

Thalassotherapy in Obesity Retrospective Study

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Introduction

The Thalassotherapy comprises the use of sea side climate, as well as the properties of the sea for prevention and threament. The Thalassotherapy is based on:

- the positive effect of the sea climate which is more tender and balanced in every season;
- the intensive UV-radiation;
- the content of sea-salts in the air;
- the practice of different water sports.

The word thalassotherapy derives from the Greek thalassa which means sea, therefore thalassotherapy is referred to a treatment using the sea. These studies exploited a very important characteristic of the human skin which, especially at a certain temperature and humidity, becomes a very good vehicle for the exchange between sea water and blood. This word originated in France in 1867 but it was only at the beginning of the XX century that Rene' Quinton studied and compared the elements which are in the sea and in blood plasma. The healing properties of the sea water and the marine landscape in general have, for centuries, been well known but it was only in the XIX and XX centuries that the first thalassotherapy centers were founded.

The aim of this article is to demonstrate the Bulgarian 50-year experience of Thalassotherapy in the prevention and treatment of obesity.

Since 1967, several centrum at the Black see coast (Nessebar, Kiten, Balchik and Albena) have been functioned for treatment of obesity.

Quality of Black Sea water (Bulgarian standarts, 2002)

Parameters	
Active reaction (ph)	6-9
Dissolved oxigen	> 6,0 mg/dm ³ 80-120 %
Phosphates	< 0,2 mg/dm ³
Ammonium ion	< 0,1 mg/dm ³
Nitrites nitrogen	< 0,03 mg/dm ³
Nitrates	< 5 mg/dm ³

Materials and methods

45 000 subjects with overweight and obesity are followed up. They are treated with diet (1460 kcal per day) and high activity regimen (2 863 kcal mean daily energy expenditure). Low calorie diet (LCD):1000 - 1200 kcal/24 h. 4 times food intake. Percentage of the main ingredients in the daily diet: Proteins - 15 – 20 E%, Lipids < 25 E% (saturated fatty acids < 10 E%), CHO (polycarbohydrates 60 – 75 E% (sugar < 2 E%). Intensive physical activity (2100 – 2800 kcal/d)

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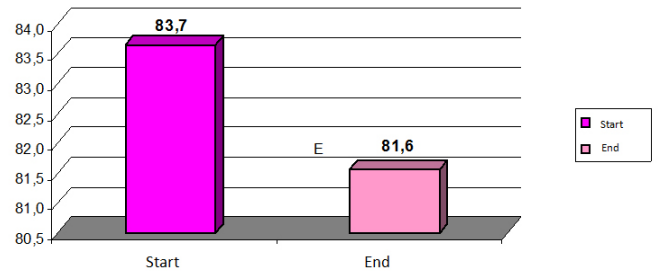
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Daily diet

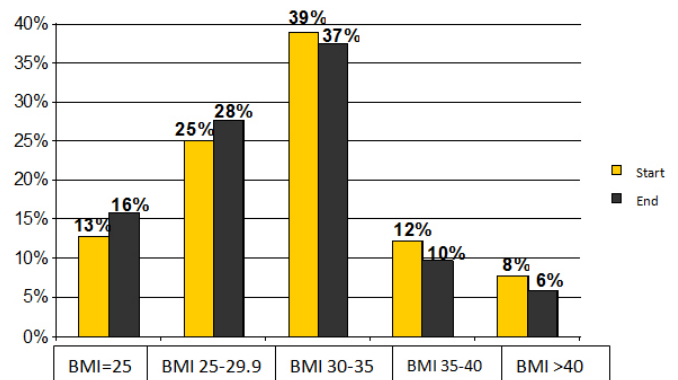
Breakfast 7.30 – 8.30			
Lunch 12.30 – 13.30			
Breakfast 16.00 – 16.30			
Diner 18.30 – 19.30			

Results

Comparative analysis of the mean weight values at baseline and at the end of the study



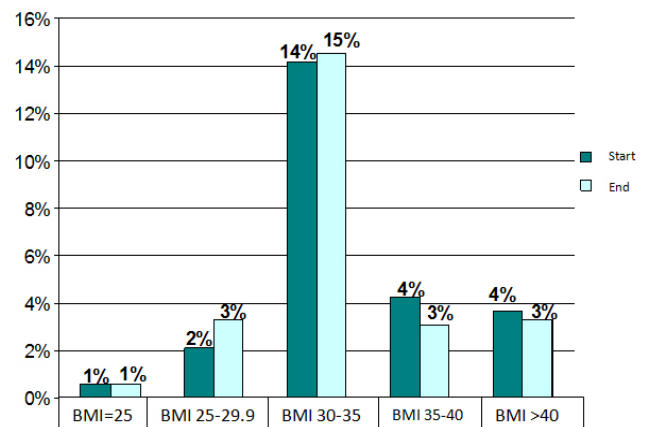
Distribution of the patients according to the BMI



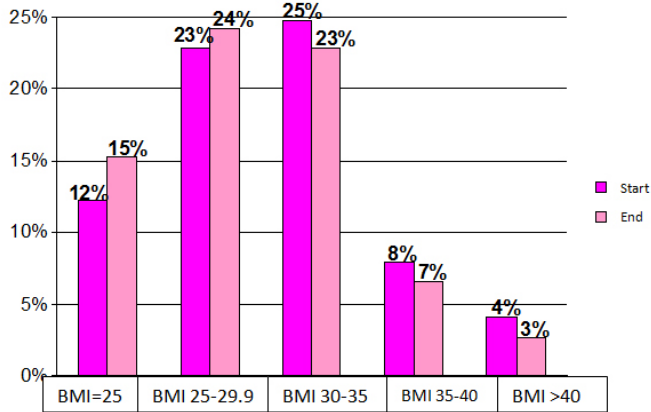
Physical procedures include manual massage and anticellulitis therapy. Thalassotherapy is an ideal way for healthcare, beauty care and relaxation. Sea water is rich in potassium, magnesium, iodine and other substances which pass through the skin, via osmosis, reaching the blood cells. This stimulates and regenerates numerous functions and prevents and treats different pathologies:

- allergies
- bone diseases
- circulatory problems
- breathing deficiency
- osteo-articular rehabilitation
- obesity

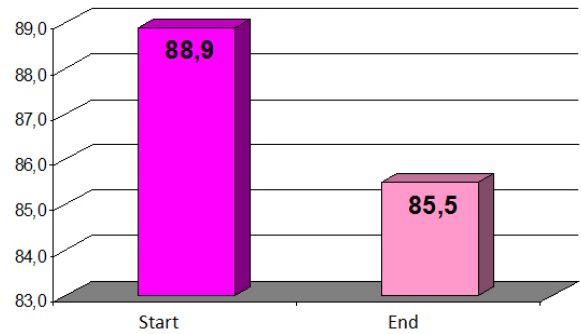
Distribution of men according to their BMI



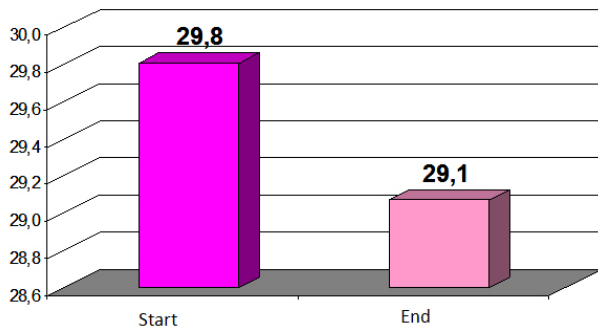
Distribution of women according to their BMI



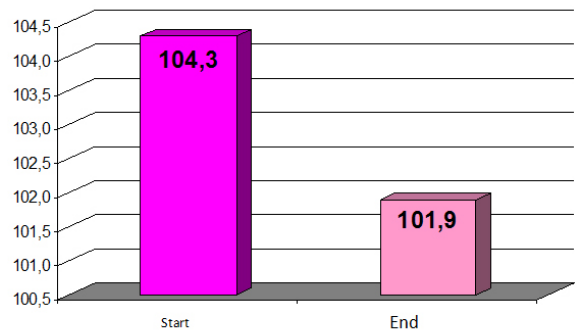
Distribution of the patients according to the BMI



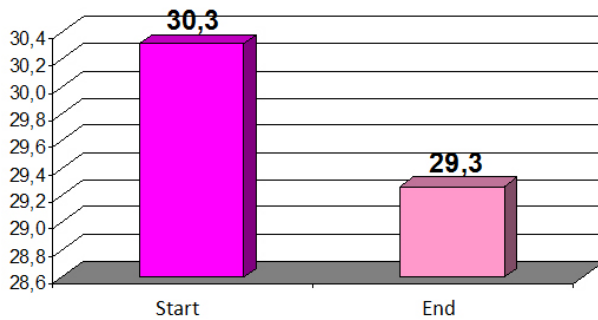
Comparative analysis of the mean BMI at baseline and at the end of the study



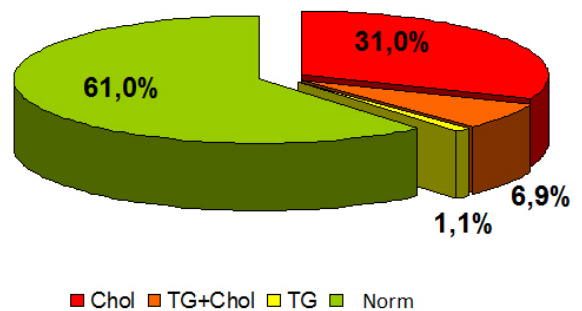
Comparative analysis of the mean hip circumference values



Fat mass values (kg) at baseline and at the end



Values of the lipid profile (plasma cholesterol and triglycerides) at the end of the study



Discussion and Conclusion

The mean weight loss is 2,1 кг (2,5%) per person for a 10-day period; The fat mass is reduced by 1 kg on average; The BMI is decreased by 0,7; The waist circumference has decreased with 3,4 cm; the hip circumference – with 2,4 cm. Mean plasma cholesterol values is reduced with 1,04 mmol/l.

The thalassotherapeutic procedures stimulate and intensify the metabolic processes in the body.

Thus, it leads to significant reduction of body weight and the cardio-vascular risks, commonly in obesity.

The thalassotherapy is particularly suitable for obesity, complicated with diabetes and/or arterial hypertension. We stress on the importance of the thalassotherapy for the psychoemotional condition of the obese patients.

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