Symposium 11

Perspectives in Digital Nutrition Care for Obesity

Chairpersons

Jeong Hyun Lim
Seoul National University, Korea

Yoonju Song
The Catholic University of Korea, Korea

Speakers

Wen Peng
Qinghai University, China

Melissa Ventura-Marra
West Virginia University, USA

Shinok Park
Noom Korea, Korea

Panel Discussion

Hyunjung Lim
Kyung Hee University, Korea

Oh Yoen Kim
Dong-A University, Korea

Wen Peng

Qinghai University, China

• Education

Period	Affiliation	Position
– **2015-2016**	Hebrew University of Jerusalem, Israel	M.P.H.
– **2011-2014**	Charite Medical College, Humboldt University, Germany	Ph.D.
– **2002-2009**	Nanjing Medical University	M.A.

• Affiliations / Experience

Period	Affiliation	Position
– **2017-Present**	Medical College, Qinghai University	Assistant Professor, Associate Professor, Professor
– **2013-2017**	Medical College, Jiangsu University	Assistant Professor
– **2009-2017**	Affiliated People's Hospital of Jiangsu University	Physician

• Committee Memberships

- Asia Pacific Journal of Clinic Nutrition
- The Obesity-Prevention and Control Section of the Chinese Nutrition Society
- Nutritional Food Safety Branch of the Chinese Geriatrics Society
- Dietary Nutrition and Health Branch of China Health Management Association
- Chronic Disease Prevention and Management Specialized Committee of China Health Information and Healthcare Big Data Society

• Publications

- Wang LM#, Peng W#, Zhao ZP#, Zhang M, Shi ZM, Song ZW, Zhang X, Li C, Huang ZJ, Sun XM, Wang LH, Zhou MG, Wu J*, Wang YF*. *Prevalence and treatment of diabetes in China,* 326(24):2498-2506
- Peng W. Waste on the roof of the world. *Science*. 365(6458),1090
- Peng W#, Chen SQ#, Chen XG, Ma Y, Wang TT, Sun XM, Wang YG, Ding GQ, Wang YF*. Trends in major non-communicable diseases and related risk factors in China: an analysis of nationally representative survey data. *Lancet Regional Health Western Pacific*. 100809
- Peng W#, Zhang L#, Wen FY, Tang X, Zeng LX, Chen JP, Galea G, Wen DL, Wang YF*. Trends and disparities in non-communicable diseases in the Western Pacific region. *Lancet Regional Health Western Pacific*. 100938
- Peng W. Nutritional implications of Tibetan Plateau resettling and urbanization programmes. In: Oenema S, Campeau C, Delmuè DCC, ed. United Nations System Standing Committee on Nutrition (UNSCN)-Nutrition 44. *Rome*: UNSCN pp. 83-90

Symposium 11

Applications of Digital Health and Nutrition Approaches for Obesity Prevention and Management in the Western Pacific Region

Wen Peng (Qinghai University, China)

The prevalence of obesity increased rapidly in recent years, contributing to the huge increasing disease burdens in the Western Pacific region (WPR). The use of digital health (dHealth) technologies, such as wearable gadgets, mobile apps, and artificial intelligence (AI), facilitates interventions for obesity prevention and treatment via nutrition and other approaches. Currently, most studies on dHealth and obesity in WPR were conducted in a few high- and middle-income countries like Australia, China, Japan, the Republic of Korea, and New Zealand. Evidence indicated that dHealth services promoted early prevention by behavior interventions, and AI-based innovation brought automated diagnosis and clinical decision-support. dHealth brought facilitators for the doctor-patient interplay in the effectiveness, experience, and communication skills during healthcare services, with rapidly development during the pandemic of coronavirus disease 2019. In the future, the improvement of dHealth services in WPR needs to gain more policy support, enhance technology innovation and privacy protection, and perform cost-effectiveness research.

Melissa Ventura-Marra

West Virginia University, USA

• Education

Period	Affiliation	Position
– **2006**	Florida International University	Ph.D.
– **1999**	West Virginia University	M.S.
– **1996**	West Virginia University	B.S.

• Affiliations / Experience

Period	Affiliation	Position
– **2020-Present**	West Virginia University	Associate Professor
– **2013-2020**	West Virginia University	Assistant Professor
– **2010-2012**	Digestive CARE, Florida	Director of Nutrition Services
– **2008-2010**	Private Practice	Nutrition Consultant

• Committee Memberships

- USDA Multistate Research Fund Project NE1939
- Academy of Nutrition and Dietetics Telehealth Taskforce

• Publications

- Marra MV, Lilly C, Nelson K, Woofer D, Malone J. A Pilot Randomized Controlled Trial of a Telenutrition Weight Loss Intervention in Middle-aged and Older Men with Multiple Risk Factors for Cardiovascular Disease. *Nutrients*. 11(2):229
- Dabeek W* and Marra M. Dietary Quercetin and Kaempferol: Bioavailability and Potential Cardiovascular- related Bioactivity. *Nutrients*. 11(10). 2288
- Dabeek W*, Kovinich N, Walsh C, and Marra MV. Characterization and Quantification of Major Flavonol Glycosides in Ramps. (Allium tricoccum). *Molecules*, 24(18). 3281
- Drazba M*, Holásková I, Sahyoun N and Marra MV. Association of Adiposity and Diet Quality with Serum Ceramides in Middle-aged Adults with Risk Factors for Cardiovascular Disease. *J. Clin. Med*. 8(4), 527
- Marra MV, Drazba M*, Holásková I, and Belden WJ. Nutrition Risk is Associated with Leukocyte Telomere in a Middle-aged Appalachian Population. *Nutrients.* 11(3):508

Symposium 11

Exploring the Landscape of Telenutrition in Obesity Management

Melissa Ventura-Marra (West Virginia University, USA)

Nearly 42% of adults in the United States are living with obesity. Although obesity rates continue to rise, and many individuals affected struggle to lose weight and maintain weight loss, comprehensive nutrition and behavioral counseling for managing obesity and its comorbidities remains underused. Obstacles to implementing effective obesity care include insufficient insurance coverage, limited access to specialty providers, and difficulty sustaining behavior change. The COVID-19 pandemic accelerated the adoption of tele-delivery for nutrition care, presenting a promising solution to many of these obstacles. Emerging research suggests that nutrition counseling via audio and/or video technology is as effective as in-person sessions, leading to notable improvements in weight, BMI, A1c, and serum lipids. However, there are potential barriers to address, such as technological limitations, accessibility issues, state licensure requirements, patient privacy concerns, and the need for personalized care. Adopting new payment models like value-based care, adding virtual nutrition coaching and teaching kitchen options, and providing Food is Medicine programs could improve service use, patient satisfaction, and engagement, promoting sustained behavior change and health outcomes. More research is needed to establish best practices such as dosage, address implementation challenges, and evaluate long-term cost-effectiveness. Furthermore, it is essential to train the dietetics workforce in this approach to care delivery to ensure they can provide safe, high-quality virtual nutrition care to patients managing obesity and diet-related comorbidities.

Shinok Park

Noom Korea, Korea

• Education

Period	Affiliation	Position
– **2017-Present**	Noom Korea	B2B/ Research Lead
– **2011-2013**	Ewha Mokdong Hospital	Clinical dietitian
– **2007-2009**	University of Essex, Department of Health and Human Sciences	M.P.H.
– **2001-2003**	Ewha womans University, The Graduate School of Clinical Health Sciences	M.S.
– **1993-1998**	Ewha womans University	B.S.

• Affiliations / Experience

Period	Affiliation	Position
– **2017-Present**	Noom Korea	B2B/ Research Pod Lead
– **2022-2023**	Soonguei Women's college	Adjunct Professor
– **2011-2013**	Ewha Mokdong Hospital	Clinical dietitian
– **2003-2005**	Korea Cancer Centre Hospital	Clinical dietitian
– **2001-2002**	Kangbuk Samsung Hospital	Internship

• Committee Memberships

- Korean Society for the Study of Obesity
- The Korean Society of Lipid and Atherosclerosis

• Publications

- Dietary and socioeconomic factors that influence on the intake of B vitamins in pregnant women (Master's thesis)
- Socioeconomic Inequalities and Obesity among Korean women: Secondary analysis of data from the third Korea National Health and Nutrition Examination Survey (Master's thesis)

Symposium 11

Telenutrition for Weight Management: Benefits, Limits, and Future Perspectives

Shinok Park (Noom Korea, Korea)

The COVID-19 pandemic has significantly accelerated the adoption of telehealth services, including telenutrition. Leveraging advancements in technology such as medical devices, information technology systems, and artificial intelligence, telenutrition provides remote nutritional counseling. This review explores the current state of telenutrition—its benefits, constraints, and future outlook.

The pandemic has catalyzed dramatic changes in remote healthcare solutions, establishing telehealth as a vital component of modern healthcare. With the integration of advanced technologies, telenutrition has become more accessible and effective in providing dietary guidance and support. It breaks the barriers of distance and time, offering flexible and timely dietary advice. Cost-effectiveness is a significant advantage, as it reduces travel time and clinic visit costs. Furthermore, telenutrition has proven effective for weight management and chronic disease management, ensuring sustained health benefits. The valuable data collected through telenutrition facilitates more informed decision-making in dietary management.

However, challenges remain. Digital literacy among the elderly and chronic disease patients presents a significant barrier, although technological advancements are rapidly addressing this issue. Ensuring the safe and ethical use of personal data is paramount, and reliable access to necessary digital infrastructure continues to be a concern. Additionally, assisting users in prioritizing information can help avoid data fatigue.

New challenges are inevitable as telenutrition evolves. Accurately assessing patients' nutritional status requires a deeper understanding of various diet monitoring methods' strengths and limitations. Sustaining behavioral change and motivation necessitates effective strategies such as incentives and modeling to encourage continuous and active self-monitoring.

As telenutrition continues to advance, integrating cutting-edge technologies and refining methodologies will be essential. The role of dietitians will become increasingly crucial in leveraging these advancements to provide personalized, effective dietary guidance and support.