

Symposium 5

Current Perspectives on Health Inequity in Obesity

Chairpersons

Young Seol Kim

Kyung Hee University, Korea

Kyung-Hee Park

Hallym University, Korea

Speakers

Peter Bergsten

Uppsala University, Sweden

Seul Ki Choi

University of Seoul, Korea

Seunghyun Yoo

Seoul National University, Korea

Panel Discussion

Kyunghee Jung-Choi

Ewha Womans University, Korea

Sang Min Park

Seoul National University, Korea



Peter Bergsten

Uppsala University, Sweden

• Education

Period	Affiliation	Position
– 2019	University of Auckland, Auckland, New Zealand	Distinguished Visitor
– 1995	Mayo Clinic, Rochester, MN, USA	Visiting Researcher
– 1992	Uppsala University, Uppsala, Sweden	Associate Professor
– 1992	University of Cambridge, UK	Postdoctoral Fellow
– 1989	NIDDK, NIH, USA	International Fellow

• Affiliations / Experience

Period	Affiliation	Position
– 2016-Present	Dept of Women's and Children's Health, Uppsala University	Adjunct Professor
– 2016-Present	Academic Children's Hospital, Uppsala	Adjunct Professor
– 2008-Present	Dept of Medical Cell Biology, Uppsala University	Professor
– 1997-2007	Uppsala University	Associate Professor
– 1992-1997	Uppsala University	Assistant Professor

• Committee Memberships

- Swedish Foundation for Strategic Research, Multidisciplinary Research Center
- European Childhood Obesity Group
- EU Horizon Europe Health
- Uppsala Health Summit
- Swedish Innovation Agency

• Publications

- Pixner T, Chaikouskaya T, Lauth W, Zimmermann G, Mörwald K, Lischka J, Furthner D, Awender E, Geiersberger S, Maruszczak K, Forslund A, Anderwald, CH, Cadamuro J, Weghuber D, **Bergsten P**. Rise in fasting and dynamic glucagon levels in children and adolescents with obesity is moderate in subjects with impaired fasting glucose but accentuated in subjects with impaired glucose tolerance or type 2 diabetes. *Front Endocrinol (Lausanne)*. 2024 Jul 4;15:1368570. doi: 10.3389/fendo.2024.1368570
- Stenlid R, Cerenius SY, Wen Q, Küçükemre Aydin B, Manell H, Chowdhury A, Kristinsson H, Ciba I, Giessing ES, Mörwald K, Gomahr J, Verena Heu, Weghuber D, Forslund A, **Bergsten P**. Adolescents with obesity treated with exenatide maintain endogenous GLP-1, reduce DPP-4, and improve glycemic control. *Front Endocrinol (Lausanne)*. 2023 Nov 1;14:1293093. doi: 10.3389/fendo.2023.1293093. eCollection 2023
- Ciba I, Dahlbom M, Manell H, Mörwald K, Roomp K, Weghuber D, **Bergsten P**, Forslund A. Studies in children with obesity in two European treatment centres show a high prevalence of impaired glucose metabolism in the Swedish cohort. *Acta Paediatr*, doi: 10.1111/apa.17030, 2023
- Wen Q, Chowdhury A, Aydin B, Shekha M, Stenlid R, Forslund A, **Bergsten P**. Metformin restores prohormone processing enzymes and normalizes aberrations in secretion of proinsulin and insulin in palmitate-exposed human islets. *Diabetes Obes Metab*, doi: 10.1111/dom.15270, 2023
- Aydin BK, Stenlid R, Ciba I, Cerenius SY, Dahlbom M, **Bergsten P**, Nergårdh R, Forslund A. High levels of FSH before puberty are associated with increased risk of metabolic syndrome during pubertal transition. *Pediatr Obes*. Aug;17(8):e12906. doi: 10.1111/ijpo.12906, 2022

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“Turning the Tide” – A Swedish Primary Care-Based Multidisciplinary Center for Primary Obesity Prevention

Peter Bergsten (Uppsala University, Sweden)

Bergsten, P¹, Aydin, BK¹, Izindre, AL², Dahlin, T³, Nymark, M³, Sørensen, TIA^{4,5}, Seidell, JC⁶, Williams J⁷

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Introduction: Childhood obesity has surged, leading to early onset of related complications. Reversing obesity is challenging and interventions leading to sustained reduction are needed; thus, early detection and effective, sustainable interventions are crucial. Primary prevention would be key to reversing the childhood obesity epidemic and associated disorders.

Methods: The Swedish Foundation for Strategic Research has granted a six-year project to establish a research center, the “Turning the Tide” (TTT) center, focusing on primary care-based primary obesity prevention. TTT aims to provide a model for sustainable obesity prevention across the lifespan, using controlled studies and multidisciplinary collaboration between primary health care and societal stakeholders. Specifically, TTT will develop a tool whereby municipalities will use child health data to follow interventions, which will take a systems approach involving multiple actors in society long-term.

Results: TTT will develop novel tools and methods for risk assessment, economic modeling, multidisciplinary community-based work, tailored interventions and secondary use of health data. For primary prevention of childhood obesity, children with risk of obesity will be identified through health data supplied by primary child health care, controlled studies will be conducted in real-life municipality settings engaging multiple actors to define conditions for systems transformation towards prevention with sustained reductions in obesity rates.

Conclusion: The TTT project lays the foundation, onto which additional efforts including national governmental commitment are needed, to achieve the goal of sustained childhood obesity reduction at the end of the TTT project in 2030.

Funding: This study was funded by the European Commission’s Seventh Framework Programme (Beta-JUDO project, 2012-2018; grant number 279153), the Swedish Innovation Agency Vinnova (ECHO project, 2020-2023; grant number 2020-02417) and the Swedish Foundation for Strategic Research (TTT project, 2024-2030; grant number CMP22-0014).



Seoul Ki Choi

University of Seoul, Korea

• Education

Period	Affiliation	Position
– 2016	Department of Health Promotion, Education, and Behavior,	Ph.D.
– 2009	University of South Carolina	M.P.H.
– 2007	Graduate School of Public Health, Seoul National University	B.S.

• Affiliations / Experience

Period	Affiliation	Position
– 2022-Present	University of Seoul	Assistant Professor
– 2019-2022	Korea Institute for Health and Social Affairs	Associate Research Fellow
– 2016-2019	University of South Carolina	Postdoctoral Fellow

• Publications

- Kim SA, Choi SK. Regional disparities in food security and depression among single-person households in the Republic of Korea. *BMC Public Health*
- Kim JH, Yoon J, Choi SK. Value and meaning of dietary management based on the agrifood voucher in the Republic of Korea. *Journal of Korean Society of Food Culture*, 37(5), 410-417
- Choi SK, Chun H, Choi EJ. Review of recent digital health literacy programs in Europe and the United States, *Korean Journal of Health Education and Promotion*, 39(4), 15-28
- Song E, Park E, Choi SK. Unmet needs among patients with hypertension or diabetes during the COVID-19 pandemic by household income. *Health and Social Welfare Review*, 42(3), 246-259
- Hwang J, Choi SK. A review of international health literacy initiatives: Policy implications for improving the nation's health. *Alcohol & Health Behavior Research*, 22(1), 57-70

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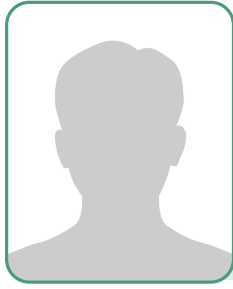
The Food Insecurity - Obesity Paradox and Strategies to Address Food Insecurity

Seul Ki Choi (University of Seoul, Korea)

Food insecurity is defined as “a household-level economic and social condition of limited or uncertain access to adequate food.” (U.S. Department of Agriculture, Economic Research Service, n.d.). Food insecurity is associated with poor dietary intake; however, previous research have reported that food insecure individuals, particularly adult women in developed countries, are more likely to be obese than food secure individuals. Understanding this phenomenon, known as a food insecurity-obesity paradox, is essential for developing effective interventions that address both food insecurity and obesity.

This presentation will review existing hypotheses explaining the relationship between food insecurity and obesity and discuss whether the coexistence of food insecurity and obesity is a paradox. Most hypotheses reviewed commonly suggested that the coexistence of obesity and food insecurity is a result of systematic social disadvantages. These cumulative disadvantages result in poorer dietary quality and fat storage as an adaptive strategy among food insecure populations. Furthermore, adverse outcomes of food insecurity, such as poor academic performance and physical and mental health challenges may limit opportunities and exacerbate these disadvantages.

Given this mechanism, food provision which is a common intervention for food insecure individuals may be insufficient in addressing the complex issue of food insecurity and obesity. This presentation will explore potential strategies targeting social determinants of health as comprehensive solutions to eliminate food insecurity and its detrimental health outcomes, including obesity.



Seunghyun Yoo

Seoul National University, Korea

• Education

Period	Affiliation	Position
– 2001	Tulane University	Ph.D.
– 1997	Tulane University	M.P.H.
– 1994	Ewha Womans University	B.S.

• Affiliations / Experience

Period	Affiliation	Position
– 2008-Present	Seoul National University	Professor
– 2005-2008	University of Pittsburgh	Professor
– 2003-2005	University of Pittsburgh	Research Professor
– 2000-2003	Tulane University	Researcher

• Committee Memberships

- Korean Society for Health Education & Promotion
- Korean Society for Rural Medicine & Community Health
- Korean Association of Health & Medical Sociology
- International Society for Urban Health

• Publications

- Kim DH, Lee EHL, Jeong JY, Lee J, Yoo S. Daily life activities of young adults with obesity living in highly accessible and compact urban environments in Seoul, South Korea: a spatiotemporal qualitative study protocol. *BMJ Open*, 14: e080895
- Kim DH, Lee J, Yoo S. Neighborhood environments for a healthy lifestyle among young single-person households experiencing housing poverty in Seoul, South Korea: A spatiotemporal qualitative study protocol. *BMJ Open*, 14: e077234
- Kim J, Yoo S, Kim DH, Lee J, Cheon Y. A scoping review of qualitative geographic information systems in studies addressing health issues. *Social Science & Medicine*, 314: 115472
- Kim DH, Kang H & Yoo S. Environment-stratified Age-Period-Cohort effects on the prevalence of walking among older adults. *Journal of Aging & Physical Activity*, 30(1): 18-24
- Choe S-A, Yoon N-H, Kim H & Yoo S. Gender-differences in predictors for time to metabolic syndrome resolution: a secondary analysis of a randomized controlled trial study. *PLOS ONE*, 15(6): e0234035

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Managing Weight in Urban Neighborhoods: Qualitative Case Studies

Seunghyun Yoo (Seoul National University, Korea)

Obesity, a major global health problem, is attributed to the complex interactions of multiple factors at the individual and environmental levels. While social and cultural environments interact with individuals to create and reinforce social norms, living situations, and lifestyles, the built environment also creates both opportunities for and barriers to healthy weight management. Urban built environments may have a similar mix of resources for diet and physical activity, but the use and experience of these resources may vary by city neighborhood.

To explore and describe the complex interactions of weight management in the urban environment, qualitative approaches are used to focus on the context and dynamics of such interactions. In addition, multiple qualitative measures, including visual tools and spatio-temporal approaches, are attempted to generate more detailed, contextualized description of how overweight/obese urban residents perceive and interact with their neighborhood environments.

This study presents multi-method qualitative case studies conducted in urban neighborhoods in Korea since 2015. Different types of qualitative methods were used to explore the characteristics of urban neighborhood environments and the experiences of overweight/obese adult residents related to weight management. Qualitative multi-methods such as time charting, photo diaries, photo elicitation interviews, mapping, GPS tracking, and walking tours were considered in the case studies in combination with in-depth interviews and focus groups. Content analysis, constant comparison, and thematic analysis were used to analyze the data. This study presents findings in terms of urban lifestyles, neighborhood assets for weight management, perceived and objective accessibility of urban resources by age group and neighborhood, and attitudes and practices toward weight management.