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Research Paper

# Efficancy of CBT In Maintaining Self Esteem Among Obese

Dr. Nurjahan Begum[1]*, Dr. Abdul Wahab Pathath[2], Dr. Seema Irshad[3]

## ABSTRACT

The study was designed to see the efficacy of CBT intervention in maintaining self-esteem among three different grades of obese (grade I, II & III) belonging to three different age groups (early adulthood and late adulthood). For the purpose 280 obese categorized into three different age groups were taking from various fitness clinics at Delhi. In this way 90 obese consisted of males and females both were taken in each age group, and 30 participants were taken for each grade of obese. To measure the self-esteem of the participants 25 items Self Esteem Inventory (SEI) by Coopersmith (2002) was administered on the participants before providing CBT intervention and after CBT intervention to see the difference in their self-esteem. Out of 25 items 17 were negative and 8 positives in the inventory. The results showed that there was substantial increase in the self-esteem among all the three grades of obese belonging to the three different age groups. All the differences were large and statistically significant. Thus, the CBT effectiveness in improving self- esteem among obese was very much evident from the results.

***Keywords:*** *Self-esteem, Obesity, Cognitive Behaviour Therapy, Body Mass Index, Weight Loss.*

Obesity is a medical condition in which excess body fat has accumulated to the extent that it may have a negative effect on health. WHO (2000) defines overweight as referring to increased body weight in relation to height as determined by comparison to a standard height/weight chart. People who are considered overweight have not reached a high enough weight to qualify as being obese. As a rule of thumb, the medical community usually considers someone to be overweight rather in general, the higher your BMI is above 25, the greater your weight-related health risks.

BMI uses a mathematical formula based on a person's height and weight. World Health Organization (2002) defines BMI. Weight in kilograms divided by height in meters squared (BMI= kg/m2). A BMI of 25 to 29.9 indicates a person is overweight. A person with a BMI of 30 or higher is considered obese. Obesity in categorically defined as normal-BMI of 18.4 – 24.9, overweight- BMI of 25-29.9, Grade I obesity-BMI of 30-34.9, Grade II obesity of 35-39.9, and Grade III obesity of 40 and higher. In scientific terms, obesity occurs when a

[1]Department of Clinical Neuroscience, College of Medicine, King Faisal University, Saudi Arabia
[2]Department of Clinical Neuroscience, College of Medicine, King Faisal University, Saudi Arabia
[3]Department of Clinical Neuroscience, College of Medicine, King Faisal University, Saudi Arabia
*Corresponding Author

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person consumes more calories that he or she burns. What causes this imbalance between calories in and calories out may differ from one person to another. Genetic, environmental, psychological, and other factors may all play a part.

A recent survey of the diet and nutrition of young people aged 4-18 found that their diets tend to be high in saturated fats, sugar and salt. The most commonly eaten foods were white bread, savoury snacks, potato chips, biscuits, potatoes and chocolate. Girls were found to eat, by weight, more than four times as much as sweets and chocolate than leafy green vegetables and to drink two thirds more fizzy drinks than milk (Gregory, 2000). Not only are girls and young women eating too much sugar, salt and saturated fats and not enough fruits and vegetables, but they are also more likely than young men to have erratic eating habits linked to concerns about their weight.

A study found that almost half of young women aged 16-24 were trying to lose weight and even amongst those with a desirable weight, 45 percent were 'dieting' to lose it (Joint Health Studies Unit, 1998). The social pressure on women to look like supermodels has meant that girls as young as five are becoming weight conscious and consequently vulnerable to chronic binge eating in later life. Rather than controlling their weight, excessive dieting often has the opposite effect. Periods of abstention are generally followed by binges and overeating resulting in weight gain. Research has shown that mothers' attitudes to food influence their daughters' eating habits and weight outcomes. Mothers who experience compulsive eating habits are likely to pass on these habits to their daughters (Cutting, 1999). Some illnesses can lead to obesity or tendency to gain weight. These include hypothyroidism, Cushing's syndrome, depression, and certain neurological problems that can lead to overeating. Also, drugs such as steroids and some antidepressants may cause weight gain. A doctor can tell whether there are underlying medical conditions that are causing weight gain or weight loss difficult.

Psychological factors may also influence eating habits. Many people eat in response to negative emotions such as boredom, sadness, or anger. Most overweight people have no more psychological problems than people of average weight. Still, up to 10 percent of people who mildly obese and try to lose weight on their own or through commercial weight loss programs have binge eating disorder. This disorder is even more common in people who are severely obese. During a binge eating episode, people eat large amounts of food and feel that they cannot control how much they are eating. Those with the most severe binge eating problems are also likely to have symptoms of depression and low self-esteem. These people may have more difficulty losing weight and keeping it off than people without binge eating problems.

Heneghan, Heinberg, Windover, Rogula & Schauer (2011) found that chronic illness ins an important risk factor for suicidal behaviour. Obesity is perhaps the most prevalent chronic disease at present, although the contribution of obesity to fatal and nonfatal suicide is controversial. Several large population-based studies have shown that obesity is independently linked to an increased risk of suicide. However, this association has been challenged by reports demonstrating a paradoxical relationship between an increasing body mass index and suicide. Recently, it has also been suggested that bariatric surgery patients are at increased risk o death by suicide postoperatively.

Hill (2005) found that obesity's established links with physical morbidity are not mirrored for psychological morbidity. Recent evidence has described an increased risk of

psychological distress especially in females, those most obese, and older people. Depression and poor psychological wellbeing are over-represented in clinical samples but are partly accounted for by co-occurring physical illness and pain. Binge-eating disorder is more common in clinical than community samples or obese individuals. Low self-esteem is commonly observed and has been linked to the anti-fat attitudes prevalent is society. Weight loss is generally associated with psychological benefit.

***Self-esteem***

Self-esteem means truly loving and valuing oneself and is a personal assessment of worthiness. Persons with high self-esteem appear poised and confident and are less influenced by others. This is different from being self-centred, conceited, or obnoxious. Building self-esteem is an ongoing process. It reaffirms that you have accepted yourself as you are but continue to work on capitalizing on your strengths.

An individual with high self-esteem feels good about himself and can face the challenges of life more effectively. High self-esteem provides the basis for success and coping with daily living in a rapidly changing environment. Individuals are responsible for building their self-esteem; however, family, parents, teachers, and friends can provide support and influence many of their life decisions and choices. It is the way we relate to ourselves, to others, and to life in general. It affects the way we learn, work, and build relationships. Our personal success or failure lies in our self-esteem. If we believe we can, we do. If we believe we can't, we don't even try. If you have high self-esteem, you are willing to try new things, develop closer relationships, maintain self-confidence, and remain flexible.

According to Joubert (1990), self-esteem can be defined as a ''person's judgement of general self-worth that is a product of an implicit evaluation of self-approval or self-disapproval made by the individual''. According to Tesser (2000), self-esteem is a global evaluation reflecting our view of our accomplishments and capabilities, our values, our bodies, other's responses to us, and events, or occasions, our possessions self-esteem can be equated to self-worth which means how much people value themselves or believe in themselves, and how worthwhile they feel. Self-esteem is important because feeling good about yourself can affect your act. A person with high self-esteem is more sociable, will make friends easily, control his or her behaviour, and ultimately will be happier.

High self-esteem is nurtured by challenging goals, motivational feats that require dexterity and courage that confining people to the familiar and unchallenging serves to weaken self-esteem (Branden, 1994). The higher the self-esteem, the better people are equipped to muddle through difficulties in their personal lives; the faster they are to pick themselves up after a failure and seek a fresh start with renewed energy.

The lower the self-esteem, the less the aspirations are, and such people are less likely to achieve and success. Either path, whether or high self-esteem or low self-esteem, tends to be self-reinforcing and self-perpetuating, thus increasing the effect of original path. People with higher self- esteem tend to have stronger ability to express themselves without any fear. They are more open and honest in their dealings and communications, reflecting the sense of richness and self-worth. Whereas people with lower self-esteem want to prove themselves at every step of the way or forget themselves by living mechanically, experience emptiness and dependency thus driving them to insecurity and destructive relationships they are uncertain about their own thoughts and their behaviour can portray evasiveness and anxiety.

Olivardia, Pope Jr., Borowiecki III, & Cohane (2004) examined body image and associated psychological traits in 154 collage men. The comprehensive battery of measures included a novel computerized test of body image perception, the somatomorphic matrix, in which subjects could navigate through arrange of body images, spanning a wide range of body fat and muscularity, to answer various questions posed by the computer. Subjects also completed paper-and-pencil instruments assessing depression, characteristics of eating disorders, self-esteem, and use of performance-enhancing substances. Finding suggest that contemporary American men display substantial body dissatisfaction, and that this dissatisfaction is closely associated with depression, measures of eating pathology, use of performance-enhancing substances, and low self-esteem. Muscle belittlement, believing that one is less muscular than he is, presented as an important construct in the body dissatisfaction of men.

Coco, Gullo, Salermo, & Iacoponelli (2011) explored associations among self-esteem, binge behaviours, and interpersonal problems in obese individuals, by contrasting obese persons with overweight persons, and to investigate whether body mass index (BMI), binge behaviours, and self-esteem predict interpersonal problems in obese individuals. A group of non-obese overweight people (n=65; BMI range, 25-29.9 kg/m2) and a group of obese people (n=78; BMI $> 35\ kg/m2$) were selected from 224 people attending a mental health care service specializing in eating disorders in Palermo (Italy). Seventy-eight percent of participants were females. All participants filled in the following measures: the inventory of interpersonal problems short version, the Binge Eating Scale, and the Rosenberg Self-esteem Scale. The findings showed that 4 domains of interpersonal problems were associated with binge behaviours and self-esteem in obese participants. Moreover, the relationship between binge behaviours and interpersonal problems was partially mediated by self-esteem.

Monksnes, Moljord, Espnes, & Byrne (2010) investigated in a cross-sectional study of gender differences on domains of stress, self-esteem and emotional states (depression and anxiety) as well as the association between stress, self-esteem and emotional states using a sample of Norwegian adolescents (N=1508). The results showed that girls had significantly higher mean scores on all stress domains and on emotional states compared with boys. Conversely, boys scored significantly higher on self-esteem.

***Cognitive behaviour therapy (CBT)***

Behaviour therapy approaches were first developed in the 1950s when experimentally based principles of behaviour were applied to the modification of maladaptive human behaviour (e.g., Wolpe, 1958; Eysenck,1966). In the 1970s, cognitive processes were also recognized as an important domain of psychological distress (Bandura, 1969). As a result, cognitive therapy techniques were developed and eventually integrated with behavioural approaches to form cognitive behavioural treatments for a variety of psychological disorders (Hazlett-Stevens & Craske, 2002).

The CBT therapist is not simply bound to a set of techniques, but practices from a basic philosophical position consistent with scientific methods (Goldfried & Davision, 1994). This experimental approach is also apparent in the large number of randomized, controlled psychotherapy outcome research studies of the efficacy of CBT.

CBT teaches clients to improve their self-esteem by first recognising the relationship between their thoughts, feelings, and behaviour (what to do). By teaching clients to first identify these negative automatic thoughts, identifying the underlying errors in their thinking

and challenging them by rewriting the thoughts in a more alternative and balanced way, thoughts become hypothesis to test rather than truths to be indiscriminately taken on board and acted upon. Examples of negative thoughts: I am not good enough, I am stupid, I am ugly. I am inferior, I am fat, I am unlovable, I am weak, I am vulnerable, I am a bad person, I am a failure and I hate myself.

When the opinions we have about ourselves, and our overall evaluation of self-worth is negative this correlates highly with low self-esteem. In the assessment phase of CBT client land therapist collaboratively draw up a problem list of the things they want to competently and effectively master as a result of treatment. These problems may be in the areas of assertiveness, boundary setting, stress problems, relationship issues, problems at work, financial problems, health issues, age-related problems, sexual problems, identity issues, body image and poor self-efficacy.

Cognitive behaviour therapy intervention, which was given to obese comprised of the following three phases: Phase I relaxation, educational and conceptual, Phase II skill acquisition and rehearsal and Phase – refining, applying and transforming coping skills.

CBT program was scheduled one times in a week; every session lasted for an hour to one and half hours over the course of 15 weeks. Above mentioned three phases of the therapy for obese clients were adapted to meet the client's needs at a given time. CBT focused on improving self-esteem and reducing obesity related negative thoughts and their affects on physical health, emotional and behavioural problems of obese clients. The component so the CBT with specific goals were included are Psychoeducation, progressive muscular relaxation, self-monitoring dairy, problem solving skills training and cognitive re-structuring.

The goal of psycho education was to develop knowledge about basic anatomy and physiology of the obese clients, manifestations of treatment procedures for obesity and consequences of obesity, physical health, emotional behaviours and lifestyle, symptoms and signs of stress. The session agenda contained discussion of case illustrations, it was designed to expand understanding of the role of psychological factors in the management of obesity, improve treatment adherence, and enhance the sense of control and mastery a patient has over his or her disease. The goal of skills training was to reduce negative affects and to learn to act constructively rather than merely react to everyday problems of life. In order to develop behavioural skills as alternative to stress, a ‘’diary’’ was used for daily behavioural exercises.

Problem solving skill was taught by using daily examples from clients' past experiences with explaining the stages of problem solving problem recognition, problem definition and problem representation. Therapist and client discussed the problem-solving process in terms of a cycle that consisted of the various stages like recognize or identify the problem, define and represent the problem mentally, develop a solution strategy etc.

Cognitive re-structuring strategies were used to help them identify their distorted thinking styles and to encourage them to substitute a series of self-instructions that guided them through effective problem solving. Strategies that assisted in examining their rationality and narrow focus of the cognitions that helps to develop alternative casual attributions and a nonaggressive and more adaptive perspective. The goal for cognitive restructuring was to

make obese able to recognize negative, and stress-triggering cognitions and attitudes, and to develop self-talk to increase self-esteem.

**Objective:** The main objective of the study was to see the efficacy of CBT interventions in maintaining self-esteem among various grades of obese belonging to different age groups namely early adulthood, mild adulthood and late adulthood.

**Hypothesis:** There would be an effective intervention tool for maintaining self-esteem among different grades of obese belonging to early adulthood, middle adulthood and late adulthood.

## METHOD

In total 270 obese participants of three different age groups (early adulthood, middle adulthood and late adulthood) were taken for the study. The age range of the participants was (18- above 55) 18 to 35 years for early adulthood group, 35 to 55 years for middle adulthood and above 55 for late adulthood. In each age group there were 30 obese of each of the three grades (grade1, grade2, and grade3 obesity). Pre-test and post-test design was used. In this way nine groups of participants were included in the study. All the participants were selected purposively according to their suitability for the study from various fitness clinics located in Delhi. To measure the self-esteem of the participants Self-Esteem inventory (SEI) by Coopersmith (2002) was used. The SEI is designed to measure the evaluative attitude towards the self in social, academic, and personal area of experience. SEI consists of 25 items adapted from the school short form. There are 17 negative and 8 positive items in the scale. The scoring of SEI can be done in few minutes. The negative items in the inventory are scored correct and given 1 point if answered ‘’Unlike Me’’. The positive items are scored correct and given 1 point if answered ‘’Like Me’’. The negative items are: 2, 3, 6, 7, 10, 11, 12, 13, 15, 16, 17, 18 ,21 ,22, 23, 24 and 25. The positive items are: 1, 4 ,5, 8, 9, 14, 19 and 20.

## RESULTS

***TABLE 1 Mean & S.D. of self-esteem scores of different grades of obese belonging to early adulthood age group before after CBT intervention***

| **Obesity Grades** | **Grade I Obesity** | | **Grade II Obesity** | | **Grade III obesity** | |
|---|---|---|---|---|---|---|
| **Self-esteem score** | **Pre CBT-self-esteem score** | **Post CBT self-esteem score** | **Pre CBT-self-esteem score** | **Post CBT self-esteem score** | **Pre CBT-self-esteem score** | **Post CBT self-esteem score** |
| Mean | 62.13 | 79.60 | 61.80 | 63.46 | 62.93 | 69.06 |
| S. D | 8.25 | 7.53 | 5.82 | 5.33 | 4.69 | 5.87 |
| N | 30 | 30 | 30 | 30 | 30 | 30 |
| t | 10.47** | | 2.66** | | 4.13** | |

***TABLE 2 Mean & S.D. of self-esteem scores of different grades of obese belonging to middle adulthood age group before after CBT intervention***

| **Obesity Grades** | **Grade I Obesity** | | **Grade II Obesity** | | **Grade III obesity** | |
|---|---|---|---|---|---|---|
| **Self-esteem score** | **Pre CBT-self-esteem score** | **Post CBT self-esteem score** | **Pre CBT-self-esteem score** | **Post CBT self-esteem score** | **Pre CBT-self-esteem score** | **Post CBT self-esteem score** |
| Mean | 73.60 | 82.53 | 63.46 | 83.46 | 69.06 | 73.60 |
| S. D | 8.53 | 8.25 | 6.33 | 7.58 | 5.87 | 7.85 |
| N | 30 | 30 | 30 | 30 | 30 | 30 |
| t | 8.93** | | 12** | | 2.56** | |

***TABLE 3 Mean & S.D. of self-esteem scores of different grades of obese belonging to late adulthood age group before after CBT intervention***

| **Obesity Grades** | **Grade I Obesity** | | **Grade II Obesity** | | **Grade III obesity** | |
|---|---|---|---|---|---|---|
| **Self-esteem score** | **Pre CBT-self-esteem score** | **Post CBT self-esteem score** | **Pre CBT-self-esteem score** | **Post CBT self-esteem score** | **Pre CBT-self-esteem score** | **Post CBT self-esteem score** |
| Mean | 62.13 | 74.66 | 60.20 | 64.26 | 63.93 | 70.40 |
| S. D | 6.25 | 8.76 | 9.82 | 10.43 | 7.69 | 9.16 |
| N | 30 | 30 | 30 | 30 | 30 | 30 |
| t | 8.53** | | 3.06** | | 4.47** | |

## DISCUSSION AND CONCLUSION

From the results given in the above tables it appeared that CBT intervention for obese have been proved effective tools for all the three age groups of obese. The results were analysed and discussed in the light of objective and hypothesis of the study. It was hypothesized that CBT intervention would be an effective tool in improving self-esteem lost due to over weights among different grades of obese belonging to different age groups. The hypothesis was tested by computing mean and S.D. of self-esteem scores obtained before and after CBT intervention separately for different grades of obese and for the three age groups of participants namely early adulthood, middle adulthood and late adulthood and three grades of obese. Table 1 meant for early adulthood showing mean and S.D. of self-esteem scores (before and after CBT intervention) for grade I, II, and III obese separately. From the table it was evident that self esteem among all the three grades of obese before CBT intervention was much lesser than after intervention as the difference between two means (before and after intervention) for grade I the pre-CBT mean was 62.13 while post CBT self-esteem mean was 79.60 was so large that it was found statistically significant beyond .01 level of confidence, ('t' value was to be 10.47).

Similarly, for grade II obese there was substantial difference between the two mean scores of self-esteems. The pre-CBT was 61.80 while post CBT self-esteem mean was 63.46 have also the difference was found statically significant as the 't' value was 2.66 whereas for the grade III obese there was substantial differences between the two mean scores of self-

esteems. The pre-CBT mean was 62.93 while post CBT self-esteem mean was 69.06 have also the difference was found statically significant as the ‘t’ value was 4.13. Similar results were obtained for the middle adulthood age group of obese participants which were given in the table 2. The results showed that there were substantial differences in the mean of self-esteem scores of all the three grades of obese (Grade I, Grade II, Grade III).

For the grade I obese mean of self-esteem score was found 73.60 for pre-CBT and 82.53 for the post CBT intervention. Whereas for the grade II obese the two means were found 63.46 and 83.46 respectively. Here the difference between the two means were much larger but for the grade III obese the difference between the two means were much smaller as the two means value were 69.06 and 73.60 respectively. The mean difference for each of the three grades of obese were tested separately by computing ‘t’ test and the ‘t’ values were found to be 8.93, 12 and 2.56 respectively for grade I, II and III obese.

The self-esteem scores of obese belong to late adulthood age groups was also analysed separately for each grade of obese and the results were given in table 3. It shows that the pre and post CBT mean difference for grade I was higher than grade II and grade III obese. In case of grade, I the mean scores were 62.13 and 74. 66 for pre and post CBT respectively on the other had for grade II the means were 60.20 and 64. 26 and for grade III the means were 63.93 and 70.40 respectively. Again the ‘t’ values for all the three grades were found significant as it 8.53 for grade I, 3.06 for grade II and 4.47 for the grade III obese.

The above results clearly showed that, the CBT had been proved an effective tool for improving or restoring self-esteem among the different grade of obese across different age groups. CBT intends to provide with a timescale for overcoming a problem and to give the insight and skills to improve quality of life to cope and progress on your own once therapy is finished. It assists to make sense of overwhelming problems by breaking them down into smaller parts. This makes it easier to see how they connected and how they affect us. These parts are: A situation – a problem, event or difficult situation, thoughts, emotions, physical feelings and actions each of these areas can affect the others. How we think about a problem can affect how we feel physically and emotionally. It can also alter what we do about it. If a person goes home feeling depressed, probably the person broods on what has happened and feels worse. If we get in touch with other person, there’s a good chance we’ll feel better about our self.

Evidence suggests that obesity is associated with an increased risk of poorer perceived health. Individuals may believe that they are unbale to engage in certain activities, or they will not be able to have a long and fulfilling life. Obese individuals are more likely to be dissatisfied with their body shape and size (Markowitz, Friedman & Arent, 2008). Thinness is a beauty ideal in both Europe and the US and now in developing countries also, so being overweight or obese may contribute to body dissatisfaction and low self-esteem that increases the risk of depression (Luppino, Wit, Stijnen, Cuijpers, & Penninx, 2010). Some obese people report social anxiety, whereby they are embarrassed to go out because they may not ‘fit’ into a chair in a restaurant or an aeroplane, for example. Thus, being obese reduces their body image. Research also shows that being obese reduces self-esteem and the effect on their social life leaves them isolated and vulnerable (Vaidya, 2006). Weight bias has been found to contribute to maladaptive eating behaviours among obese individuals and is likely to increase vulnerability to depression, low self-esteem, low self-worth, guilt and poor body image. The findings Cheng Cheng, Jei Bai (2022) also suggest that decreased physical health should be of primary importance in the management of MCCs (Multiple

chronic conditions). Further, weight control could be a strategy of particular interest for improving the mental health of people with MCCs.

In this way hypotheses presuming effectiveness of CBT in improving self – esteem among obese was found confirmed. Thus, it can be concluded that CBT is one of the most effective intervention techniques for the improvement self-esteem particularly among those who are more concerned about their health and body image.

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***Conflict of Interest***

The author(s) declared no conflict of interest.

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