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Assessment of the efficacy of naturopathic diet as a weight reduction strategy for women with obesity

[1]Dr Javaria manzoor, [2]Mansoor Ali, [3]Adil Umer Khan, [4]Taimoor Ghori, [5]Muhammad Shiraz Niaz, [6]Marwa Riaz,
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[1]Azad Jammu and Kashmir medical college muzaffarbad
[2]UHS Lahore
[3]Associate Professor, Community Medicine, Bakhtawar Amin Medical & Dental College. Multan.
[4]PIMS Islamabad
[5]Senior registrar medicine (honoury basis) medical unit 3 Sheikh Zayed hospital Rahim yar Khan
[6]UHS Lahore

Abstract:

Objective: Women's risk of weight gain and obesity is rising in the current period, which may result in a variety of major health issues. We must thus investigate cutting-edge strategies to stop this worrying trend. Naturopathy stands out among the myriad of therapeutic modalities as a potential treatment for obesity. Using a holistic approach promotes incorporating natural, whole foods and modifying one's lifestyle to promote long-term weight reduction and general well-being. This study's goal is to evaluate the effectiveness of a naturopathic diet as a weight-loss strategy for obese women.

Methods: 100 obese women between the ages of 25 and 50 were randomly chosen at the Mayo Hospital to participate in a novel naturopathic nutritional program. This multimodal strategy included a fasting phase, followed by phases II and III of fast-breaking, with the ultimate aim of promoting long-term weight reduction.

Results: The naturopathic intervention used with the obese individuals had positive results, as shown by notable changes in anthropometric indices and biochemical markers. T-test statistical analysis of total cholesterol, blood glucose, LDL, and HDL levels revealed significant changes at the 1% level.

Conclusions: A vegetarian diet may have a profoundly favorable effect on one's health, morbidity rates, life expectancy, and nutritional status, according to growing data.

Keywords: naturopathy, obesity, weight loss

Introduction:

Due to its high rates of mortality and morbidity, obesity is a major danger to adult populations worldwide [1]. This complex problem has ties to psychological distress, endocrine and metabolic illnesses, and lifestyle diseases [2,3]. In addition to affecting one's outward appearance, being overweight raises the possibility of acquiring chronic illnesses, which shortens life expectancy [3,4,5].

Many pricey anti-obesity drugs have hit the market in response to this problem, many of which have negative side effects [6-10]. On the other hand, naturopathy is a holistic, drug-free strategy that provides a potential cure for obesity without any negative side effects. According to naturopathic medicine, treating

obesity is less about changing one's food and more about addressing underlying imbalances via lifestyle modifications that promote long-term, sustainable health improvement. Six guiding principles are used to do this: letting nature heal, figuring out the core cause and treating it first, doing no damage, teaching and treating the complete person, and avoiding sickness [11,12,13].

Moreover, naturopathic medicine tries to aid patients in their recovery and direct them toward leading better lifestyles. Using organic components and medicinal plant preparations may also increase satiety, speed up metabolism, and facilitate weight reduction [14-19]. Determining the effectiveness of naturopathic dietary intervention among obese participants is the goal of this study.

Methods:

The research was conducted at the Mayo Hospital in Lahore, Pakistan. Obese women who intended to undergo a 35-day natural cure therapy were among the samples chosen for the current research. The institutional ethics committee gave its approval after receiving ethical clearance. The obese subjects provided their informed permission. One hundred obese women between the ages of 25 and 50 were chosen. The samples were divided into 20 subsamples and evaluated biochemically using a random sampling technique. The interview schedule was picked as the instrument. Pilot research was carried out to evaluate the tool's viability and efficacy. Information on eating habits, anthropometric measures, health status, and diet surveys was gathered using an interview schedule. Anthropometric assessments, biochemical techniques, and the 24-hour recall method were the methodologies used for the current investigation. We examined the anthropometric parameters of obese women both before and after nature cure therapy, including BMI, MAC, weight, height, and W/H ratio. The weight was determined using a common weighing balance, and the height was measured in cm. A measuring tape was used to measure the circumferences of the waist, hips, and mid-arm.

Three milliliters of each subject's fasting blood were taken to perform the biochemical estimation. They added anticoagulants. The serum was separated by centrifuging the blood samples for 10 minutes while they remained at room temperature. A pipette was used to separate the serum. Analysis was done on blood factors such as blood sugar, total cholesterol, HDL, and LDL cholesterol. Standard cups, spoons, and glasses were utilized in the 24-hour recall procedure. The amount of food eaten was recalled. The nutrient intake throughout the six-day fasting phase, the 12-day fast-breaking phase, and the third (17-day) phase of nutritional therapy were all examined. A t-test with a P-value less than 0.01 threshold was used to examine how naturopathic therapy affected anthropometric, metabolic, and nutritional intake characteristics. To determine how dietary consumption affected BMI, a correlation was employed.

Results:

A whole medical system built on philosophy is naturopathic medicine. While there is room for improvement in the specificity of suggestions, the naturopathic treatment strategy usually incorporates critical dietary and lifestyle advice that are part of the current conventional treatment guidelines for hyperlipidemia and diabetes. The efficacy of nutritional and herbal supplements in therapy is increasingly supported by the frequency with which they are recommended. The naturopathic diet was shown to be effective in decreasing morbid obesity by significantly lowering BMI from 32.12 to 28.26. (Table 1). This could be brought on by the higher BMR and enhanced thermogenesis brought on by the use of natural foodstuffs. The waist-to-hip ratio and MAC, which demonstrate the therapeutic and nutraceutical benefits of weight-reduction meals employed in the treatment phases and displayed in Table 2, both reveal a decrease in the body fat distribution. The MAC significantly decreased from 30.56 to 27.78 cm, demonstrating the beneficial benefits of nature cure therapy on obesity.

Table 1: Before and after naturopathic therapy, the average BMI of obese women

	Unit	Mean (Standard Deviation)	Mean (Standard Deviation)	t
BMI	Kg/m2	32.12 (3.84)	28.26 (2.79)	8.08
Weight	Kg	78.34 (10.29)	69.23 (7.76)	7.03
Height	cm	156.04	-	-

Table 2: Before and after receiving naturopathic care, obese women's mean W/H ratio and MAC values comparison

	Before	After	
Parameters	**Mean (Standard Deviation)**	**Mean (Standard Deviation)**	**t**
Mid arm circumference(cm)	30.56 (2.01)	27.78 (1.91)	9.992
Waist-to-hip ratio	0.84 (0.02)	0.81 (0.01)	9.252

Table 3: Mean values for obese women's metabolic indicators before and after naturopathic therapy

		Before	After	t
	Unit	**Mean (Standard Deviation)**	**Mean (Standard Deviation)**	
Blood Glucose	mg/100ml	115.95(12.13)	97.16(10.99)	11.423
Serum Cholesterol	mg/100ml	278.95(7.72)	173.29(13.79)	66.51
HDL	mg/100ml	43.(2.20)	59.65(5.56)	27.72
LDL	mg/100ml	235.95(7.88)	193.64(12.19)	82.83

Table 4: Mean nutrient intake in obese female patients both before and after treatment

		Before	After		
	Unit		**Phase 1**	**Phase 2**	**Phase 3**
Vitamin C	mg	68.84	95	148	293
Niacin	mg	2.78	1.5	8.7	13.3
Riboflavin	mg	1.19	0.3	0.6	1
Thiamine	mg	1.3	0.7	0.9	1.1
Betacarotene	µg	1706.38	1720	1850	2430
Iron	mg	23.13	12.5	14.73	29.6
Calcium	mg	454.1	420	560	898
Fiber	g	11.18	9.6	11.2	14.6
Carbohydrate	g	518	160	209	365
Fat	g	48.5	9.4	12.6	16.3

Protein	g	72.72	8	20	37
Calorie	Kcal	2467.06	468	689	1012

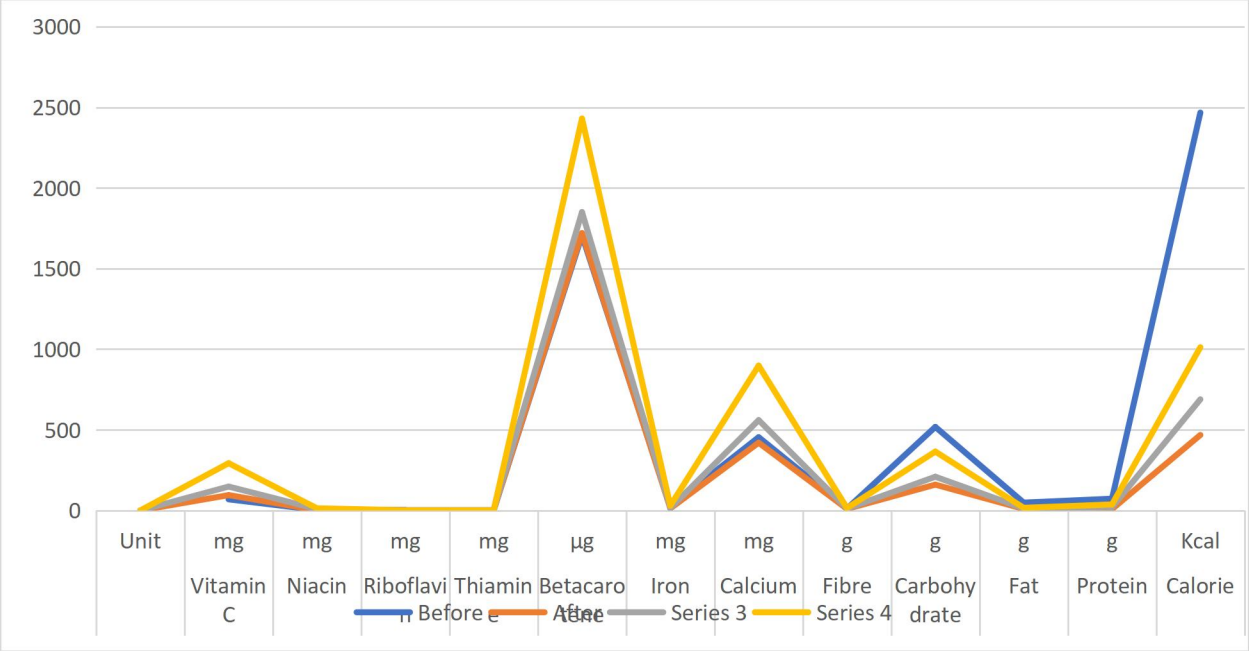

Figure 1: Graphical representation of mean nutrient intake in obese female patients both before and after treatment

It was discovered that the LDL cholesterol and blood sugar levels were much higher before beginning the nature cure therapy, at 235.95 mg/dl and 115.95 mg/dl, respectively. After the nature cure therapy, the levels of blood glucose, serum cholesterol, LDL, and HDL all considerably returned to normal, and HDL levels rose, as shown in Table 3. This decrease in obesity-related problems suggests enhanced insulin sensitivity. The vegetarian diet seems to have a favorable impact on lipid profiles, particularly by raising levels of good cholesterol and considerably lowering levels of bad cholesterol via fat oxidation. Table 4 lists the obese women's pre- and post-treatment nutrient consumption as well as their recommended diets throughout the treatment phase of the nature cure. There were three stages to the diet plan. It was discovered that the low-calorie diet's consistency and nutritional content were progressively adjusted to accommodate the subject's tolerance and the altered metabolic requirement.

Discussions:

The first step in the nutritional therapy was a fasting schedule that included a liquid diet administered mostly to get rid of the surplus salt the body had been holding onto. Obese women followed a juice-fast diet throughout the fasting period, consuming 300 ccs of fruit juice, vegetable juice, and buttermilk each meal. There was no consumption of wheat, pulses, meat, roots, tubers, green vegetables, lipids, or sweets. Since it is alkali forming and is useful in easing digestive discomforts and in helping the body eliminate toxins via the urine, an ash gourd was taken throughout the fasting period. The anti-inflammatory properties of honey, pineapple, and lime were discovered. During this time, we often drank coconut water and honey since they are both potent diuretics. The antioxidant quercetin, found in grapes, lowers blood sugar levels. As carrot juice is said to reduce cholesterol, it has been demonstrated to be useful in reducing fat.

Together with the liquid foods provided in phase I, phase II also contained boiling vegetables (300g/meal), leafy greens (50g/meal), and sprouted grains (50g/meal). The diet had more mass during fast-breaking phase II, giving the obese women a sense of fullness. According to a study, foods that help people lose weight include carrot juice, banana stem, and flower juice, lime juice blended with honey, fennel, tomato, sprouted grains that contain lecithin, cabbage that contains tartronic acid, which prevents the conversion of sugar into fat, and gefarnate, an antiulcer medication. [20]. Before the treatment phase, the mean nutrient intake of calories, carbs, and fat was found to be high, while the intake of fiber, iron, and beta-carotene was found to be lower. These findings were reversed after the treatment phase, indicating a change in the obese women's way of life and the adoption of healthy eating habits. Together with the meals consumed during the first and second phases of therapy, 250g of cereals were consumed during the third phase. While low in calories, the diet was about typical. Another study discovered that the bran-rich kuthari rice had low levels of fat, cholesterol, and salt. [21] Drinks, meat foods, sugar, salt, and oil, as well as appetizers like tamarind, chilies, pepper, onion, and asafoetida, were avoided throughout the therapy period since they are tamasic foods and mask the natural flavor of nutritious meals, as did in some previous studies [22-28]. Although sprouted pulses were shown to be higher in all B vitamins, minerals, and fiber than whole pulses, all participants utilized them instead of whole pulses throughout all phases other than the fasting period. The correlation between the body mass index and calories ($r = +0.168$), fat ($r = 0.046$), and fiber ($r = -0.033$) was shown to be positive. The treatment's primary goals were to reduce calories and support excellent health. The high-fiber diet was proven to help in weight loss and the alleviation of related problems.

Conclusions:

The obese subjects' serum cholesterol, BMI, blood glucose, W/H ratio, HDL and LDL levels, and MAC were significantly improved as a consequence of the naturopathic diet they were put on. The weight-loss meals employed in the intervention had therapeutic benefits and improved lipid profiles, weight loss, and the issues that go along with it. Improved insulin sensitivity, a higher basal metabolic rate (BMR), and enhanced thermogenesis are some of the diet's suggested mechanisms for weight loss. The latter causes weight loss to occur more quickly. If the dietary plan is properly followed, the effective weight loss attained by the naturopathic diet may lower the risk of related illnesses. The results of this research indicate that a naturopathic nutritional strategy could be a potential alternative to conventional weight management techniques since it is a natural, drug-free means of achieving long-term weight loss and improvement in general health.

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