# DEVELOPMENT OF ACCEPTANCE AND COMMITMENT GROUP THERAPY TREATMENT MANUAL FOR WEIGHT-RELATED STRUGGLES FOR MALAYSIANS: A QUALITATIVE PILOT STUDY

***Mathialagan S[1], and Lau PL[1].***
*[1]Department of Educational Psychology & Counselling, Universiti Malaya, 50603 Kuala Lumpur, Malaysia*

***Correspondence:***
*Poh Li Lau,*
*Department of Educational Psychology & Counselling,*
*Faculty of Education,*
*Universiti Malaya,*
*50603 Kuala Lumpur,*
*Malaysia*
*Email: janicepolly@um.edu.my*

***Abstract***

Since 1996, the prevalence rate of overweight and obesity has tripled in Malaysia and the Ministry of Health of Malaysia (MOH) has urged the importance to increase awareness that obesity is a diagnosable disease and is also one of the leading causes of death. Predominantly, the standard weight loss treatments targeting mainly physical health, in terms of calorie restriction and physical exercises have been found to result in weight cycling and poor psychological well-being. Thus, this proves the necessity to develop an intervention that targets both physical and psychological well-being that could potentially reduce the rate of weight cycling. Thus, this study aimed to develop an Acceptance and Commitment Group Therapy (ACT-G) treatment manual for treating weight-related struggles by modifying and culturally adapting an existing self-help book, "The Diet Trap". The research methodology is comprised of two phases: (a) development of the treatment manual based on the Psychotherapy Adaptation and Modification Framework (PAMF) and (b) evaluation of the feasibility of the treatment manual through experts' feedback and focus group interview. A total of seven Malaysian female participants with an average age of 32.71 years (SD = 5.74) and a BMI average of 28.6 kg/m$^2$ (SD = 2.97) attended a 10-week ACT-G intervention and six of them attended a focus group interview after the intervention. The overall findings revealed that the treatment manual was straightforward and relatable to Malaysian values and beliefs and promising in understanding the risk factors of weight gain and ways of living a healthy and meaningful life.

***Keywords***: Acceptance and Commitment Therapy, Group Therapy, Malaysia, Treatment Manual, Weight Stigma

## *Introduction*

*'Sarah is a 35-year-old client who initially weighed 110 kg. Over the past three years, she has been stuck in the 'yo-yo dieting', also known as weight cycling, which implies that there have been repeated periods of weight loss and regain. She enrolled in multiple weight loss programs and tried various diet plans; however, she was not able to sustain her weight loss. Recently, she went for her annual physical examination, and she was diagnosed with type II diabetes. Furthermore, she was also cautioned by her general practitioner that she has a higher chance of developing cardiovascular diseases due to her body size. Besides physical health issues, Sarah also noticed deterioration in her mental health, where she slowly started isolating herself, often feels guilty and unworthy, engages in unhealthy eating patterns, such as emotional eating and binge eating, and frequently blames herself for being a burden to her family. She has also lost faith in any form of weight loss programs, as she believes she is the 'problem' and has been coping with her unpleasant emotions using food since then.'*

As overweight and obesity are not only becoming increasingly more prevalent in the United States or the United Kingdom, but also in the Asian region where two out of five adults are found to be overweight or obese (1), deterioration in physical and mental health due to body size is also accelerating. According to the World Population Review (2022), Malaysia is found to have the highest prevalence of obesity at 19.7% among adults in South-East Asia (2). Since 1996, the prevalence rate of overweight and obesity has tripled in Malaysia where according to The National Health Morbidity Survey (NHMS II) the prevalence of adults who were overweight or obese in 1996 used to be 16.6%, and in 2020 the prevalence rate has tripled to 54.2%.

The Ministry of Health of Malaysia (MOH) has emphasized the importance to increase awareness that obesity is a diagnosable disease and that it is one of the leading causes of death, especially among women (3). This proves that being overweight or obese exacerbates one's quality of life leading to premature death, mobility struggles, and severe mental health disorders (4). NHMS (2019) reported that 18.3% of overweight or obese individuals in Malaysia are diagnosed with type II diabetes and other chronic illnesses, such as cardiovascular diseases, cancer, and more (5). In addition to that, Mohd-Sidik et al. (2021) discovered that overweight and obesity were profoundly linked to psychological issues, such as depression, anxiety, low self-esteem, and suicidal ideation among Malaysians (6). Thus, this calls for a need for an effective intervention that benefits both the physical and mental well-being of individuals struggling with their body size.

A wide range of weight-loss interventions and diet programs have been introduced over the years in Malaysia. For instance, the Keto diet, '*Suku suku separuh'*, intermittent fasting, slimming products, 'Herbalife', and more. Surprisingly, although the prevalence of diet culture is increasing, the prevalence of overweight and obesity are still continually rising as well (7). Furthermore, evidence has demonstrated that "weight cycling" is a commonly found pattern among individuals who attempt to lose weight (8). Weight cycling is a term coined by Kelly D. Brownell to indicate the vicious loop of weight loss and gain. Subsequently, long-term sustenance of weight loss has become more infrequent and challenging (9). This has prompted researchers to investigate the underlying maintaining factors of weight gain and weight cycling. Whilst there are various biological factors contributing to weight gain, the most commonly debated and proven factors to weight gain are mostly psychological: weight self-stigma and experiential avoidance. Weight self-stigma is defined as "personal experiences of shame, negative self-evaluations as well as perceived discrimination" (10). In simple terms, the internalisation of weight-related discrimination and negative beliefs about oneself. Moreover, weight self-stigma has also been found to be related to experiential avoidance, which is the attempt to avoid unpleasant internal experiences, such as thoughts, emotions, experiences, and memories (11). Thus, when an individual gets an unpleasant thought about their body size, they may attempt to suppress the unpleasant thought by acting on something that gives them temporary pleasure or happiness, such as binge eating, binge drinking, isolation, etc. Predominantly, weight loss treatments in Malaysia adopt a weight normative approach of targeting mainly physical health, in terms of calorie restriction and physical exercises (12). However, since psychological factors primarily contribute to weight gain, addressing and targeting these factors in weight loss interventions would fundamentally reduce the prevalence of overweight and obesity. Thus, this proves the necessity to develop an intervention that targets the significant risk factors of weight gain and weight cycling.

### *The need for the development of Acceptance and Commitment Group Therapy (ACT-G) for weight-related struggles*

Currently, weight normative approach is widely used to treat weight-related struggles regardless of age or gender in the Asian region. However, some of the existing literature posits that weight normative approach exhibits poor weight loss sustenance (13), especially among individuals with high weight self-stigma and experiential avoidance. However, this points out that since the emphasis of weight normative approach is on physical health and less importance is given to mental health, this could potentially act as a barrier to long-term weight loss maintenance. Besides, a heap of studies established that weight normative approach gravitates toward weight stigma and neglects mental health aspects (14, 15). For instance, personal trainers implement weight-stigmatising attitudes or statements in motivating their clients, which could ultimately lead to high levels of weight self-stigma.

Considering that weight normative approach has several limitations that affect the weight loss outcome, it has been recommended to employ a weight-inclusive approach instead. Weight inclusive approach emphasizes weight self-stigma, and experiential avoidance, and targets body shame as well (16). The core belief of the weight-inclusive approach is that by eliminating weight self-stigma and concentrating on the psychological components of weight-related struggles, an individual's perception and attitude towards diet and exercise would progressively shift (17). International literature posits that an intervention that employs weight-inclusive approach that places a greater emphasis on mental health and mindfulness could be an effective treatment for weight-related issues (18). Mindfulness-based therapy, such as Acceptance and Commitment Therapy (ACT) has proven to be effective in treating weight-related struggles among the western population (18).

ACT is defined as "a unique empirically based psychological intervention that uses acceptance and mindfulness strategies, together with commitment and behaviour change strategies, to increase psychological flexibility." (19). The primary aim of ACT is to assist clients in acknowledging what is out of their control and instead committing to mindful actions that will improve their lives. Extensive research has been conducted on the effectiveness of ACT on weight-related struggles and these findings have deduced that ACT supports the reduction and sustenance of weight self-stigma, experiential avoidance, and body mass index (BMI) over the long term (18, 20). However, there is no evidence of the effectiveness of ACT on weight-related issues in Malaysia, indicating that this is an area that requires further investigation. Therefore, this research aims to develop a modified and culturally adapted ACT treatment manual for mental health professionals in Malaysia.

***The need for the ACT-G treatment manual to be modified and culturally adapted***

There are growing appeals that cultural difference has an impact on the process and outcomes of psychotherapy (21). For several decades, most psychotherapy approaches were developed predominately by Caucasians in the western culture based on their western cultural beliefs and values. However, evidence has shown that these western beliefs and values tend to conflict with clients from a non-western background, as they struggle to connect with them (21). Previous studies have shown that Asian mental health professionals generally attend training and workshops on western-based psychotherapies with little to zero cultural sensitivity (22). Therefore, since mental health stigma is ubiquitous in Asian culture, conducting therapy without addressing this issue would be unavailing. Frey and Roysircar (2004) argued that Asian and Western cultures differ in terms of communalism, spiritualism, and more (23). However, this treatment manual will specifically address Malaysian cultural values and beliefs.

Malaysia, a country that is located in Southeast Asia, is a multiracial nation with a diverse cultural heritage and is comprised of three main ethnic groups (Malay, Chinese, and Indian) and a diverse range of aboriginal ethnic groups in the East of Malaysia. Malaysians practice various religions, such as Islam, Buddhism, Taoism, Hinduism, and Christianism, and each ethnic group practices its own beliefs, traditions, and norms (24). Despite each ethnic group varying in its values and beliefs, there are several shared values among all the ethnic groups, such as collectivism, adaptation, and more. Additionally, most Malaysians are found to have similar beliefs in body image as well, where thinness is seen as an ideal beauty standard. Furthermore, evidence (25) has also found that weight-related discrimination is a common act in Malaysia where teasing and mockery towards overweight and obese individuals are seen as an acceptable form of motivation for weight loss. Surprisingly, many healthcare professionals are found to be biased towards obese individuals, which causes them to behave in discriminatory ways in healthcare settings (15). Since the ACT treatment manual aims to address weight stigma and the psychological consequences of weight stigma, the need to modify and culturally adapt the ACT treatment manual is necessary.

There has been recent evidence of the application of ACT in different cultures, as several studies that modified and culturally adapted the ACT interventions (26) resulted in positive outcomes in terms of mental and physical well-being. However, this implies that a modified ACT intervention that is based on the sample's cultural values, norms, and beliefs could be effective, relatable, and beneficial for the clients. Furthermore, when a treatment approach is aligned with the client's values and beliefs, they would be more likely to be open to the idea of psychotherapy for weight-related struggles (11). At the same time, when mental health professionals educate themselves on internal weight-related struggles, they would be more effective and sensitive in helping their clients with their body size. To sum up, this research aims to develop an Acceptance and Commitment Group Therapy (ACT-G) treatment manual for treating weight-related struggles by modifying and culturally adapting an existing self-help book, "The Diet Trap, and evaluate the feasibility of the manual.

***Study objectives***

This study is divided into two phases. As a result, there are two research objectives in this paper which are 1) to develop the ACT-G treatment manual by modifying and culturally adapting a self-help book based on the Psychotherapy Adaptation and Modification Framework and 2) to assess the initial feasibility of the treatment manual.

## *Materials and Methods*

This section describes the detailed methodology of the present study. This current study employed design and developmental research to design and develop an intervention that aims to advance one's knowledge of the nature of the intervention and validate its practicality. As mentioned above, this study is divided into two phases; Phase 1: Developmental phase and Phase 2: Evaluation phase.

***Phase 1: Development of the Acceptance and Commitment Group Therapy treatment manual***

Acceptance and Commitment Group Therapy (ACT-G) was developed into an effective weight-focused psychotherapy for Malaysians through the incorporation of the Psychotherapy Adaptation and Modification Framework (PAMF) (27) into the evidence-based self-help ACT book for weight struggles called, "The Diet Trap" by Lillis et al. (28). The Diet Trap uses ACT as a basis and teaches the ways to shift one's thoughts about food and build mindful ways of living lives.

The PAMF was chosen because studies have discovered that modifying and culturally adapting psychotherapies using the PAMF resulted in prominent improvement in the treatment outcomes in the Asian population (27). The primary aim of PAMF is to improve the psychological care for culturally diverse ethnic groups as recent reports have suggested that minorities are less likely to benefit from western developed psychotherapies. However, not only PAMF is designed to improve treatment outcomes among non-western populations, but it also trains practitioners to be more culturally competent. There are six main domains of PAMF as displayed in Table 1 that have been incorporated throughout the treatment manual. Appendix A displays how these domains were incorporated into the treatment manual.

ACT-G treatment manual consists of ten sessions and each session is designed in a similar structure where it starts with a mindfulness exercise, followed by a review of the last session, experiential exercises, content discussion,

take-home exercises, and feedback. A summary of the treatment manual is attached in Appendix B.

**Table 1:** Six main domains of psychotherapy adaptation and modification framework and the descriptions

| Domains of Psychotherapy Adaptation and Modification Framework | Descriptions |
|---|---|
| Cultural complexities and dynamics | • Dynamic sizing: Knowing when to generalize and when to individualize treatments based on client's characteristics.<br>• Address clients' multiple identities and group memberships |
| Therapy orientation | • Address the stigma around psychotherapy, orient clients to the enlightenment of a biopsychosocial or holistic approach model to disease development<br>• Focus on psychoeducational aspects of the treatment and establish goals and structure for therapy early in the treatment |
| Cultural beliefs on illness and treatments | • Understand client's cultural beliefs regarding mental illness, its causes, and the form of appropriate treatment<br>• Use cultural bridging to relate psychotherapy concepts to Asian beliefs and traditions, find ways to integrate extant cultural strengths and healing practices into the client's treatment |
| Client-therapist relationship | • Therapists present themselves as expert authority figures and understand how cultural beliefs have influenced help-seeking patterns in their clients.<br>• The client-therapist roles and expectations for therapy should be addressed and the practitioner's cultural self-awareness and self-identity should be thoroughly explored too. |
| Cultural differences in the expression and communication | • Understand the cultural differences in communication styles and address the ethnic differences in expression of distress (somatization vs worry).<br>• Be aware that the concept of psychotherapy and expressing one's problems as a method of intervention is culturally foreign to the Asian population. |
| Cultural issues of salience | • Address the shame and stigma issues that might influence the treatment process and be aware of the cognitive and affective symptoms of Asian clients.<br>• Clients' life experiences that may act as additional stressors for mental illness (e.g., acculturative stress, racism, linguistic difficulties, intergenerational family conflict) should be given attention. |

### *Phase 2: Evaluation of the feasibility of the treatment manual*

For the second phase, a pilot study was carried out followed by a qualitative approach of a focus group to evaluate the feasibility of the modified and culturally adapted ACT-G treatment manual by obtaining the participants' perception and feedback on the content, delivery, comprehensibility, and the relatability of the manual. Before the pilot study, the ACT-G manual was evaluated by a panel of experts.

### *ACT-G treatment manual evaluation from a panel of experts*

Two experts whose area of expertise is on weight-related struggles and eating disorders were recruited to evaluate the treatment manual. They were PhD-qualified experts and highly trained in ACT in Malaysia. However, several suggestions were offered by these experts to enhance the manual, so that it is more in line with the ACT principles. Table 2 demonstrates the suggestions given by the experts and the actions taken by the author.

**Table 2:** Reviewers' suggestions for the treatment manual

| Reviewers | Suggestions |
|---|---|
| First reviewer | **Suggestion 1**: Use terms that are consistent with ACT and avoid describing emotions as negative or positive.<br>**Suggestion 2**: Discuss more about obesity-related stigma and less on mental health stigma, because this manual is about weight-related struggles.<br>**Suggestion 3**: The term 'homework' is taboo for some practitioners; therefore, it would be appropriate to try replacing it with take-home exercises.<br>**Suggestion 4**: Modify the structure of the session as a general ACT session consists of mindfulness exercise – review of past session – discussion – take-home exercises – feedback. |
| Second reviewer | **Suggestion 1**: Remove Session 9 (*How to lose weight and live a healthy lifestyle*) and replace it with "*A quick guide to intuitive eating and enjoyable movements*". This is because losing weight with proper diet and physical exercise is a weight-normative approach and ACT complies with weight-inclusive approach.<br>**Suggestion 2**: Add in a feedback question of, "What is the one thing you can take from this week and practice during the next week?", towards the end of each session.<br>**Suggestion 3**: Reduce the number of exercises given in each session, to avoid the session being tedious with less discussion. |

### *Research design*

In order to achieve the second aim of the study, a non-blinded open clinical trial was conducted, where participants attended a non-randomized experimental study without a control group and followed by a qualitative process evaluation of the focus group a week after the intervention.

### *Sample*

Participants were eligible for the study if they (i) were between the age of 25 to 45, (ii) had a BMI of 23 kg/m$^2$ (iii) were not currently undergoing psychological or medical treatment, and (iv) had a score of 36 and above on the Weight Self-Stigma Questionnaire (WSSQ). The sample was recruited through convenience sampling, where the study was advertised on social media sites (Facebook and Instagram) by the researcher. This resulted in a convenience sample of eight participants who expressed interest in the study, however, one of the participants withdrew from the study after Session 2. Thus, a total of seven female participants took part in the study, with an average age of 32.71 years (SD = 5.74) and a BMI average of 28.6 kg/m$^2$ (SD = 2.97). The majority of the participants were Chinese (n = 6; 85.7%) and followed by Indian (n = 1; 14.3%).

### *Procedure*

Upon screening participants for their eligibility, they were given an informed consent form. All the participants attended the ACT-G once a week for two hours across 10 weeks, on an online platform (Zoom). Sessions were delivered by a clinical psychologist (first author) and a registered psychotherapist acted as a co-facilitator. The main role of the lead facilitator was to deliver the therapy for 10 sessions, whereas the co-facilitator acted as an administrator of the group (sent out weekly reminders of the intervention and provided mental health first aid) and occasionally delivered mindfulness exercises in the sessions. Upon the completion of the intervention, participants were invited to take part in a focus group discussion which was led by the lead facilitator through Zoom. Since one of the participants dropped out of the focus group discussion, only six participants attended it. After receiving verbal consent, participants were asked focus group questions and were instructed to answer as sincerely as possible.

### *Focus group*

Eight questions were developed by the main facilitator and were reviewed by the same panel of experts to qualitatively measure the participants' feedback on the intervention. The questions are (1) What are some of your thoughts on this ACT-G intervention (in terms of content and structure of the sessions)? (2) Would you say you're satisfied with the program, if so, what are you satisfied with and why? (3) Is there anything you're dissatisfied with? If yes, what are they? Why is that? How should they change? (4) What do you think about weight self-stigma psychoeducation in the first two sessions? Was it helpful? (5) What are your thoughts on the mindfulness activities throughout the intervention (Mask decorating, memory memorial, T-rex feeding, etc) (6) What are your thoughts on the usage of Malaysian-based poems, metaphors, and activities? (7) What sort of impact do you think this intervention has on you (8) Are there any recommendations or suggestions you'd like to make? The focus group discussion was recorded and anonymized during transcription.

### *Analysis*

As outlined by Braun and Clarke (2006), the interview material was analyzed using a combination of deductive and inductive thematic analyses. In qualitative research, a combination of empirically controlled and theory-driven themes is widespread, and it outperforms a validity standpoint (29). In the analysis process, Braun and Clarke's six systematic stages were involved: (1) Transcription and repeated reading of all material, (2) Coding of keywords (3) Organizing keywords in themes and sub-themes (4) Reviewing and revising themes, (5) Defining, analyzing, and naming each theme and sub-themes, (6) Compiling of results and implementing the final analysis. Both facilitators worked together to encode all material and code keywords to search for themes.

## *Results*

By employing deductive coding, six pre-established themes were drawn up based on the focus group questions. This includes content, psychoeducation, relatability to cultural values, advantages, disadvantages, and impacts (Table 3).

**Table 3:** Themes and subthemes of the analysis

| Themes | Sub-themes |
|---|---|
| **Content** | • Level of understanding<br>• Structure and flow of the sessions<br>• Mindfulness approach |
| **Psychoeducation** | • Awareness of weight self-stigma<br>• Understanding different cultural perceptions |
| **Relatability to cultural values** | • Part of identity |
| **Advantages** | • Overall satisfaction with the intervention. |
| **Disadvantages** | • Session timing<br>• Disadvantages of ending intervention |
| **Impacts** | • Physical and mental well-being<br>• Raise awareness |

### *Content*

The first theme addressed participants' experience of the ACT-G intervention and the understanding of its content.

### *Level of understanding*

Five out of six participants expressed that the usage of uncomplicated and easy vocabulary whilst discussing the content was beneficial and easily comprehended: "I actually like how the therapist avoided psychological terms in her delivery, and even if they were some, she managed to explain them in simple terms. This helped non-native speakers to understand better" (Participant 2). One participant who described herself as a beginner in English mentioned that it was challenging for her to comprehend and relate to some parts of the content: "I have trouble understanding some part of the therapy, but the activities are good" (Participant 6). Accordingly, some participants suggested that, in future development, it may be helpful to recruit a multilingual facilitator (e.g., someone who can converse in English, Malay, Chinese/Tamil), as they could assist in translating words or phrases that are unclear as they conduct the sessions.

### *Structure and flow of the sessions*

All the participants described the structure of the sessions as practical and organized: "The structure of the therapy was good; we had opportunities to share our struggles, to do activities, and to listen and learn" (Participant 1). Participants also expressed that there was a smooth flow of sessions, as it was not sloppy: "I don't think the flow of the sessions was confusing. It started with awareness and ended with the importance of self-compassion and values" (Participant 5). Some participants shared that they would have preferred to have more discussions on the weight loss tips, instead of focusing on the psychological aspects: "The therapist taught some intuitive eating and enjoyable movement tips towards the end of the intervention, however, it would have been helpful if the tips were shared on every session" (Participant 4).

### *Mindfulness approach*

All the participants expressed that the mindfulness approach to tackling weight-related struggles was something new, unique, and interesting: "I think the mindfulness activities were very different and unique because I've been to therapy before, and their activities were nothing like this. These activities were so different because there was a mixture of drawing and also writing" (Participant 2). Several Buddhist participants mentioned that the mindfulness approach was very similar to some core values of Buddhism: "Mindfulness is definitely unique, but it isn't a new approach for us Buddhists, because in Buddhism we were taught some of these values…able to relate to these strategies better" (Participant 3). All the participants expressed that doing a mindfulness breathing activity before moving to the discussion aided them in having a clear head: "Even though I was tired before the session, doing the breathing exercise at the beginning of the session helped me think clearly throughout the session" (Participant 3). This indicated the importance of doing a mindfulness breathing exercise before a task, as it helps with distress reduction.

### *Psychoeducation*

The second theme addressed participants' perception of psychoeducation and captured a deep understanding of its impact on participants.

### *Awareness of weight self-stigma*

All the participants agreed that it was necessary to have psychoeducation in the initial stage of the intervention as it helped them gain awareness of aspects that are not widely spoken in their culture: "From the first few sessions of psychoeducation I learned the dangers of weight self-stigma. To be honest, I actually didn't realize weight self-stigma existed and I didn't know it has such negative impacts on us that it could ruin our self-esteem and mental health in general" (Participant 5). A majority of the participants expressed that they were able to relate to the perceived weight stigma they experience and how it resulted in high levels of weight self-stigma: "It was interesting to know most of the participants were going through the same struggles as me…The psychoeducation opened my eyes…Now I understand why I was stuck in yoyo diet" (Participant 1).

### *Understanding different cultural perceptions*

Participants described that psychoeducation was also helpful in terms of learning other participants' cultural perceptions of obesity: "I find the psychoeducation interesting because…In some culture, weight brings good luck and other culture says it's a sign of disgrace and humiliation. So, it was very interesting to know how different culture perceives obesity." (Participant 2). However, some participants expressed that no matter how different cultural perception toward obesity is, weight-related discrimination in Malaysia is still very high and ubiquitous: "I personally think generally the weight discrimination in Malaysia is really bad and even young children are mocking people with big body size" (Participant 4).

### *Relatability to cultural values*

The third theme addressed how well participants were able to culturally relate to the content of the intervention and to describe how the cultural aspects stated in the intervention align with their values.

### *Part of identity*

All participants agreed that the cultural elements included in the manual such as Malaysian beliefs, cultural values, and traditions were useful in following through with the content and relating to the strategies taught. "I think the usage of Malaysian-based games and examples, like culture-related, were very relatable because I think usually therapists use western-based examples that might not even be relevant to our culture, and it would be difficult for us to understand. So, the therapist used Asian-based examples and cultural stuff that we could relate to very well. We actually grew up learning and listening to all

these things so we can relate to it very well" (Participant 6). Participant 4 who has limited English proficiency also expressed that "…Malaysian based example was very good because it was easy to understand and it's not very complicated". Some participants mentioned that they were able to connect to content better as it was something familiar to them. "We grew up learning Malaysian-based poems and games and basically you brought my childhood back to me and I feel like it's a part of my identity and I felt reconnected to it" (Participant 2). Three participants expressed that the usage of Malaysian-based metaphors, values, and activities reminded them of their childhood, as they grew up learning these values and playing these games in their childhood. Therefore, they were delighted when these made a comeback. "…it was really nice to play the activities we used to play in childhood as not only we understood it better, but it also brought back a lot of memories" (Participant 3).

### *Advantages*

The fourth theme addressed the participants' overall satisfaction with the intervention and a deeper understanding of their experiences of the metaphors, content, and activities.

### *Overall satisfaction with the intervention*

The majority of the participants expressed their satisfaction with the intervention. Several participants expressed that they enjoyed the psychoeducation stage as they were given opportunities to share their stories with the group. "…the part where we all talked about our feelings and shared our stories, I think that was a good feeling for me because I always thought I'm struggling alone but I realised I wasn't alone" (Participant 1). Some participants also expressed their gratitude for the intervention as they managed to deal with their weight-related intrusive thoughts in a healthy way. "I learned that the number on the scale is not that important, but my mental health is more important, and… I have accepted that my weight isn't important, but my happiness is" (Participant 5). Some participants also stated the advantage of the online-based intervention and the flexibility to keep their camera and microphone turned off: "I just think for someone like me who is very self-conscious, I was given the flexibility to turn my camera off…this helped me to be more relaxed and engage better in the intervention" (Participant 4).

### *Disadvantages*

The fifth theme addressed the participants' experiences of the content and activities that were not beneficial to them and the disadvantages of ending the intervention after ten weeks.

### *Session timing*

Several participants expressed that having the sessions in the evening was not really helpful to them as some were mentally drained after work, and some students dedicate evenings to their schoolwork. "I think the sessions could have been in the mornings or weekend instead of evening, because I was very tired by the time I come back from work, therefore I believe I could have focused better if it was not on a working day" (Participant 3). Additionally, there were several heterogenous statements about which timing should have been better to have sessions. Typically, participants expressed that allowing them to choose their preferred slots would have helped plan their weeks ahead.

### *Disadvantages of ending intervention*

All participants acknowledged the downsides of ending the intervention and the facilitator's guidance after ten weeks. Some commented that they would have preferred some continued guidance from the facilitator or a follow-up session to discuss their changes or struggles. "I think ten sessions was not enough for me because I wanted to learn more and probably a follow-up session would be good after a few weeks just to sustain motivation to stay on track… For me personally, I need someone to constantly check on me so that gives me the motivation to keep going" (Participant 5). Some participants expressed that the end of the intervention made them feel lost. "Time flew so fast, so the last session felt so unexpected, and I miss attending the group therapy" (Participant 2). This demonstrates that participants would have benefited from a form of closure after the end of the intervention.

### *Impacts*

This theme describes the participants' experiences with the impact of the intervention in terms of mental and physical well-being.

### *Physical and mental well-being*

Several participants identified the ability to notice and become aware of their intrusive thoughts and self-sabotaging habits. They expressed that their mental and physical well-being has gradually improved because of the intervention. "I think my self-compassion has definitely increased after the therapy as I have learned not to be so harsh on myself…most importantly I think I have realized that the number on the scale is not everything as the most important aspects are my values, my family and everything else that makes me happy" (Participant 1). Two participants expressed that these impacts were noticed by their family and friends. "My family said that I'm calmer and more positive when I talk about my weight struggles, and they also noticed some changes in my body since I've started following the "intuitive eating and enjoyable movements" habit. All participants also expressed that although their weight-related distress has not diminished, they can handle it better now. "I do get intrusive thoughts when I compare myself with other healthy people on social media, however now I listen to my body and understand my triggers better and I'm proud of myself for showing a lot of self-compassion… I can also sleep well at night" (Participant 5).

### *Raise awareness*

Three participants expressed that not only they are practicing mindfulness, but they are teaching their family members and spreading awareness on weight self-stigma. "…I have started teaching my kids that weight is not important but how we carry ourselves matters more... I've been trying to spread awareness on the consequences of weight self-stigma within my family" (Participant 3). Several participants commented that they enlightened their friends on the dangers of weight stigma and weight self-stigma to one's mental health as well.

## *Discussion*

Given the increasing demand for a weight-inclusive approach in Asia, healthcare practitioners, personal trainers, and mental health practitioners are encouraged to incorporate this approach into their programs. The present study is the very first pilot trial of a 10-session ACT-based group intervention to assist women with weight-related struggles in Malaysia. The main purpose of the study was to design a culturally adapted treatment manual and examine its' feasibility on individuals' physical and mental well-being. Additionally, the present study also demonstrated how the intervention could be improved and utilized in the target population. The results demonstrated that all the participants experienced different forms of positive impacts on their physical and mental well-being. These results support previous research which demonstrated addressing weight-related psychological factors with compassion, aids in improving mental well-being and living a meaningful life. Participants also expressed their relatability to the content of the manual and their ability to grasp the mindfulness-based approach. Participants who managed to lose weight after the intervention also emphasized the importance of using mindfulness in coping with their weight-related struggles, as they believe it has guided them into making healthy lifestyle choices.

Similarly, previous research in the western culture demonstrated that participants found the intervention to be comprehensive and meaningful and also expressed the need to spread more awareness of the benefits of mindfulness in human lives. Mindfulness-based interventions have previously been studied in Malaysia but, there is no study on using the mindfulness-based approach to deal with weight-related struggles. These results not only suggest that ACT-G is a promising therapeutic intervention to help individuals deal with weight-related struggles but also suggest that improvements in mental well-being are sustained even after the end of the intervention. As an explanation, some participants continuously practiced mindfulness even after the end of the intervention. Participants mentioned that some grounding techniques (e.g., five senses activity, mindful breathing techniques) caught their interest and stuck with them, thus they have been practicing these techniques which lead to de-stressing them and assisting them in making healthy choices in life.

Additionally, all participants found the intervention to be relevant and educational. Aligned with previous research (30, 31) in the Asian culture, the psychoeducation section was believed to be most informative and enlightening, as participants were educated on the detrimental impacts of weight stigma and weight self-stigma on lifestyle choices and the importance of psychotherapy. Stigma and discrimination in Malaysia are not only limited to physical medical conditions, but mental health as well (32). Thus, individuals having weight-related psychological issues would be skeptical about seeking psychological support from a mental health practitioner. As evidence, none of the participants in the focus group reached out for mental health support for their weight-related struggles. This proves that mental health issues are highly stigmatized in Malaysia. Furthermore, the participants did not rate any activities or contents of the manual as least useful, however, they expressed that the session timing could have been earlier or during their days off, as having to express their weight-related struggles and trying to comprehend a new approach of mindfulness when they were exhausted in the evening was not ideal.

Interestingly, incorporating cultural components in the manual was a great success, as all participants were able to relate to Malaysian-based mindfulness metaphors and activities and this has led to a great understanding of the content and some participants even practiced it after the end of the intervention. Previous studies have proven that clients who are familiar with and could relate to the content of the intervention with ease, are more likely to practice the strategies of the intervention or the self-help techniques more frequently compared to those who find the approach foreign (11). A majority of participants expressed the need for a follow-up session and extended intervention time. However, themes that emerged in previous research (33) regarding the need for more frequent therapist support were not emphasized by the participants in the present study, as they received guidance in and out of group therapy from a clinical psychologist with extensive experience in the field.

### *Limitations*

Several limitations in terms of sample size, representativeness, and interview procedure should be addressed because this is a relatively new area of research in Malaysia. First, the sample size was small, as only seven participants were recruited for the study. Although previous research (34) has acknowledged that this is a sufficient sample size for pilot studies examining the feasibility of an intervention, it restricts the generalizability of the intervention's findings. Second, the recruited sample cannot be considered representative of the general overweight and obese population in Malaysia, given that it was comprised of female participants only and it was not racially and ethnically diverse as five out of six participants were Malaysian Chinese. Third, the intervention was conducted across 10 weeks and all ten sessions were

conducted in the late evening at 8 pm. Given that all participants were working adults, the timing of the sessions potentially impacted participants' ability to comprehend the content fully, as participants expressed that they were exhausted during the sessions. However, ACT-G aims to help clients cope with their struggles compassionately. Thus, some expressed that the mindfulness activities benefited them during the sessions. Forth, the author of the treatment manual was the main facilitator of the intervention and the interviewer for the focus group as well. This has led to research bias as the author's positive views and attitudes towards ACT-G could have had an impact on the participants' responses. Additionally, the facilitator might have had their own biases and reactions to the participants' responses during the interview. On the other hand, the participants could have engaged in socially desirable responses during the focus group interview. The decision to use the author both as the facilitator and interviewer was made due to limited resources and time constraints. However, it can be assured that the facilitator did not recruit the participants, as the co-facilitator did. Lastly, selection bias occurred in the study due to the lack of random assignment of the participants.

### *Recommendation and implications for future research*

Considering the study's limitations, there are several recommendations for future research. First, future research should consider increasing the sample size from seven to between ten to 12 and broadening the sample's demographic variables to achieve a more representative population. These changes would improve the generalizability of the study's findings. Second, future research could consider the possibility of having group therapy in the daytime or over the weekends to assure participants make the most out of it. One of the recommendations is that participants could be given the option to choose their therapy slots, thus this way they would not feel pressured, and they could plan their days as well. Third, to examine the long-term effects of ACT-G, researchers should consider having a follow-up session after the end of their intervention. According to previous research, a 3-month follow-up period is proven to be practical for examining the effectiveness of interventions and clinical trials (35). Next, it would be recommended that facilitators or co-facilitators avoid conducting focus groups or semi-structured interviews to prevent having an impact on participants' responses and to decrease biases. The challenge for future research is to further enhance the acceptance and utilization in the target population by developing interventions that do not entirely focus on weight normative approaches but a healthy balance of both weight inclusive approach and weight normative approach.

## *Conclusions*

The results of the present study highlighted the promise of ACT-G for weight-related struggles. This 10-session ACT-G intervention managed to improve both the physical and mental well-being of the participants and most importantly raised awareness of weight self-stigma and experiential avoidance. Although these findings are tentative, the ACT-G intervention demonstrates potential as a possible intervention for Malaysian individuals struggling with weight-related psychological issues.

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## *Competing interests*

The authors declare that they have no competing interests.

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## *Ethical Clearance*

This study has been approved by the Universiti Malaya Research Ethics Committee (UM.TNC2/UMREC_1775).

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# APPENDIX A

**Incorporation of the six PAMF Domains in the Treatment Manual**

| | |
|---|---|
| Dynamic issues and cultural complexities | **Dynamic sizing: In the first session, the ADDRESSING framework will be discussed**<br>**(A)** Age and generational influences: Generation X, Y, or Z<br>**(D)** Developmental: Hurdles during the transitional period from childhood to adolescence to adulthood<br>**(D)** Acquired disabilities: Nonhereditary conditions/diseases<br>**(R)** Religion and spiritual orientation: Religion and spiritual beliefs influence one's meaning of life.<br>**(E)** Ethnicity: Nationality, culture, religion, and language that contributes to an individual's identity<br>**(S)** Socioeconomic status: Understanding socioeconomic status may help in understanding weight-related perceptions and struggles<br>**(S)** Sexual orientation: preference for romantic or sexual attraction<br>**(I)** Indigenous heritage: Understanding if participants follow any aboriginal beliefs such as forms of expressions, practices, spirituality<br>**(N)** National origin: Nation where an individual was born.<br>**(G)** Gender: male, female, nonbinary people |
| Therapy orientation | **Facilitator will thoroughly explain the nature and structure of ACT-G, the purpose of the intervention, the end goal of the intervention, and additional resources if clients require immediate support.**<br>(i) The nature of ACT-G: Acceptance and Commitment Group Therapy is a group-based intervention that focuses on mindfulness and encourages clients to accept and embrace their unpleasant emotions and thoughts, instead of fighting them.<br>(ii) The structure of ACT-G: ACT-G is a ten-week intervention that is conducted every week for two hours per session.<br>(iii) The purpose of ACT-G: The purpose of ACT-G for weight-related struggles is to create awareness of weight stigma and weight self-stigma and the impact of these on quality of life. Furthermore, the facilitator also aims to incorporate all the six core issues of the Triflex model in increasing the psychological flexibility of the participants and lead a healthy and meaningful life.<br>(iv) The end goal of the intervention: Facilitator expects to achieve lesser weight self-stigma, experiential avoidance, body mass index and higher weight-related quality of life among participants at the end of this intervention. |
| Cultural beliefs on illness and treatments | **Cultural bridging:** Western based metaphors are substituted to Malaysian based metaphors such as proverbs, idioms, and short poems that Malaysians grew up learning and using regularly. |
| Client-therapist relationship | **Participants will be educated on their roles on the first week itself and this way they would know what to expect in the upcoming sessions. They will be allowed to express their opinion on the established roles and responsibilities if they are uncomfortable or unhappy with it.**<br>The practitioner's role and responsibilities will be listed as well. |

| Role | Do's | Don'ts |
|---|---|---|
| Therapist | • Offer safe space for clients to express their emotions and feelings<br>• Offer guidance throughout therapy<br>• Offer support in and out of sessions<br>• Introduce themes each session and initiate discussion and mindfulness exercises | • Give direct advice<br>• Be judgemental<br>• Be the only person talking in the sessions |
| Clients | • Feel free to express their emotions, feelings, thoughts, struggles and successes.<br>• Participate in all the mindfulness exercises<br>• Ask questions to ensure an understanding<br>• Abide by the ground rules of group therapy<br>• Maintain confidentiality | • Invalidate other team members' thoughts and experiences.<br>• Give advice and direction to group members. |

**Incorporation of the six PAMF Domains in the Treatment Manual (Continued)**

| | |
|---|---|
| Cultural differences in the expression and communication | To understand client's communication and expression styles. These questions will be asked over the first and second session:<br>What does obesity mean to you?<br>Have you felt stressed, depressed, lack in confidence or anxious because of your weight? What do you do when these unpleasant feelings appear?<br>Have you reached out for mental health support for your weight struggles? How did it go?<br>If you haven't sought professional help, how else do you handle the weight-related psychological issues? |
| Cultural issues of salience | **Psychoeducation:** Participants will be educated and enlightened on the myths and misconceptions of general mental health struggles in Malaysia, the stigma around mental health in Malaysia and the stigma around overweight and obesity in Malaysia as well. The cultural barriers that maintain weight gain will be discussed as well. |

# APPENDIX B

Brief Outline and Summary of the Treatment Manual

| Session | Objectives | Content |
|---|---|---|
| Session 1: Introduction to ACT-G (Part 1) | • Therapist and client introductions<br>• Getting to know each other<br>• Understand the group rules guidelines<br>• Discuss ways to break stigma in the Asian culture<br>• Address cultural differences in body size and shape | • Content (90 minutes): Introduction of facilitators and participants; explanation of the structure of group therapy, roles, and responsibilities. Participants are enlightened on the common self-stigma and public stigma on weight and the consequences of low help seeking behaviour.<br>• Activities (30 minutes): Discussion on common weight struggles participants face in the domains of health, public, work, psychological, and sexual life. |
| Session 2: Introduction to ACT-G (Part 2) | • Openly discuss body size and shape related struggles that have been faced by participants in their racial community throughout their life<br>• Introduction to the Acceptance and Commitment Therapy and its approach | • Content (90 minutes): Discussion on the weight struggles each participant faced in their racial community and how it has affected their life. The meaning of obesity in each culture and how overweight people are viewed in their respective culture. Introduction to ACT-G by exploring the distinctions between traditional weight loss programs and ACT approach.<br>• Activities (30 minutes): Participants are given an activity of physicalizing, where they draw their “Distress monster” with the details of its shape, colour, texture, and more |
| Session 3: The Weight Loss Agenda is the Problem | • The science behind overweight and obesity<br>• Myths and misconceptions of weight loss<br>• Benefits of Acceptance and Commitment Therapy for body size and shape related struggles | • Content (90 minutes): The science behind overweight and obesity is explored with the help of myths and misconceptions of weight loss. Examples of myths are “You should be able to control what you think and feel; If you lose weight, your life will automatically be better; If you lose weight, you’ll be happy and think good thoughts only”. A brief ACT approach that tackles all the myths is explored and explained using the “Pushing paper” metaphor.<br>• Activities (30 minutes): Participants are given an activity called, “The Masks I Wear”. Participants are presented with two masks and are told to draw or write the characteristics or traits they want others to see on Mask 1 and the characteristics or traits they don’t want others to see on Mask 2. |
| Session 4: Self-compassion | • The consequences of stigma<br>• Methods to change perspectives on stigma<br>• Importance of self-compassion | • Content (90 minutes): Help participants see the effects of motivating themselves through self-dislike (self-hatred), to help them connect to self-compassion and to offer guidance to act with self-compassion. Self-as-context is explained using ‘Blue Sky’ and ‘Jutaria Board (Chessboard)’ metaphors.<br>• Activities (30 minutes): Participants are asked to list out the self-compassionate activities they can do that gives them a sense of meaning and vitality. |

Brief Outline and Summary of the Treatment Manual (continued)

| | | |
|---|---|---|
| Session 5: Don't Change Your Thoughts, Change Your Behaviour | • The dangers of cognitive fusion<br>• Self-sabotaging and self-evaluating thoughts<br>• ACT approach to cognitive defusion | • Content (90 minutes): Educate participants on the risk of cognitive fusion and healthy ways to cognitive defusion. Facilitator discusses and teaches various cognitive defusion techniques to detach from thoughts and see them as empty statements and nothing more.<br>• Activities (30 minutes): Participants are given an exercise to notice their stream of thoughts and list them down on their journal. Participants are given an activity to list out the weight-related rules their minds have generated and gradually break them throughout the week. |
| Session 6: Choosing Healthy Living Even When it's Hard | • Acceptance elements in weight-related struggles<br>• Drawbacks of avoidance<br>• Acting with willingness | • Content (90 minutes): Help participants make room for their emotions and avoid getting rid of them, to learn accepting emotions as part of human's life and ways of acting with willingness. Participants learn how to act with willingness as well and extend gratitude to themselves for acting with willingness no matter how small they are, such as making breakfast for family or going for a 30-minute walk.<br>• Activities (30 minutes): Participants are given an activity to draw their emotional baby T-rex and list down their forms of experiential avoidance |
| Session 7: Using Values to Build Healthy Habits | • The reasons why goals are not achieved and maintained<br>• ACT approach to valued living<br>• Ways of staying persistent | • Content (90 minutes): Help participants understand why goals are not achieved for a long term, live a values-based life and ways of staying persistent with values. Participants learn to modify "I Must" sentences to "I Choose" to not feel obligated to do anything but rather act with willingness. Facilitator also emphasizes that it's also essential to forgive oneself if they have gone out of track by binge eating or acknowledge it and make healthy choices there and then.<br>• Activities (30 minutes): Participants are encouraged to choose their values from the list given and are told to write their Epitaph to clarify their values and get more in contact with their values. |
| Session 8: A Quick Guide to Intuitive Eating and Enjoyable Movements | • Intuitive eating techniques<br>• Enjoyable movements<br>• Value based healthy lifestyle | • Content (90 minutes): Help participants on the ways of living a both physically and mentally healthy lifestyle, in terms of intuitive eating, enjoyable movement and value-based living. Participants learn that it's unhealthy to categorize food as "good food" and "bad food" and ways of enjoying all types of food without guilt or shame.<br>• Activities (30 minutes): Participants are encouraged to list down the exercise they like and dislike doing. Furthermore, they are also asked to list down their average meal plan for a day and observe how they feel about it. |

Brief Outline and Summary of the Treatment Manual (continued)

| | | |
|---|---|---|
| Session 9: Putting it All Together | • Ways to stay on course with valued living behaviour<br>• Ways to incorporate all core issues of ACT into weight-related therapy | • Content (120 minutes): This session is full of exercises, where participants are required to outline their treatment plan to improve their physical and mental wellbeing. Participants outline their important values on the four domains of health, relationship, work or education and personal interest and plan out their goals. |
| Session 10: Wrapping up and Stepping Forward | • Summarize the ACT-G intervention | • Content (100 minutes): The session is full on reflecting the overall group therapy, sharing each participant's experience throughout the journey, sharing progress, and summarizing the overall group therapy.<br>• Activities (20 minutes): The session ends with an exercise of participants writing a gratitude letter for themselves by extending gratitude to their mind and body. |