GOAL: Guidance Oriented Approach to Learning

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INTRODUCTION

What Is GOAL?

GOAL is the acronym for Goal Oriented Approach to Learning and this strategy of learning. This strategy is applied to the Family Practice Skills Course 99.

Six units are covered in the GOAL Family Practice Skills Course 99:

- Unit 1 – Hypoglycaemia, cardiovascular risk, and weight: Gold standards for treatment of T2SM
- Unit 2 – The GLP-1 receptor agonists: From evolution to revolution
- Unit 3 – Oral semaglutide: A strategic choice for primary care
- Unit 4 – Capturing and evaluating complications in T2DM
- Unit 5 – Expert insights for PCPs in managing CKD in T2DM
- Unit 6 – Semaglutide: Heart of the matter (SUSTAIN-6 and PIONEER-6 trials)

The details are described in Units 1 to 6 of this issue of the Singapore Family Physician.

RISING PREVALENCE OF OBESITY AND OBESITY RELATED DISORDERS

The prevalence of obesity is rising in the Western countries and the situation in Asian countries is no different.[1] There is also a parallel increase of obesity related disorders, namely diabetes, hypertension, cardiovascular diseases, and chronic kidney disease. In Singapore, the prevalence of obesity (BMI >30 kg/m^2) has doubled from 5.5 percent in 1992 to 10.8 percent in 2010.[2]

Obesity-related disorders can be grouped into the four Ms – medical, mental, mechanistic, and monitoring. This idea was contributed by Dr Akshay Jain, author of Unit 3 of the GOAL course.

TWO MAJOR UNDERLYING FACTORS FOR RISING OBESITY WORLDWIDE

Two major underlying factors are causative of obesity worldwide, namely (1) mechanised vehicle transport, and (2) widespread availability of food.

1. In ages past, manpower and the use of beasts of burden were the means of moving people and materials from place to place. Mankind was kept well exercised and lean. Today, cars, trains, and planes have replaced manpower. The energy thus saved is stored as visceral fat in human bodies. This manifests as increased BMI as well as increased waist circumference. A BMI of 30 or more is regarded as obesity, with correction to 27.5 for Asians.
2. As a result of animal husbandry and farming, mankind has become less food insecure. The availability of food results in weight gain and obesity has become a major problem today. Now, high BMI creates a chronic inflammatory state and results in atherosclerosis. Narrowed blood vessels in the brain, heart, and peripheral vessels lead to ischaemic consequences.

LIFESTYLE INTERVENTIONS

To use up the spare energy and resultant obesity, physical exercises, strenuous physical games, and eating within one's calorie requirements are key lifestyle interventions. These interventions can be remembered using the abbreviation DEWSS, which stands for diet, exercise, weight control, smoking cessation, and spirits moderation.[3]

The strategy of dietary intervention to control obesity is now uniform across the world. It consists of eating within the calorie requirements for various nutrients grouped under the headings of carbohydrates, protein, and vegetables. The basic formula consists of consuming the following proportions of food in each meal: 25 percent carbohydrates, 25 percent protein, and 50 percent vegetables.[4,5] This is the concept of the "healthy food plate" across the world today.

Since 2014, this "healthy food plate" has been introduced to the Singapore community by our Health Promotion Board (HPB) as My Healthy Plate. An accompanying factsheet – that has since been updated – is available for downloading.[6] My Healthy Plate replaced the food pyramid used worldwide then to guide people on what to eat healthily.

The Physical Activity Guidelines for Americans recommend "that adults get at least 150 minutes of moderate-intensity aerobic physical activity or 75 minutes of vigorous-intensity physical activity, or an equivalent combination each week. The guidelines also recommend that children and adolescents be active for at least 60 minutes every day. Following these guidelines can contribute to overall health, and decrease the risk of chronic diseases such as heart disease, cancer or diabetes."

PHARMACOTHERAPY

Orlistat, Phenteramine, Liraglutide as Approved Anti-Obesity Medications

The use of pharmacotherapy in obesity management has been addressed by Dr Tham Kwang Wei in Unit 6 of the Basic Obesity Management Accreditation (BOMA) Course conducted in 2021 and the reader is referred to that paper.[7] In Singapore, only orlistat, phenteramine, and liraglutide are approved and available for use as adjunctive treatments for obesity as anti-obesity medications (AOM).

Oral Semaglutide and Injectable Semaglutide

The Health Sciences Authority (HSA) has approved the use of injectable semaglutide and oral semaglutide for the treatment of adults with insufficiently controlled type 2 diabetes mellitus as an adjunct to diet and exercise in April 2021 and June 2021 respectively. In addition to outperforming several other anti-diabetic medications in terms of glycaemic control and body weight reduction, oral semaglutide has a proven cardiovascular safety profile with potential benefits.

DISCUSSION

Oral semaglutide as an oral GLP-1 RA is an important antiobesity medication that will encourage medication adherence as the drug of choice after metformin, or as an additional medication in the management of longstanding T2DM and prevention of cardiovascular and renal complications of longstanding T2DM.

CONCLUSION

The details in Units 1 to 6 of the GOAL course in this issue provide the strategy for obesity management as well as the prevention and secondary management of cardiovascular and renal complications of longstanding T2DM.

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