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THE ROLE OF THE CLINICAL PSYCHOLOGIST IN THE TREATMENT OF OVERWEIGHT AND OBESITY

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In this paper, we present the basic structure of a psychological program for weight control. It is rooted in a fact that is not usually taken into account in most common commercial programs, which are not effective in maintaining medium and long-term weight loss. That is, sustainable weight loss is only possible when we respect the limits set in each organism. This work involves a readjustment of expectations showing how much weight it is possible to lose, teaching self-control techniques, promoting changes in lifestyle and proposing a different way of relating to one's own body.
Key words: *Overweight, Obesity, Weight control.*

En este trabajo se presentan los elementos básicos de un programa psicológico para el control del peso. En él se parte de un hecho que habitualmente no se tiene en cuenta en los programas comerciales más comunes y que no son eficaces para mantener la pérdida de peso a medio y largo plazo. Esto es, que la pérdida de peso sostenible sólo es posible cuando se respeta los límites que cada organismo marca. Esto implica un trabajo de reajuste de expectativas, mostrando a los clientes cuanto peso es posible perder, enseñando un cierto autocontrol alimentario, promoviendo cambios en el estilo de vida y proponiendo un modo distinto de relacionarse con el propio cuerpo.
Palabras clave: *Sobrepeso, Obesidad, Control del peso.*

Overweight and obesity are, to date, a daily concern for most of the population of the developed world. Overweight is reached when body mass index (BMI) is situated between 25 and 29.9 and obesity when BMI is over 30. From a health perspective there is ample evidence relating BMI increase with morbidity increase (e.g., arthritis, diabetes, hypercholesterolemia or surgical-risk increase) and with the increase of mortality attributable to all causes (e.g., cardiovascular or cancer). The problem shows a very noteworthy pattern of increase. In Spain, in 2003 49.23% of the population had excess weight to a certain degree (13.32% were obese and 36.91% were overweight). In 2006, according to a National Poll on Health, 15.25% and 37.4% of adults presented obesity and overweight, respectively. The preview results of the ENRICA study conducted by the Autonomous University of Madrid show that 62% of Spaniards over 18 have excess weight (23% obesity and 39% overweight).

However, regarding this topic, it is necessary to take into account two important facts. On the one hand, the statistical relationship between excess weight and illness is purely correlational and not causal. This would explain that 20% of diabetics, 40% of individuals with hypertension and 50% of those with high cholesterol have a normal weight. And on the other hand, the relationship between BMI and mortality is not lineal but rather it adopts a U form. This means that the risk of dying increases in both people with obesity and in people with low BMI levels (Allison, Zhu, Plankey, Faith and Heo, 2002). And, surprisingly, it has also been shown in one of the best studies on the topic that the mortality rate is even lower in the overweight range (25-26.9) than in the normal weight range (18.5-24.9) (Flegal, Graubard, Williamson and Gail, 2005).

These data are of great importance in the sense that many people who seek help to lose weight do not do it so much for health reasons but rather due to the preoccupation with body image demanded by society and that is broadcast by the media. This implies that many women, in particular, with an adequate BMI and who do not present any health problems reiteratively attempt to lose weight. At present, a BMI of 25 is not considered aesthetically adequate. For example, many people believe that a woman of 1.65 m should weigh between 60 and 63 kg; this means a BMI between 21 and 23, between two and four points (i.e., at least 5 kg) below the limit of what is completely healthy.

The objective of this paper is, first, to present the physiological and psychological barriers to weight loss and its long-term maintenance, and then, to describe the

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clinical work psychologists can perform in this area correcting expectations, showing how much weight it is possible to lose, teaching a certain self-control in eating, promoting life style changes and proposing a different way of relating to one´s own body.

LIMITS TO WEIGHT LOSS

Prior to starting any weight control program, it is necessary to take into account (and clients should be trained in such a way) that the organism sets in motion a series of buffering mechanisms that attempt to block this weight loss. Among these barriers, the plateau effect of diets stands out (Amigo and Fernández, 2004). In essence, this effect refers to the fact that if a person begins to restrict the number of calories he/she usually consumes, the first few kilograms are lost quickly; however, after a few weeks it will be observed that despite maintaining this restriction, the person loses fewer kilograms until he/she does not lose any more. The study by Keys, Brozek, Henschel, Mickelsen, and Taylor (1950) regarding the effect of hunger has allowed the experimental demonstration of this process. This presumes that the human organism behaves as if it had a barrier that is very difficult to penetrate, which is called the *setpoint* or fixed point (Keesey, 1980). Now, this *setpoint* is not immovable, in fact, as we gain weight over the years it progressively moves up. On the contrary, if weight is lost and this weight-loss is maintained, the *setpoint* can be lower, but several years are needed for its consolidation. Although at present there are no data to determine how many years are needed, some authors talk of almost six years. It can be deduced from this that the organism has a tendency to gain the weight back for a long time after losing it.

The concept of *ponderostat* adds more elements to the understanding of the tendency of weight to homeostasis (Schwartz, Woodst, Porte, Seeley and Baskin, 2000). The experimental results have shown that when adypocytes begin to empty themselves they stop producing leptin, which increases the hunger sensation. Inversely, when adypocytes fill up leptin production blocks the hunger sensation. This can explain the voracity that some individuals feel when they significantly restrict their food intake, and inversely, how after several days of excesses the organism tends to eat less and return to its normal weight (Klok, Jakobsdottir and Drent, 2007).

At present, there are many diets advertised that offer much more weight loss than the organism can accept and all these are equally inefficient for long-term weight control. Their short-term effects are explained by what they all have in common, that is, the reduction in the total number of calories consumed, which can be attained in diverse ways (Grande-Covían, 1988). The *Atkins* diet, for example, is based on a very strict restriction of carbohydrates. Initially, only 20 gr. of carbohydrates a day can be consumed, with a gradual increase up to 50 gr. daily. The *Weight Watchers'* diet opts basically for a restriction of calories measured through points, so that a person can only consume the equivalent to a certain number of <<points>> depending on his/her weight. Every point is equivalent to 50 calories. The *Zone* diet seeks a nutrient balance according to the following proportions: 40 percent carbohydrates, 30 percent fat, and 30 percent protein. The *Ornish* diet, contrary to the Atkins diet, limits fat and establishes an almost vegetarian diet, reducing the consumption of fat to 10 percent.

Dansinger, Gleason, Griffith, Selker and Schafer (2005) compared the four aforementioned diets and found that only 50 percent of overweight or obese individuals were capable of adhering to any one of those diets for a whole year. Individuals who after a year continued with the diet had only been able to lose between 5 and 7 kilograms of weight. Very similar data will probably be obtained when the effect of the *Dukan diet*, which has reached such popularity in the last few years and is nothing more than a variant of the *Atkins* diet, are studied.

Altogether, the results of several epidemiological investigations have also led to the conclusion that 95 percent of individuals who lose weight gain it back between one and five years later. However, it must be taken into account that these data are usually obtained when studying people who seek nutritional medical care and, therefore, it cannot be applied to the population as a whole who go on diets (Sarlio-Lahteenkorva, Rissanen, and Kaprio 2000).

To explain the tendency to gain back the lost weight, *the theory of dietary restriction* proposed by Herman and Mack (1975) posits that restrained eaters, that is, people who are trapped in a continuous dietary process and who in order to regulate their consumption pay more heed to what they are supposed to do than to real hunger or satiety sensations, tend to eat uncontrollably and binge when these dietary restrictions are broken or when they are emotionally affected. In the experiment on which this theory was based, a group of restrained eaters were compared to a group of unrestrained eaters who were

told that the aim of the experiment was to examine flavour preferences. The experiment consisted of drinking a vanilla milkshake and, then, freely eating as much as they wanted of three different types of ice cream. What happened is that the more milkshakes unrestrained eaters had, the less ice cream they consumed, and, on the contrary, the more milkshakes restrained eaters had the more ice cream they ingested. That is, the breach of the restraint leads to dietary disinhibition.

Subsequently, Herman and Polivy (1984) extended this theory with the *Boundary Model of Eating Behavior*. This model highlights the psychological nature of this disinhibitory effect given that participants in these types of experiments did not lose control eating ice-cream, when they were told that the milkshake was low in calories even though its caloric content was in reality very high. Restrained eaters seem to have a limit with respect to what they can eat and when they overstep this limit, they tend to eat without control.

Therefore, if individuals regain the weight they had before the hypocaloric diet or even more, this is mostly due to the changes this diet causes in eating behavior, which leads to a greater sensitivity and liking for foods (Raynor and Epstein, 2003) and greater dietary disinhibition (Lowe, Foster, Kerzhnerman, Swain and Wadden, 2001).

PSYCHOLOGICAL INTERVENTION IN WEIGHT REDUCTION

This brief outline of the tendency toward weight homeostasis and the psychological and physiological mechanisms that are activated to facilitate the recovery of this weight allows us to see the insufficient and scarce effectiveness of any given hypocaloric diet in the long-term. If weight control were possible through the reduction of calories, it would suffice to have a calculator and a table showing the energy values of different foods in order to lose weight on a permanent basis. In fact, this is more or less what so-called dieters do (people who very frequently engage in hypocaloric dieting) and who never achieve their objective.

To date, a great part of the research conducted on the psychological strategies for weight control has been based on cognitive-behavioural techniques that have shown certain effectiveness. In the program that is proposed next, the Acceptance and Commitment Therapy approach, which can be of great interest and utility in this problem, has been included.

How much weight is it possible to lose?

One of the first topics to be addressed with the client is his/her expectations with respect to the amount of weight he/she wishes to lose. His/her experiences with hypocaloric diets may have led him/her to believe that it is reasonable to lose much more weight than is sustainable in the long-term. Many individuals believe that they can achieve reductions of more than 10-15% on a permanent basis. At this point, it is necessary to develop an educational intervention to show that this weight loss, although possible in the short-term, is not maintained over time. In fact, it is known that the more previous failures experienced with these hypocaloric diets and the greater the percentage of weight lost, the greater the probability of failing with a new diet (McGuire, Wing, Klem, Lang and Hill, 1999; Vogels, Diepvens and Westerterp-Plantenga, 2005).

In addition, a recent review has shown that between one and two thirds of so-called *dieters* regain more weight than they lost and this percentage seems to underestimate the problem given the methodological limitations of many studies that have analyzed this matter (Amigo and Fernández, 2007; Mann, Tomiyama, Westling, Lew, Samuels, and Chatman, 2007).

At this point it would also be interesting to question the common belief that there is an ideal weight for each person. The BMI is the best index for establishing a person's weight in relation to his/her height. This index has a sufficiently wide range within which a person's weight does not represent any health problems. A person whose height is 1.72 would have an equally healthy weight whether he/she weighed 60 kg (BMI=20.33) or 74 kg (BMI=25). However, initially many individuals do not accept this idea and their intention is to have the body they had at a particular moment in their lives (e.g., prior to their first pregnancy). It is the individual's refusal to accept that his/her body is not what it was in the past and that the changes they can now achieve derive from their current body size.

In light of what has been expounded, it can then be asked how much weight is adequate to lose in order to facilitate it not being regained. The answer is implicit in the set-point concept. As has been pointed out, the weight loss process is usually begun by a pronounced initial weight loss that little by little decreases until it stabilizes. If a person, for example, goes from consuming 2500 calories to 2000, after a few weeks he/she will notice that despite only consuming those 2000 calories, the scale

does not show any subsequent loss. This is probably because the person has reached his/her setpoint and any attempt to lose more weight may, paradoxically, favour regaining it. The reason for this is that in order to continue losing weight an additional reduction in caloric intake would now be necessary, limiting this intake to, for example, 1800 calories. In this situation, just as proposed by the *dietary restraint theory*, the person is faced with many potential stimuli (e.g., diet breaches or states of despair) that lead her/him toward disinhibition, and therefore, to eating much more.

For most people, reductions around 5% are possible and sustainable over time, and although they may seem limited with respect to personal wishes, they can be very beneficial in terms of health (Nanri, Mizoue,Takahashi, Noda, Inoue, and Tsugane, 2010).

Nevertheless, every person is different and has a different biography. It is for this reason that we should not have a preconception of the weight that can be lost, and this must be transmitted to the client. Allowing the proposed changes in eating and life style to have their effect until the weight loss is stabilized seems to be the most prudent approach.

Learning to accept your own body

Given that sustainable weight loss is limited, many people can feel disappointed by this fact. Thus, learning how to accept your own body appears to be a critical element in the success of the program (Amigo, 2010). The procedure to achieve this would fit adequately into the logic of the Acceptance and Commitment Therapy (ACT) (Hayes and Strosahl, 2004). The objective here is not for a person to resign him/herself to feeling fat. On the contrary, it is to promote change in all those aspects of their lifestyles that can contribute to losing weight (eating habits, exercise, emotional control...). This implies that the person will have to open him/herself to many sources of discomfort and learn to live with these without trying to eliminate them. He/she must be willing to live with the following: the fact that his/her body is not the one he/she wishes to have but it is, in fact, his/hers; that the weight loss is limited; the uneasiness that imposed changes in eating habits cause; the agitation provoked by the wish to initiate another hypocaloric diet in order to lose weight quickly again; the feelings of anger for feeling observed for being overweight or the discomfort generated by continually seeing models through the virtual world who achieve a perfect slimness.

In essence, it consists of learning how to accept that which one cannot change in any other way. The frustration and anger caused by the desire to lose weight and not being able to achieve this will provoke even greater discomfort and suffering. Ceasing to fight against what is uncontrollable causes that despair to be experienced in a clean way and without emotional baggage and it liberates more space to deal with other important elements in life, and focus on what can be controlled.

Obviously, in order to achieve all of this, it is necessary to turn to the group of techniques and procedures of ACT. Creative despair can serve to show the client how his/her efforts to control his/her weight through all types of restrictions and hypocaloric diets have failed. Posing ways of how to exert control beyond what one can control does not only generate greater discomfort but also worsens the problem by inducing successive series of failures and can even lead to weight gain. De-fusion techniques are useful in showing how language and thoughts are an additional source of suffering given that they reverberate the obsession for body volume without the person being able to realize that thoughts are just that, thoughts that are keeping him/her from living in the here and now. Adopting the spectator role allows us to become conscious that a person is not only his/her body, but rather he/she is something that transcends his/her feelings, emotions, sensations and body. Working on personal values is essential to becoming free of the continuous preoccupation for the body at the same time as doing what is most important and valuable for each person.

Adhering to a personalized dietary regimen with fewer calories

In order to gain control of weight, it is necessary to become adapted to eating habits which are not too caloric and that contain an adequate proportion of nutrients facilitating weight control. This means assuming that the new eating pattern will have to be maintained indefinitely given that this new pattern is only efficient during the time that it is followed. Moreover, in order for this new habit to be consolidated over time, it is essential that the eating style take into account individual tastes so that nothing is really prohibited. The amount of certain foods may be moderated but never eliminated completely from our diet, given that it would only contribute to strengthening the so called "forbidden apple" effect

(Lemmens, Born, Rutters et al, 2010). The most adequate eating style for human beings supposes that at least 50%-55% of the calories consumed must come from long-chained carbohydrates (legumes, cereal, rice, pasta, potatoes and vegetables). Around 30% must originate from fats (preferably unsaturated fats such as olive oil or blue fish which reduce the risk of cholesterol) and between 15% and 20% of the remaining calories should be ingested in the form of protein.

Although this may seem to be a contradiction with respect to current beliefs regarding eating, it must not be forgotten that when calories originate from complex carbohydrates, the glucose level rises more slowly, remains stable for a longer time and decreases little by little. This type of carbohydrate takes longer to be absorbed and its satiety effect is more prolonged. Therefore, complex carbohydrates must be at the base of the eating pyramid favoring weight loss up to 2 kilograms as has been demonstrated by the CARMEN European Project (Saris, Astrup, Prentice et al, 2000).

An eating program that includes the healthy proportion of nutrients that we have just commented on is shown in Table 1. Obviously, it would be desirable for the person to establish his/her new eating pattern.

If doubts emerge in this respect, Table 1 can serve as a general guide on the preferable amounts and types of foods. Another important aspect of eating is that it must be distributed between four and six feedings throughout the day. This may clash with the habits of many people who have placed all their efforts in controlling weight through the restriction of food, by even skipping some meals in order to avoid weight gain. As previously indicated, there is nothing more inefficient for losing weight than food restriction, which can even lead to gaining a few kilograms.

Water should be the drink of reference for the person who is trying to control his/her weight, as it is possibly the only drink that guarantees hydration without any caloric contribution. Sugar is usually added to coffee or other infusions and many "light" drinks do not always have zero calories.

If we get used to drinking wine, its consumption should be limited to one glass a day. We must also take special precaution with all beverages sweetened with fructose such as soft drinks, colas, or bottled juices. When they are consumed on a regular basis and in large quantities, they lead to an alteration in the metabolism, which means a reduction in the capacity to feel satiated and, therefore, the tendency to eat more. Fructose is also found in fruit, however, when it is directly consumed through these types of solid foods, it becomes really beneficial because it is ingested in a lower quantity and it contains a great amount of fiber, which, in this case, favors satiety.

Following this proposal and in function of the differences between total energy expenditure and the number of calories that are ingested, a slow and gradual weight loss can be initiated, which will stabilize at a certain moment. The maintenance of this loss, regardless of how pronounced it may have been, is the best indicator that in the future weight will continue to be lost and will not necessarily be regained.

Reinforcing the changes in life style and turning the focus away from weight

At the beginning of any dietary change, the temptation of a daily weigh-in usually emerges to check whether what is being done actually works. Weight is not something that can be directly controlled or that responds to the desires that one has, regardless of weighing oneself several times a day. However, what does remain within the possibly of control are the changes a person can introduce in his/her life. The fact

TABLE 1
ILLUSTRATIVE DIETARY PLAN FOR WEIGHT CONTROL

Breakfast	Cup of coffee with milk or two yogurts + 1 portion of bread or cereal or toast
Midday snack	Piece of fruit or a portion of bread with cold meat or a dairy product
Lunch	First course: Veggies or salad or two bowls of legumes (chickpeas, lentils, etc), rice, pasta or peas Second course: Meat, fish or an egg Dessert: a medium-size piece of fruit or fresh cheese
"merienda" or midafternoon snack	Half a cup of coffee with milk or yogurt
Supper	Same as in lunch (varying the menu)
Bedtime snack	Half a cup of milk or yogurt

Portions should be about: 40 gr. for bread, 30 gr. for cereal, 200 gr. for vegetables, 175 gr. for pasta, legumes, and rice, 120 gr. for meat, 160 gr. for fish, 200 gr. for fruit, and 125 gr. for dairy products. Oil, given its high caloric value, should not exceed three tablespoons a day, including that used for preparing the food.

of systematically weighing oneself can worsen a person´s emotional state, especially if he/she does not see the desired results on the scale. Weight, even when a diet is followed, does not decrease systematically after each weighing, but rather besides showing daily fluctuations from morning to night, it may also plateau during several days. When this occurs, it may provoke a feeling of despair in the person that can lead him/her to even break the diet that he/she is following. It has been observed that when people who are on diets are informed that they weigh more than on a previous occasion, they tend to become disinhibited with respect to food, and surrender their control over eating (Shanker, 2005). Thus, weighing must always be performed at the same time, once a week and without the expectation of an immediate significant loss.

Stimulating the practice of some physical activity

Moderate physical activity (not extenuating) is an essential element in weight control. Although physical exercise does not produce significant weight loss, it has been shown that it is fundamental to avoid weight gain and also that a sedentary lifestyle does contribute to weight gain (Gordon-Larsen, Hou et al, 2009).

In addition, moderate physical activity causes certain physical tiredness which, at the same time, usually favors better rest and an increase in the quality of sleep which helps the person start the next day in much more favorable conditions. The quantity and quality of sleep is also important for weight control because it is associated with the correct regulation of feelings of hunger and satiety (Appelhans, Janssen, Cursio et al,2012).

Physical activity also modulates appetite, and is useful for controlling emotional states of anxiety and depression that can lead many people to an intake of hipercaloric foods as a way of calming their nerves in the short term. Annesi and Unruh (2008) have shown that exercise can have very positive effects on long-term maintenance of weight loss, especially on the improvement of the emotional state it provokes. Possibly, the clearest illustration of how exercise can be an excellent weight stabilizer was shown in the study by Tudor-Locke, Basett, Rutherford, Ainsworth, Chan, Croteau et al (2008). In this study, 3,217 individuals from five different countries with an age range between 18 and 94 participated and it has contributed to the determination of the number of steps necessary to maintain a normal weight. The step count was performed by means of a podometer. The results have shown, with great precision, that those individuals who walk an average of 12,000 steps a day, including those steps taken within their homes or at work, at least three times a week, are free from the problem of being overweight. However, the number of steps varies as a function of age and gender. Women over 60 do not require more than 8,000; those who are between 40 and 50 would need 10,000; and men over 50 around 11,000. The remaining population would need around 12,000 steps per day to maintain their weight. Moreover, it is also striking that if in order to improve our cardiovascular health, it is necessary to perform physical exercise with moderate intensity, for weight control, according to this study every step counts and on reaching the aforementioned rates, weight control is more than likely.

Creating new contexts for the establishment of new habits

After all that has been expounded, it becomes evident that weight control requires the modification of many habits that define the lifestyle of each client. Thus, creating adequate contexts to generate these new behaviours becomes important for optimizing success.

In this regard, we must take advantage of all personal, familial and social resources in order to reinforce the new behavioural repertoire. For example, committing the entire family to a new eating style could be a pathway to stimulate changes in eating, as it would facilitate the preparation of the food and stimulus control. The social network can facilitate the practice of physical activity, and at the same time can be a way of establishing and maintaining social support, seeking out people and common places to exercise. Taking advantage of daily routines to incorporate a new behaviour, for example, walking an hour a day while going to work or during daily activities, can be a good option for maintaining minimal physical activity. If these resources are not an option, we must look with the client for other ways of promoting changes in his/her behaviour. In this regard, the development of a group program with these characteristics facilitates the proposal on the part of its members, of different alternatives to the problems that may arise.

One barrier that many people hold on to in order not to have to change is to look for reasons that justify their difficulties in engaging in physical activity or not following an adequate diet. However, at this point it would not be

out of place to remember that these reasons are not the cause of this behavior, and in many cases, they are no more than alibis. This can be explained by showing how all individuals have always done something even when they have reasons for not doing it. Hence, for example, one can assert that he/she does not go out walking, although this may help control his/her weight, because he/she does not find any pleasant place to do so. Even if this were a reason for not doing so, the reality is that not finding an adequate place for walking is not the reason for not doing so, as one can walk in places that are not especially attractive. Showing how through language we can fall into certain traps that undermine our commitments and needs is an essential condition for the promotion of personal self-control.

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