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Thesis synthesis

"The kinetic means influence on adult obesity"

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The thesis is structured in three parts, each containing several chapters:

- **Part I - Theoretical considerations on the peculiarities of obesity**, is composed by five chapters, that comprise theoretical knowledge, conceptual and methodological and shall define the concept of obesity, its definition and the theme coverage into the scientific literature.
- **Part II - preliminary research**, divided into five chapters, aims to improve the obesity recovery program by kinetic means and, also, to increase the obese subjects life quality.
- **Part III - Final research**, consists in three chapters and shows the strong positive influence of obese subjects body remodeling by kinetic means, expressed through body composition components. It also highlights the high correlation between body composition components assessment by direct methods, using modern equipment, and through indirect measurements, using laborious mathematical calculations.

PhD thesis concludes with a bibliography and its annexes.

Introduction

History records, from the beginning of mankind, sources related to obesity or overweight. Even if we meet some appreciative evidence of obesity, the vast majority of messages received, through ancient times, address the obesity as a human illness. And yet, today, although are known thousands of obese patient therapies recovery methods, its claimed that we are witnessing a pandemic of obesity.

Effective treatment of obesity is a goal difficult to achieve, because the ideal treatment should be applied by a team which should work together harmoniously and composed by the patient, the physiotherapist and the nurse (to help the patient overcome addictions induced its pathology and delegated the enforcement interventions), the dietitian, the endocrinologist, the psychologist,

the occupational therapists and by the specialist physician (for the treatment of comorbidities).

The etiology of this condition can be summed by the food intake increasing, while the individual energy consumption reducing and by disruption of adipocyte metabolism (in the context of dietary, hormonal, medical and psychosocial disorders).

Current studies do not confirm, but, also, do not refute my research results, as there are no conducted studies on age groups of both sexes. From this point of view, my research results complement other studies, bringing new items.

Research objectives

1. Preparing a overweight / obesity recovery protocol, applicable in hospital, outpatient and home centers.
2. The subjects socio – professional reintegration, in time and quality terms.

Specific tasks

1. Composing the 2 groups, by a representative subjects number of the research (50 subjects in each group).
2. Achieving the research hypotheses goals.
3. Improving, applicating and analysing the evaluation methods for obesity recovery process.
4. Improving the exercise programs and the diet needed for obesity recovery.
5. Concluding the benefits of these programs,
7. Development of methods for obtaining these programs sustainability.
8. Highlighting that the physiotherapeutical activities are key factors in the subjects with overweight / obesity recovery.
9. Focusing therapeutic interventions aimed the subjects, taking action by their interdisciplinary team, where the physiotherapist has the decisive role.

Research hypotheses

1. Using an individualized physical exercise program, coupled with a sustained diet, determine overweight / obese subjects body remodeling, expressed through body composition components.
2. Body composition components measured directly, with specialty modern equipment, have comparable values to those obtained indirectly through mathematical calculation.

This hypothesis validation is of great importance, because there are multiple limiting instances access to specialty modern equipment for determining body composition components. Using the mathematical calculation (laborious) thereof, can be a viable alternative.

Selection criteria

This research variables are: age (age range: 40-60 years) and associated pathology, enabling the subjects to participate in the somatosensory functional recovery program. I mention that the program excluded cases of morbid obesity.

Research conclusions

1. This research variables, collected data, developments, results and conclusions are real and verified.
2. Obesity is considered a decisive factor or an aggravating factor in many pathologies.
3. In terms of sociological analysis, subjects, sex, age and their environment, are landmarks of obesity morbidity, completing the specialty literature data.
4. By the recovery program applied during my research, its obtained significant changes, in the desired direction, for the experimental group subjects body composition, which *confirms the first research hypothesis*.
5. There is a high correlation and conformity between measuring body composition (percentage of body fat and fat mass) using direct methods (bioelectrical impedance analysis, using modern equipment) and indirect methods (mathematical), *confirming the second research hypothesis*.

By confirming the second hypothesis, the research offered a viable alternative for the specialists, who can not use modern equipment (constrained by financial or location restrictions) for determining body composition values, by the laborious mathematical calculations.

6. Mastication reeducation is a useful complementary method of behavioral modeling subjects during (and after) research and into the obesity recovery process.
7. The welfare note, obtained by the calculation formula which brings together several evaluation parameters, is an extremely useful tool in monitoring and evaluating subjects at the beginning, during and at the end of the recovery program.
8. To obtain the obese subjects body remodeling, the exercise program must be combined, always, with an appropriate diet.
9. The obesity recovery programme has, also, improvements in terms of the evolution of obesity associated comorbidities.
10. The interdisciplinary team is the key to gaining positive results in the overweight / obesity recovery and, dare I say, in any activity that aims to improve the life quality.
11. The abdominal muscular electrostimulation procedures are beneficial, as a body shaping measure.

Elements of research originality

1. Demonstrating the high correlation between body composition component values obtained by the direct method (using bioelectrical impedance analysis device) and the indirect method (determining by the mathematical calculations).
2. Formulating the welfare note and its representation on the welfare scale as a complex summative assessment method.
3. Applying the mastication reeducation exercise.
4. Into the interdisciplinary team of obesity recovery, the most important role is occupied by the physiotherapist.
5. The association of exercise program with diet, lead to changes in body composition, by increasing the amount of non-fat mass (muscle mass) and by decreasing the amount of fat mass.
6. The statistics applied to age range and gender of the research subjects, supplement those provided by the specialty literature.