Unit No. 3

UNDERSTANDING MATTERS OF THE MIND IN OBESITY

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ABSTRACT

Obesity is a growing global concern, and Singapore is not spared from the global epidemic. Apart from the increased risk for many serious diseases and health conditions, obese individuals are vulnerable to many psychological comorbidities. Obesity management through lifestyle changes can be limited by various barriers, increasing the challenge of implementation and leaving some clinicians feeling frustrated and stressed. The paper examines the barriers identified in the literature, discusses the use of cognitive behavioural concepts and techniques to facilitate the lifestyle change process and explores the use of motivation and readiness to change to guide the clinician's strategies.

Keywords: Weight management barriers, Cognitive Behavioural Therapy (CBT), motivation, adherence, lifestyle changes

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Obesity is a growing global concern, nearly tripled since 1975. In 2016, more than 1.9 billion adults (aged 18 and above), 39 percent of the world's population, were overweight (BMI ≥ 25 kg/m²) and 650 million were obese $(BMI \ge 30 \text{ kg/m}^2; 13 \text{ percent of the world's population}).^1$ Singapore is not spared from the global epidemic. The National Health Survey in 2010 reported that 29.3 percent of adult residents in Singapore were overweight while 10.8 percent were obese, suggesting that at least two in five adults in Singapore were either overweight or obese. The obesity prevalence in Singapore demonstrated an increasing quadratic trend with the survey years (1992 to 2010).² Apart from the increased risk for many serious diseases and health conditions (e.g., type 2 diabetes, high blood pressure, coronary heart disease, etc.), obese individuals are vulnerable to many psychological comorbidities such as mood, anxiety and eating disorders.³ Despite the gloomy increasing prevalence rate and the threatening impact of obesity, it is believed that obesity is preventable through lifestyle changes such as dietary and physical activity modifications.⁴ However, obesity management through

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lifestyle changes can be limited by various barriers, which increase the challenge of implementation and leaving some clinicians feeling frustrated and stressed.⁵ The purposes of this scientific paper are: to examine the barriers identified in the literature, to discuss the use of cognitive behavioural concepts and techniques to facilitate the lifestyle change process and to explore the use of motivation and readiness to change to guide the clinician's strategies.

BARRIERS TO LIFESTYLE CHANGES

For lifestyle changes, such as dietary and physical activity modification, to be successful, it is necessary that the individuals adhere closely to the prescribed behaviours (e.g., having a daily intake of 1.2kcals for the next five days, or brisk walking 2km on three days in the next one week). Failing which, it may hinder treatment effectiveness resulting in poor treatment outcomes. Therefore, it is important to understand the barriers to individuals adhering to the prescribed behaviours.

Burgess, Hassmén, and Pumpa⁶ identified barriers to lifestyle intervention in adults with obesity through systemic review, which included:

1. Poor motivation

Patients and participants in weight loss programmes often anecdotally claimed that they are aware of what they need to do to manage their health and weight but fail to motivate themselves to carry through with the behaviours. Motivation is key and patients themselves are aware of the importance of motivation.⁷ It was suggested that one of the reasons for the poorly sustained motivation might be the misinformation that significant weight loss is required for health improvements to be achieved, and subsequently become disheartened if this was not achieved.⁶

2. Lack of time

Another key barrier identified in the review was the lack of time.⁶ In Singapore, physical activity engagement was perceived as time-consuming when considered alongside family and work commitment.⁸ Consequently, the lack of time and priority management, devoting time to health and physical activity is challenging for individuals with obesity.

3. Environmental, societal and social pressures

The obesogenic environment, a term coined to describe "influences that the surroundings, opportunities, or conditions of life have on promoting obesity in individuals or populations", functions as a barrier to lifestyle changes.⁹ These includes the easy accessibility to less healthy food (especially more convenient with the trend of food delivery), the "pro-sedentary" environment such as the convenient use of a car (and chauffeured ride), escalators and elevators, as well as the passive leisure activities such as television watching, computer and mobile gaming.¹⁰ Furthermore, when considering social norms, it is not unusual to not exercise. The local study informed that exercise is not carried out among at least one in three Singaporean.¹¹ Consequently, it will require a lot of self-efficacy and motivation to live in the obesogenic environment and to be able to change and carry out the prescribed weight management behaviours.

4. Health and physical limitations

Individuals with obesity experience various health and physical limitations.¹² These include illness, injury or complications associated with obesity or other chronic diseases, and these limitations present themselves as barriers to lifestyle changes.⁶ The various health and physical limitations may result in the development of a vicious cycle that originates from the individuals' fear of pain and discomfort, leading to the limitation and avoidance of physical exercises, leading to further weight gain and/or poor health. At the same time, the presence of avoidance behaviours may further exacerbate the anxiety surrounding physical activity.

5. Negative thoughts/moods

Challenges in emotion regulation are a common barrier to lifestyle change.⁶ Emotion regulation refers to an individual's ability to identify, understand, accept emotions, and respond in adaptive ways. Studies demonstrated that poor mood and negative emotion precedes unhealthy eating behaviours, maintaining obesity.¹³ Also, there is an interactive relationship between the individual's emotional distress and carbohydrate cravings.¹⁴ Emotional distress was found to stimulate a craving for carbohydrate snack foods as consumption of these has the positive reinforcing effect of mood enhancement. The temporary positive benefits derived from the consumption will be sought after emotional distress is experienced, creating a cycle of carbohydrate cravings and carbohydrate consumption.¹⁴

6. Socioeconomic constraints

Socioeconomic constraints were also highlighted as a barrier to lifestyle change. Locally, lower socioeconomic status (SES), defined by education, income, and housing type, was associated with overweight and obesity among Chinese women.¹⁵ Education is believed to enable individuals to integrate healthy behaviours into their lifestyles, such as dietary choices and exercises. Lowered income limits access to medical care, good housing and working conditions, and opportunities for healthy lifestyles. The lack of these may explain the association between overweight and obesity. On the flip side, studies informed that higher SES was positively associated with weight control behaviours such as physical activity, access to healthy foods, and less time spent watching television.¹⁶⁻¹⁸

7. Gaps in knowledge/lack of awareness

As highlighted earlier, education enables individuals to integrate healthy behaviours into their lifestyle. The gaps in knowledge and/or lack of awareness of healthy and detrimental lifestyle behaviours make lifestyle change challenging. Burgess, Hassmén and Pumpa highlighted the lack of understanding regarding dietary and physical exercise recommendations is common among adults with obesity.⁶

8. Lack of enjoyment of exercise

The lack of enjoyment of exercise also presents as a barrier to lifestyle changes. Studies informed that enjoyment of exercise was positively correlated with exercise level. Therefore, when working with individuals with obesity, the enjoyment of exercise is essential for the long-term effectiveness of healthcare-based interventions.¹⁹

COGNITIVE BEHAVIOURAL CONCEPTS AND TECHNIQUES

Cognitive behavioural therapy (CBT) is one of the most extensively researched forms of psychotherapy. CBT has demonstrated effectiveness in addressing unhealthy eating habits, the lack of physical activity and obesity.²⁰⁻²³ CBT is beneficial to manage unhelpful thoughts and behaviours, which prevents individuals with obesity from adhering to the prescribed weight loss behaviours. Unsurprisingly, when compared with the traditional dietary treatment, weight loss programmes that incorporate CBT strategies to promote lifestyle change were able to achieve better weight losses (of between five and 20 percent of weight vs 3 percent) and lower dropout rates (average dropout rates of 20 percent vs rates as high as 58 percent).²⁴ The following identified concepts and techniques can be useful in promoting lifestyle changes that will facilitate weight loss:

1. Self-Monitoring

Individuals with obesity can use self-monitoring to keep a careful record of their own experiences, such as what, when, how much, and where they eat. Through it, they can learn about the factors (e.g., in social situations, in stressful periods, etc.) that put them at risk. With the increased awareness of triggers, they can be more empowered to apply various strategies to reduce the risk of reacting to the triggers.²⁵ The use of self-monitoring on online platforms has also been found to be effective.²⁶

2. Attentional Retraining

People who are battling obesity will often show an attentional bias in favour of food cues. For example, an individual with obesity may orient to food cues, such as appealing high-calorie foods, or a store window with rich foods. Attentional retraining demonstrates effectiveness in altering attentional biases for rewarding food cues.²⁷⁻²⁸ It involves disrupting or reducing the automatic attentional

bias by using distractions, such as focusing on other aspects of the environment or engaging in physical activity.

3. Stimulus Control

The immediate food environment has powerful effects on eating. Thus, individuals with obesity can be trained to modify the environment stimuli that trigger their eating behaviours. Modifications include purchasing low-calorie foods and limiting high-calorie foods kept in the house. Confining eating to a specific place and time of the day can also be helpful, for example, to eat dinner at 7pm at the kitchen table, with a special placemat and to eat only when those stimuli are present. Additionally, to battle stress or emotional eating, creating and increasing non-food-related enjoyable activities in one's life can help in managing obesity.

4. Controlling Eating

Some strategies to increase the control overeating include counting each mouthful of food and putting down eating cutlery after every few mouthfuls until the food in the mouth is chewed and swallowed. The lengthened duration between mouthfuls encourages slow eating, which promotes reduced food intake.²⁹ The process of mindful eating can also help reduce impulsive food choices that may impede weight gain.³⁰

5. Self-Reinforcement

Positive reinforcement can further strengthen the carrying out of planned behaviours. For example, self-reinforcement following keeping to a specific diet or physical activity can include going to a movie or playing a video game. Through this process of self-reinforcement, a sense of self-control overeating can be developed. The sense of self-control can help people overcome temptations. Furthermore, being successful in weight loss is tied to greater vitality and psychological well-being, which function as another source of self-reinforcement.³¹

6. Cognitive restructuring

A key part of CBT in weight management is the application of cognitive restructuring. Unhealthy behaviours (e.g., poor eating habits and the lack of exercise) can be maintained by unhelpful thoughts or monologues such as "I will never lose weight" or "This weight loss attempt is going to end up like the last 28 attempts - failure." Thus, it is necessary to identify unhelpful thinking and to consider alternative or more balanced perspectives. An example of such would be, "I have not lost as much weight as I had wished for in my previous attempts. However, I have learned from the experience to know what behaviours led to the loss of 2kg. Also, my past attempts do not predict the outcome of my current attempt." The process of cognitive restructuring improves the individual's self-efficacy and the belief that one will lose weight.³² Individuals with higher self-efficacy were found to have a better outcome with weight, and those with lower self-efficacy were more likely to drop out of treatments.33-34

7. Contingency Contracting

In many studies, contingency contracting was found to be effective to increase individuals' compliance with weightloss behaviours and significant weight loss were observed.³⁵ Contingency contracting involves a cost (e.g., forfeit of deposit money) for failure to attain a goal (e.g., abstaining from sweetened beverages) and/or provision of reward (e.g., praises or money) for the attainment of a goal. The use of contingency contracting was found to reduce the dropout rate as well.³⁶

MOTIVATION AND READINESS TO CHANGE

The Transtheoretical Model (TTM) offers a promising framework for weight management intervention.³⁷⁻³⁸ TTM uses stages of change to integrate processes and principles of change across major theories of intervention. The stages describe behaviour changes in an individual from less healthy behaviours to healthier ones. The five stages of change are pre-contemplation, contemplation, preparation, action and maintenance. They are briefly described below:

1. Pre-contemplation

The individual has no intention of change and many at this stage are not aware of the problem (e.g., being within an unhealthy weight range). Some individuals at this stage seek treatments because they have been pressured by others, and consequently, they often revert back to their old behaviours.

2. Contemplation

The individual in this stage gains increased awareness of the problem and the benefits of changing. However, the individual is also considering the cost involved in this change, weighing the changes' pros and cons.

3. Preparation

The individual intends to take steps to change but may not yet begin to do so. Some reasons for not starting may include being unsuccessful in the past or delaying until they can get over a stressful period. It is suggested that individuals in this stage should be recruited for action-oriented programmes.

4. Action

In this stage, the individual overtly modifies lifestyle behaviours to overcome the problem. Being in the action stage requires the commitment of time and energy to make the behavioural changes.

5. Maintenance

In the maintenance stage, the individual works to stabilise behaviour changes and remain free of the old behaviours or relapse.

Illustrating these with a situation of someone who is overweight, at the start, the person might not consider that he has a problem or that he is overweight. In this

pre-contemplation stage, it is unlikely that he will change his behaviours. Later, he might acknowledge that he is overweight, and he considers the benefits and cost of changing his eating and exercise behaviours, or joining a weight loss programme. He is in the stage known as contemplation. After a while, he may arrive in the preparation stage, where he decides to lose weight and starts planning for the changes to make. In the action stage, he takes action and makes changes to address the weight issue. And over time, when he made changes and the new behaviours have become habits, he transits into the stage known as maintenance. While these may sound sequential, and the eventual stage is the maintenance, changes sometimes do not last because humans make mistakes. The person who had worked hard to make healthier changes may slide back into the old behaviours, where he is less active, eats less healthily and regains weight. And this stage is known as relapse. He has several options at this point. He can remain in relapse, move into contemplation, or preparation, or straight back into action. Often, people move around between stages, going forwards, then backwards, and entering and leaving the cycle many times before settling on a stable set of behaviours.

It can be useful to utilise tools to assess the individual's motivation and readiness to change for weight management and control. The S-weight is a tool that is easy to administer and was considered (among the assessment tools) to be more efficient in assessing the individual's readiness to change.³⁹ Through the assessment, it promptly identifies the stage of change the individual is in and the psychological obstacles towards weight management.³⁹ For example, educating, increasing the importance of the cognitive dissonance, using gamification and extrinsic rewards are useful intervention strategies for individuals in the precontemplation, contemplation and preparation stages. Intervention strategies such as increasing the individuals' awareness of their current behavioural patterns are likely more useful for individuals in all the other stages of change than individuals within the pre-contemplation stage. Thus, knowing the individual's stage of change helps the clinician understand the individual's challenges and provide relevant intervention strategies accordingly.

Understanding the matters of the mind in obesity is the first step to effective lifestyle changes as an intervention for obesity. These include understanding the various barriers to lifestyle changes, the use of cognitive behavioural concepts and techniques to facilitate the process of change, and harnessing the knowledge of one's motivation and readiness to change to guide the intervention strategies.

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LEARNING POINTS

- Barriers to lifestyle intervention in adults with obesity include having poor motivation, lack of time, environmental, societal and social pressures, health and physical limitations, negative thoughts/ moods, socioeconomic constraints, gaps in knowledge/lack of awareness and lack of enjoyment of exercise.
- Cognitive behavioural therapy (CBT) is effective in addressing unhealthy eating habits, the lack of physical activity and obesity. Some of the concepts and techniques that can be useful in promoting lifestyle changes include self-monitoring, attentional retraining, stimulus control, controlling eating, self-reinforcement, cognitive restructuring and contingency contracting.
- Understanding the five stages of change and identifying the individual's stage of change can guide the intervention strategies. The five stages include pre-contemplation, contemplation, preparation, action and maintenance.