UNIT NO. 4

THERAPEUTIC LIFESTYLE CHANGES

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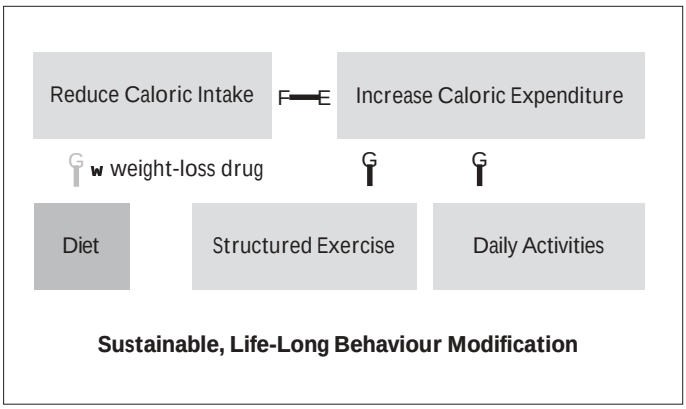
ABSTRACT

To lose weight, patients must incur a negative energy balance. This is best achieved by sensible dietary restriction, structured exercise, and increased daily activities (with or without weight-loss pharmacotherapy). Underlying these three pillars is sustainable behavioural modification.

OVERALL STRATEGY

The majority of individuals who are able to shed significant amounts of fat and maintain their weight-loss do so using a multi-pronged strategy, relying on, the most sensible dietary restriction, structured exercise, and increased daily activities. Underlying these three pillars is sustainable behavioural modification.



ENERGY BALANCE

During the fast but safe weight-loss phase, aim for a daily energy deficit of between 500-1,000 kcal. This will result in 0.5-0.9 kg of fat loss per week (1 kg body fat = 7,700 kcal). Faster weight loss is usually not sustainable, and is associated with excessive loss of lean body mass.

During the slow weight loss phase, aim for a daily energy deficit of just under 300-500 kcal. The body is able to compensate for smaller energy deficits, making half-hearted attempts futile.

DIETARY RECOMMENDATIONS

Generally, a dietary intake of 1000-1500 kcal·day^{-1} is recommended for 90 kg individual. Alternatively the intake should be (BMR – 600) kcal.

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Very-low-calorie diets (VLCD), where the energy intake is less than 800 kcal·day^{-1}, does result in greater initial weight-loss but long term weight-loss is generally not improved.

The level of energy intake has greater impact than actual macronutrient composition (e.g. high fat, high protein, high & low CHO), i.e. various macronutrient compositions cause weight loss through total energy intake. The reduction of fat intake is most effective because of its high energy density (double that of CHO and proteins). The reduction of dietary fat (≤ 30% total energy intake) also important for maintenance of weight loss, and reducing fat intake also has direct effect on risk factors like hyperlipidemia. Some fat, protein, CHO needed for satiety, so it is not advisable to totally omit any of these groups.

STRUCTURED EXERCISE

For the specific purpose of weight-loss, the recommended exercise modality, duration, and intensity are:

- Primarily Cardiovascular (aerobic) activities, incorporating a variety of activities
- 200-300 min per week or >2000 kcal·wk^{-1}
- 55-70% of maximal heart rate

As co-morbidities are common in the obese, pre-participation screening is recommended. Existing or fresh weight-related musculoskeletal injuries should be managed concurrently (including cross-training) so that the patient is able to continue to expend calories.

Resistance training is thought to increase lean body mass, thereby increasing the basal metabolic rate. However, this effect is likely to be over-rated as the body would be in an overall catabolic state when there is a negative energy balance. Hence, for the purpose of weight-loss, the emphasis should be on cardiovascular activities, in order to maximize energy expenditure.

DAILY ACTIVITIES

Intensity of activities of daily living tends to be low, but the longer duration (compared to time set aside for structured exercise) makes the total energy expenditure significant. The stepometer is a very simple and useful tool for quantifying daily activities and applying concrete targets. For weight-loss and overall health, a target step count of > 10,000 (equivalent to 300-400 kcal) is recommended.

Ways to increase daily activities include alighting one bus stop early and walking the rest of the way, parking at far end of car park, mopping the floor, play with your children, etc.

BEHAVIOURAL RECOMMENDATIONS

The following Behavioral principles improve long term outcomes:

- Encourage the patient to sign a 'contract'
- Longer duration of treatment offers better reinforcement
- Maintain long term contact
- Participants should be trained in problem solving, social support, goal setting, stimulus control, etc.
- Self-monitoring of exercise and diet e.g. Food and exercise diary, stepometers
- Provide incentives
- Peer support, group therapy
- Structured meal plans/pre-packaged meals

RECOMMENDED READING

MOH Clinical Practice Guidelines. Obesity. 5/2004.
Bessesen, DH and Kushner, R: Evaluation and Management of Obesity. Hanley & Belful, Inc, Philadelphia, 2002.

LEARNING POINTS

- **Long term, sustainable weight loss is best achieved through sensible dietary restriction, structured exercise, and increased daily activities.**
- **Prescribe a daily energy deficit of between 500 – 1,000 kcal during the fast weight loss phase.**
- **Assess co-morbidities and conduct a pre-participation screening prior to commencing exercise.**
- **Prescribe a calorie-restricted balanced diet.**
- **Prescribe moderate-intensity cardiovascular activities, expending >2000 kcal per week.**
- **Encourage an increase in daily activities, to at least 10,000 steps per day.**