obesity Medicine and became one of the 507 pediatric obesity specialist in the country. Dr. Nanda is member of American Academy of Pediatrics and Obesity Medicine Association. She is also Culinary Medicine Specialist. It is her passion to provide better nutrition to children globally.



Jasmine J Mosley*, Cheryl Carlson

APRN, FNP-C, NNP-BC Baylor University, Waco, Texas, United States of America

Pediatric obesity screening compliance among primary care providers: A DNP project

With a lack of consistency in the pediatric primary care provider, the use of pediatric overweight and obesity screening and the diagnosis and initiation of treatment planning for this vulnerable population is unmatched by the rising rate of the obesity epidemic. This project aims to encourage consistent use of the United State Preventative Screening Task Force (USPSTF) guidelines for pediatric overweight and obesity screening. Guided by nationally recognized recommendations, clinical practice changes involving educating providers, using the guidelines, and accurate diagnosis and treatment planning documentation. Education will be provided to four pediatric primary care providers, two Advanced Practice Registered Nurses (APRNs), and two Medical Doctors (MDs) regarding the USPSTF guideline specifications for screening, diagnosis, and treatment and the recommendations for treatment planning. The support staff will also be informed of the project to help ensure accurate measurements are obtained at every patient encounter. Implementation will span a two-to-three-month timeframe allowing for the accumulation of sufficient data. A retrospective chart review will be the primary source of data collection in addition to pre-and post-education and pre-and post-implementation surveys for pediatric primary care providers. The final objective is to see a significant increase in a patient diagnosed appropriately and treatment plan initiation to address unmet needs across this vulnerable patient population. The potential implications of this project would justify additional health maintenance parameters for pediatric patients and the need for improved nutritionist access, the growth of community outreach programs, and improved pediatric patients' health outcomes. Improving pediatric health outcomes can reduce comorbid diseases in adolescents and early adulthood, reducing healthcare expenditures across the population.

Audience Take Away Notes

- How to improve provider practices for pediatric overweight and obesity screening
- EHR considerations for improved patient screening and treatment planning
- Help determine barriers to multidisciplinary care of overweight or obese pediatric patients

Biography

APRN Jasmine J. Mosley studied at Baylor University, USA, and graduated in 2022. She continued her clinical practice as a primary care provider at Baylor Scott & White McLane Children's Clinic in Killeen, Texas. She plans on expanding the organization's community outreach and preventative health services to meet the needs of Bell County's unique population.

ODUNEYE Taibat Motunrayo
University College Hospital, Nigeria

Atitude to weight and weight management in adolescents: A qualitative study of parental perception and views

As a fundamental aspect of parenting, serving as a role model is crucial in shaping children's behavior and attitudes. Given the influence of parents on their children's health behaviors, it is important to understand how parents' eating habits impact their children's dietary choices. The way parents perceive their teenage child's weight status has the potential to impact the messages and attitudes surrounding weight, eating habits, and physical activity within the family. This study explores parents' perception of, and views about their adolescents' weight management.

Purposive random sampling was used to select six (6) religious places with Christian affiliation in Ibadan North Local Government. A total of 50 adolescents and 50 parents (specifically mothers and/or guardians) were selected from the study area to participate in the study. A well-structured questionnaire was used to collect data on the respondents' socio-demographic characteristics, dietary habits, lifestyle, and physical activities were also collected, while anthropometric data were measured. The collected data were analyzed using the Statistical Package for Social Sciences version 17, while descriptive and inferential statistics were employed. Atlas.ti package (version 9.0) software was used for qualitative analysis.

The majority of participating parents (58%) were civil servants, while 18.8% were self-employed and others were artisans. A significant difference in nutritional status was found between the children and their parents ($p<0.001$). The average nutritional status of the children was 9.36 times lower than the average nutritional status of the parents. WHO Body Mass Index results for the parents indicated that 28% were within the normal range, while 70% were classified as overweight or obese. More than half of the adolescents (62%) had a normal BMI, while 30% were underweight, which was attributed to poor dietary habits, including consuming low-nutrient-density street foods in between meals and deliberately skipping meals out of concern for avoiding overweight or obesity. From interviews with parents about their perceptions of their children's weight, significant concerns were expressed about their children's weight and how they manage it. The findings from this study suggest that adolescents in the study area are conscious of their body sizes and shapes, which may have been influenced by their desire to have a model stature, their parents' stature, or their personal decisions regarding their eating habits. Some of the adolescent respondents were found to be underweight, which was associated with poor dietary habits such as consuming mainly street foods in between meals, skipping meals, and being conscious of not wanting to be overweight or obese. Parents' perceptions and views on their children's weight and weight management were patterned on giving healthy food and encouraging good dietary habits.

Therefore, there is a need to promote healthy lifestyle and dietary habit modification among adolescents and their parents in order to reduce the increasing rate of poor weight management and associated risks and complications among adolescents.

Keywords: Weight, Attitude, Adolescents, Parent, Perception.

Biography

Taibat is a Registered Dietitian-Nutritionist who has been into clinical nutrition practice for almost 13 years. She is currently a Chief Dietitian at the University College Hospital (UCH, Ibadan) and also a teacher of Nutrition Education & Diet Therapy. She is passionate about Diabetes Care, Geriatrics and Pediatric Nutrition. Amongst other accomplishments, Taibat is a Certified Diabetic Educator and a trained Lactation Consultant. In addition to being a member of many professional bodies which include Dietitians Association of Nigeria, Nutrition Society of Nigeria, World Public Health Nutrition Association, Nigeria Association of Nephrology, etc., she is into unionism, as she currently serves as the Auditor of the Nigeria Union of Allied Health Professionals (NUAHP) in her organization (UCH, Ibadan Oyo State Nigeria). Mrs. Oduneye has two paper publications to her credit, and had equally attended several national and international conferences In pursuit of her professional career and towards impacting everyone within her spheres of influence, she is open to collaboration, research and networking with other professionals, both locally and internationally.

Victor Kaufusi
BYU Hawaii, United States of America

Perceived facilitators of healthy dietary behaviors among Tongan Americans

Over the past two decades, the quality of the Tongan American diet has become of increasing concern to researchers, health professionals, and within the Tongan American communities. Obesity rates have increased among this population in the last 20 years, and obesity is now considered to be an epidemic among Tongan-Americans. Facilitating healthy dietary behaviors can help to reduce the disproportionate rate of diseases. Therefore, this study will employ the principles of a grounded theoretical approach to explore the lived experiences of Tongan American adults to understand the perceived facilitators of healthy dietary behaviors. The methodology includes semi-structured interviews with 12 Tongan Americans (six men and six women). Thus, the findings highlighted an interconnection between (1) health literacy and time management, (2) family support, (3) home environment, and (4) maintaining Tongan cultural norms as perceived facilitators of healthy dietary behaviors among Tongan American adults. Key findings from this study highlight the interconnection between these concepts and the importance of implementing them into future health promotion efforts. Therefore, research efforts and intervention initiatives aimed at reducing the high incidences of obesity and other chronic diseases among Tongan Americans should focus on innovative, multi-component, multi-faceted, and culturally tailored strategies to assist them with facilitating healthy dietary behaviors.

Keywords: Obesity, Pacific Islander Health, Health Promotion, Qualitative.

Biography

My name is Dr. Victor Kaufusi, I am an assistant professor at BYU-Hawai'i. I received my Ph.D. from the University of Hawai'i at Manoa and a proud alumnus of the University. My research focuses on addressing Pacific Islander health disparities due to the impact that health problems have on the individual, family, and communities. I have shared my research at various conferences around the world to inform culturally tailored health strategies among Tongan Americans which is a subgroup of the overall Native Hawaiian and Pacific Islander ethnic group.

Alyssa Haag*, Katlynn Kenon, Maria Periera, Daniel Griffin

Dr. Kiran C. Patel College of Allopathic Medicine, Nova Southeastern University, Fort Lauderdale, Florida, United States of America

Understanding and addressing the growing rates of obesity, prediabetes, and Type 2 diabetes by engaging both physicians and teachers

Background: Obesity is a serious issue in the United States, affecting 14.4 million children and adolescents. Proper nutrition is essential to improve their long term health outcomes. This study ultimately aims to address gaps in current pediatric nutrition education and empower this vulnerable population to make positive changes.

Methods and Analysis: A literature review was performed on this multifaceted issue. Two focus groups consisting of clinicians (e.g. pediatricians, dietitians, and nutritionists), and teachers were conducted to understand childhood nutrition education modalities utilized in clinical and educational settings. A preliminary survey was created from focus group findings to first be assessed by previous focus group participants, and clinicians and teachers new to the study. Having real time feedback on the instrument's clarity and completeness allows for the creation of a more comprehensive survey for widespread distribution. The finalized survey was distributed widely and is currently undergoing data analysis.

Results: There is evidence indicating that the current nutrition education and counseling in both the classroom and clinical setting experience shared and unique challenges, including minimal caregiver engagement. Additional targeted, bridging interventions are welcomed in these settings.

Conclusion: Based on the literature, and clinicians' and teachers' expertise and direct experience, it is clear that further interventions are needed and the methods of delivery be easily accessible to both children and caregivers. It is anticipated that the findings from this study will elucidate slight changes on the individual level that may have a high impact on long-term patient compliance with proper nutrition.

Audience Take Away Notes

- Based on information gathered thus far, it is anticipated even small changes on an individual level can have a huge impact on long-term patient compliance with proper nutrition (e.g., Understanding how to read food labels may improve the quality of food bought and thereby reduce risk of developing obesity)
- Current nutrition education and counseling has been unsuccessful for a variety of reasons, including: lack of parental involvement; lack of a patient centered approach (including home dynamics and one's culture); time barriers: both patient/caregiver and healthcare professional; lack of feasible interventions
- Additional, more patient centered, nutritional interventions are needed; their methods of delivery need to be more easily accessible to both children and their caregivers and content should also be informative yet engaging
- Finding ways to ensure children and caregivers use interventions consistently, possibly in conjunction with educators and healthcare providers could have a strong influence

Biography

Alyssa Haag studied Integrative Biology and Education at University of California, Berkeley and graduated in 2019. She then spent the following year as a Medical Assistant in New York City before she entered medical school at Dr. Kiran C. Patel College of Allopathic Medicine at Nova Southeastern University in Fort Lauderdale, Florida in 2020. She is a current fourth year medical student with plans of applying to Family Medicine residency this fall.

Ravi Kikar Sinha
Indian Private Researcher, India

Homeostasis of glucose level: In vivo changing glucose into amylose with the help of starch phosphorylase, a primer and glucose-1phosphate

When glucose-1phosphate is added to a primer in presence of an enzyme, starch phosphorylase the glucose molecules produce a polymer amylose. I suggest recreation of this in vitro reaction complex into in vivo set of reactions, removing excess toxic glucose molecules from the cellular pool. I suggest, use of genetic engineering experiments if needed to amplify starch phosphorylase locus (or loci) from a donor and incorporation of the locus (or loci) in a mammal laboratory animal securing in vivo production of this enzyme (starch phosphorylase) in the recipient animal. the primer could be injected into the animal; after successful production of amylose from glucose monomers genetic engineering experiments to remove extra toxic glucose molecules in humans be tried. but this can be done, when all biological hazards in case of humans have been avoided. This scheme of glucose metabolism can have controls. The lesser the primer, the lesser the removal of glucoses.

Audience Take Away Notes

- A novel and simple way of fighting diabetes
- Audience will take interest in genetic engineering
- The knowledge of cytology and molecular biology

Biography

Author was a student of genetics, in the then university college of swansea, singleton park, sa28pp, Uk (year1974-75). He is a member, AAAS, Washington dc, USA.

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Substance use and excess body weight loss following bariatric surgery

Background: Bariatric surgery is the most effective treatment for obesity by decreasing caloric intake while simultaneously reducing hunger and increasing satiation through multiple cognitive, psychological, and metabolic factors.

Objective: To assess the relationship of various psychological and substance-use factors in surgical weight loss outcomes at 1-year postoperative.

Methods: Our Metabolic Surgery and Bariatric Care (MSBC) clinic utilizes a Psychology Postoperative Questionnaire at the routine initial postoperative visit to assess sleep, mood, alcohol, marijuana, and nicotine use, and surgical satisfaction. We conducted a retrospective chart review to collect responses to the questionnaire with patients' excess body weight loss at 1-year postoperatively. Statistical analysis was completed using Wilcoxon rank sum test and Kruskal-Wallis rank-sum test to compare excess body weight loss at one year between patients who did and did not self-report substance use.

Results: A total of 110 patients who underwent vertical sleeve gastrectomy or Roux-en-Y gastric bypass between January 2021 and December 2022 and attended their initial routine Psychology follow-up visit were included in this study. No significant differences were observed in excess body weight loss in patients who used alcohol, marijuana, or nicotine compared to those who did not use substances ($p > 0.05$). Patients who did not self-report substance use, on average, lost 50.11% of excess body weight (36.85, 84.45). Patients who did report substance use lost, on average, 54.06% (33.08, 83.87) ($p > 0.05$).

Conclusion: Patients who utilized substances in the postoperative period did not have any significant differences in weight loss compared to those who did not. Results are limited in that the survey data is self-reported and patients may feel apprehensive following bariatric surgery to share substance use behaviors with psychologists – this may also contribute to the low number of patients reporting substance use.

Audience Take-Away Notes:

- Effect of substance use on bariatric surgical weight loss
- Current literature surrounding bariatric surgery and substance usage
- Future studies/directions to consider substance use in bariatric surgery

Biography

I currently am the senior Medical Psychologist at Loyola University Medical Center's (LUMC) Metabolic and Bariatric Surgery program. I have been with this clinic since it's inception in 2011 and assisted in creating Psychology's role on this multidisciplinary team. In addition, I established the Behavioral Cardiology Program in partnership with the Loyola Medicine Preventative Cardiology and Lipid Program. My clinical practice also includes management of the Behavioral Medicine Consult Liaison Service which provides assessment and treatment in the inpatient hospital setting across a wide range of hospital services including General Medicine, Hospital Medicine, Trauma, Neurology, Minimally

Invasive Surgery, Colorectal Surgery, Orthopedic Surgery, OB-GYN, and Gastroenterology. I have been Director of Clinical Training (DCT) in Psychology at LUMC since 2015. In this role, I oversee the psychology training experiences in the Department of Psychiatry and Behavioral Neurosciences at Loyola including six different advanced therapy externships, research externships, and a health psychology fellowship. This year, I was chosen to become Chief of the Psychology Department and oversee the department of 15 Psychologists. I also engage in on-going education efforts in the Medical school and conduct clinical research. My research experience thus far in my career has focused on aspects of health psychology that converge with my clinical activities.

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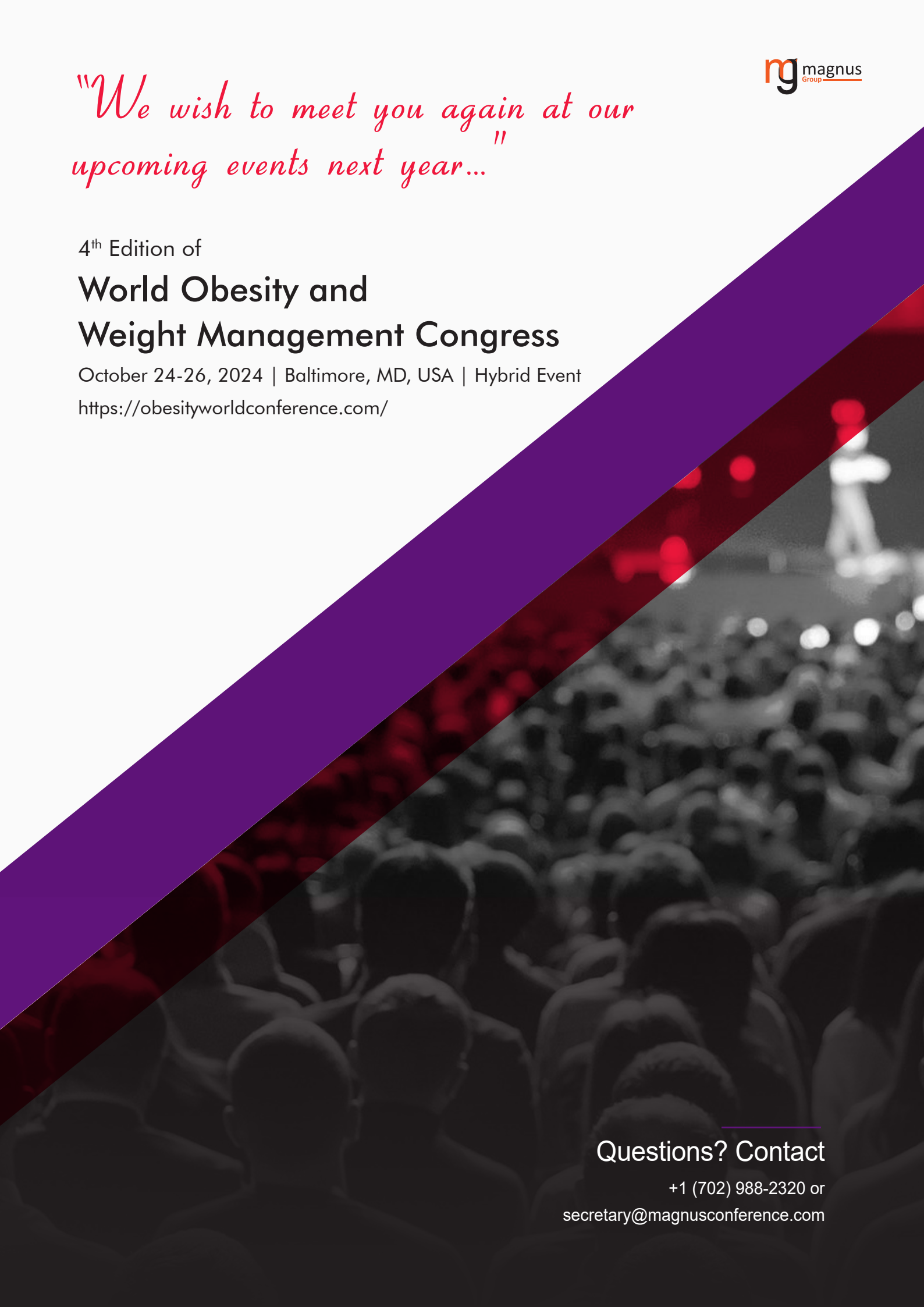

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