

Oral Presentation 1

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OP 1-1 1. Behavior and Public Health for Obesity

Relationship Between Weight-Related Self-Stigma and Eating Disorders in University Students: The Mediating Role of Psychological Distress and BMI

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Background: University students who experience weight-related stigma may face increased psychological distress, which can elevate the risk of developing obesity and/or eating disorders. This cross-sectional study aimed to determine the mediating effect of psychological distress and BMI in the relationship between weight-related self-stigma and eating disorders among Malaysian university students.

Methods: A total of 1044 university students completed an online survey including Weight Self-Stigma Questionnaire, Depression, Anxiety, Stress Scale-21, and Eating Disorder Examination Questionnaire. Body weight and height of the students were self-reported. The Partial Least Square Structural Equation Modelling (PLS-SEM) using the SmartPLS 3.0 software was used to test the mediation analysis in this study.

Results: The prevalence of overweight and obesity was 19.4%. Weight-related self-stigma was found to be significantly related to psychological distress ($\beta=0.455$, $p<0.001$), BMI ($\beta=0.478$, $p<0.001$) and eating disorders ($\beta=0.505$, $p<0.001$). BMI was also found to be significantly related to psychological distress ($\beta=-0.136$, $p<0.001$) and eating disorders ($\beta=0.174$, $p<0.001$), as well as psychological distress and eating disorders ($\beta=0.091$, $p<0.001$). Psychological distress and BMI mediated the relationship between weight-related self-stigma and eating disorders

Conclusion: University students with weight-related self-stigma tend to have high BMI and psychological distress, which in turn has the potential to lead to eating disorders. Addressing and reducing weight stigma is critical for promoting the overall well-being and healthy behaviors in this population.

OP 1-2 1. Behavior and Public Health for Obesity

Association of Lifestyle Factors with all-cause and cause-specific Mortality among Individuals with Obesity: A nationwide retrospective study in Korea

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Background: Obesity is a prevalent, chronic disease worldwide and unhealthy lifestyle is an important risk factor in mortality. We investigated the association between mortality (all-cause and cause-specific) and combined unhealthy lifestyle factors including smoking, excessive use of alcohol, and lack of physical activity among obese individuals.

Methods: In this study, 179,714 individuals were included from a representative sample cohort of the Korean National Health Insurance System. The information of unhealthy lifestyle factors was identified through questionnaire at baseline.

Results: During the 7.6 years of follow-up, individuals with current smoking, excessive use of alcohol, or with lack of physical activity had higher hazard ratios (HRs) compared to those who did not; 1.37 (95% confidence intervals, CI: 1.29–1.46) with current smoking, 1.12 (95% CI:

1.02–1.22) with heavy alcohol consumption, 1.22 (95% CI: 1.16–1.28) with lack of physical activity (p value <0.001). The HRs compared with individuals in unhealthy lifestyle score that was calculated by summing the participants' scores of baseline lifestyles, those scored 1, 2, and 3 were associated with higher risks of all-cause mortality; HRs 1.27 (95% CI: 1.20–1.36), 1.59 (95% CI: 1.47–1.72), and 1.82 (95% CI: 1.58–2.10), respectively to those with score 0 (P for trend <0.001). Similar trends were also identified in cause-specific mortality such as cardiovascular disease and cancer.

Conclusion: The unhealthy lifestyle factors increase mortality and the number of unhealthy lifestyles is strongly associated with all-cause and cause specific death. Our findings suggest that appropriate policies and interventions are required for better health outcomes with obese individuals.

OP 1-3 1. Behavior and Public Health for Obesity

Transitioning to Sustainable Dietary Practices in Malaysia Current Insights and Future Strategies

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Background: The urgency for adopting sustainable dietary patterns has intensified in Malaysia due to rapid climate change and the country's heightened vulnerability. This study aims to identify and summarize available data on the changes required in the current Malaysian diet to enhance sustainability, and to evaluate the extent to which current policies address this shift.

Methods: A systematic search was conducted using PubMed, Scopus, Web of Science, and Malaysian scientific databases from January 1990 to March 2024. A total of 61 studies and policy analyses were included in this review, and this review was conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement.

Results: Findings suggest that moving towards a sustainable Malaysian

diet necessitates increased consumption of fruits, vegetables, legumes, cereals, and poultry, and reduced intake of red meat, refined grains, sugars, and high-fat foods. Sustainable dietary patterns, such as the Mediterranean Diet and plant-based diets like the EAT-Lancet diet, offer significant environmental and health benefits, including reduced carbon and water footprints and lower risks of chronic diseases such as diabetes and cardiovascular diseases. Despite efforts to address non-communicable diseases (NCDs) by limiting access to unhealthy foods, current Malaysian policies insufficiently cover the environmental dimensions of sustainable diets.

Conclusion: To create an enabling environment for sustainable diets, it is essential to enhance public awareness, support research to provide robust evidence, and implement targeted interventions. Promoting sustainable and healthy dietary practices is crucial for addressing public health challenges and achieving environmental sustainability in Malaysia.

OP 1-4 10. Metabolic and Bariatric Surgery

Role of Bariatric Surgery in Patients with Advanced Heart Failure: Safety, Efficacy and Clinical Implications

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Background: Bariatric surgery (BS) is an important treatment option for obesity, however, the safety, efficacy and clinical implications of BS in advanced heart failure (HF) are not well known. We aimed to describe the use of BS in a diverse group of high-risk obese HF patients.

Methods: Among consecutively enrolled obese (body mass index [BMI] > 35kg/m²) advanced HF patients between 2010 and 2022, 15 patients underwent BS. We evaluated the safety and efficacy of BS in these patients and compared the clinical course of obese advanced HF patients who underwent HTx or durable mechanical circulatory support (MCS) without BS (non-BS group, n=62) during the same period.

Results: Among 15 BS patients, 12 underwent sleeve gastrectomy and 3 underwent gastric bypass surgery. The mean hospital stay for BS was

5.7 ± 2.4 days. Post-BS complications occurred in only 2 (13.3%) patients with no BS related death. After BS, the mean value of BMI was significantly reduced (pre-BMI: 39.8 [39.0-42.2] kg/m², post-BMI: 31.6 [27.7-35.3] kg/m², p < 0.001). Baseline characteristics were comparable between two groups. Comparable proportion of patients were listed for HTx (6/11 [54.5%] vs. 45/62 [72.6%], p=0.277) and underwent HTx (6/11 [54.5%] vs. 40/62 [64.5%], p=0.522). Post-HTx survival was compared between subgroup of BS patients who underwent HTx after BS (n=6) and non-BS group who underwent HTx (n=40). During median follow up duration of 26 [IQR: 8.3-79] months, post-HTx survival was comparable between two groups.

Conclusion: BS in advanced HF patients is a relatively safe and effective treatment to reduce BMI.

OP 1-5 9. Therapeutics of Obesity and Metabolic Syndrome

Once-Weekly Semaglutide 2.4 mg for Weight Management in an Asian Population with Obesity Diagnosed as BMI ≥25 kg/m², According to Local Guidelines: Results From the STEP 11 Trial

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Background: We investigated the efficacy and safety of semaglutide 2.4 mg in an Asian population with obesity (BMI ≥25 kg/m²), defined according to local guidelines.

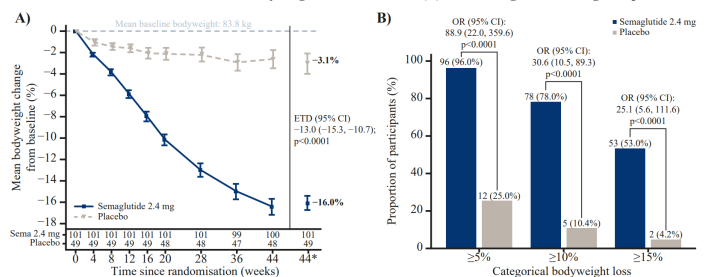
Methods: This double-blind, 44-week trial (STEP 11; NCT04998136) included adults from South Korea and Thailand with BMI ≥25 kg/m² and ≥1 unsuccessful weight loss attempt, without diabetes. Participants were randomised 2:1 to once-weekly subcutaneous semaglutide 2.4 mg or placebo, alongside lifestyle interventions. Endpoints from baseline to week 44 included percentage bodyweight change (co-primary); proportion of participants with bodyweight loss ≥5% (co-primary), ≥10% and ≥15% (confirmatory); change in waist circumference (confirmatory) and blood pressure (supportive); and safety. The treatment policy estimand was used.

Results: All participants completed the trial; 101 received semaglutide 2.4 mg and 49 received placebo. At baseline, most participants were female (74%), mean age was 39 years, bodyweight 83.8 kg, BMI 31.3 kg/m² and waist circumference 98.1 cm. Mean bodyweight reductions were greater with semaglutide 2.4 mg versus placebo (Figure-A). Greater proportions of participants receiving semaglutide 2.4 mg versus placebo achieved categorical bodyweight loss (Figure-B). Greater reductions were also observed in mean waist circumference (estimated treatment difference

[95% confidence interval] -9.0 [-11.4, -6.6] cm, systolic (-10.1 [-14.1, -6.0] mmHg) and diastolic blood pressure (-5.4 [-8.7, -2.0] mmHg). Serious adverse events were reported by 12.9% of participants receiving semaglutide 2.4 mg and 8.2% receiving placebo; no clustering was observed.

Conclusion: Semaglutide 2.4 mg was superior to placebo in reducing bodyweight in an Asian population with obesity (BMI ≥25 kg/m²), with no new safety concerns.

Figure: Percentage bodyweight change from baseline to week 44 (A) and proportion of participants with ≥5%, ≥10% and ≥15% bodyweight loss at week 44 (B) with semaglutide 2.4 mg and placebo



Data are for the full analysis set and the in-trial observation period, using the treatment policy estimand.
*Estimated mean percentage change in bodyweight from baseline to week 44.
CI, confidence interval; ETD, estimated treatment difference; OR, odds ratio; Sema, semaglutide.

OP 1-6 10. Metabolic and Bariatric Surgery

Income Status and Incident Cardiovascular Disease after Bariatric Surgery in Korea: A Population-based Cohort Study

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Background: Limited evidence examined the association of longitudinal change in income with incident cardiovascular disorders risk among individuals who underwent bariatric surgery

Methods: This longitudinal study utilized a nationally representative sample from the Korean National Health Insurance Service database. Cox proportional hazard regression analyses were performed to identify the association of income dynamics with incident CVD, including myocardial infarction and heart failure in patients who underwent bariatric surgery. Hazard ratios (HRs) and 95% confidence intervals (CIs) were estimated after adjusting for potential confounders.

Results: A total of 39 and 145 individuals were classified as outcome groups of myocardial infarction and heart failure among 7,203 adults. Individuals with sustained low income over 4 years had the highest HF risk compared with those who had never experienced low income (Model 3: HR 1.562, 95% CI 1.006-2.426; P for trend <0.05). Individuals with

sustained high income over 4 years had a lower HF risk compared with those who had never experienced high income (Model 3: HR 0.363, 95% CI 0.189-0.697; P for trend <0.05). The highest income at baseline exhibited the lowest HF risk compared to those with lower income (Model 3: HR 0.327, 95% CI 0.169-0.631; P for trend <0.05). Higher income variability over 5 years, especially income drop was associated with higher MI and CVD risk without statistical significance.

Conclusion: Sustained low-income status was associated with increased HF risk, whereas baseline high-income and sustained high-income status was associated with decreased HF risk among individuals who underwent BS. Our findings underscore the need for increased public policy awareness of the impact of income status on CVD risk among individuals who underwent BS.

Keywords: Obesity, Income, Socioeconomic factor, Risk factors, Heart failure, Bariatric surgery