



## MANAGEMENT OF HYPERTENSION AND OBESITY USING THE 'INTEGRATED APPROACH': A CASE STUDY

Anjali Mukerjee

Founder Director, Health Total Pvt. Ltd.

Health Total Pvt. Ltd., G-2, Richa Estate, B/29, New Link Road, Andheri (W), Mumbai-53, Maharashtra, India.

\*Corresponding Author Email: [anjali@health-total.com](mailto:anjali@health-total.com)

### ABSTRACT

The study involved a 75-year-old male with a clinical history of hypertension, high triglycerides, asthma, prostate enlargement, back pain and thigh pain. He also suffered from disturbed sleep, high levels of stress and low energy levels. This case study elucidates the benefits of the 'Integrated approach' in the management of hypertension and obesity. The 'Integrated approach' included patient-specific nutritional therapy, Ayurvedic herb support, vitamin and dietary supplements, stress management and regular exercise. During the 20-week treatment, a gradual decrease in blood pressure (BP) and consequent improvement in other conditions with overall decrease in the dose of allopathic medicine was observed, along with improved blood reports and energy levels. Thus, illustrating that an integrated approach can not only help manage hypertension and obesity, but also reduce drug dosage and improve quality of life significantly.

### KEY WORDS

Ayurveda, Hypertension, Integrated approach, Nutrition, Obesity

### INTRODUCTION

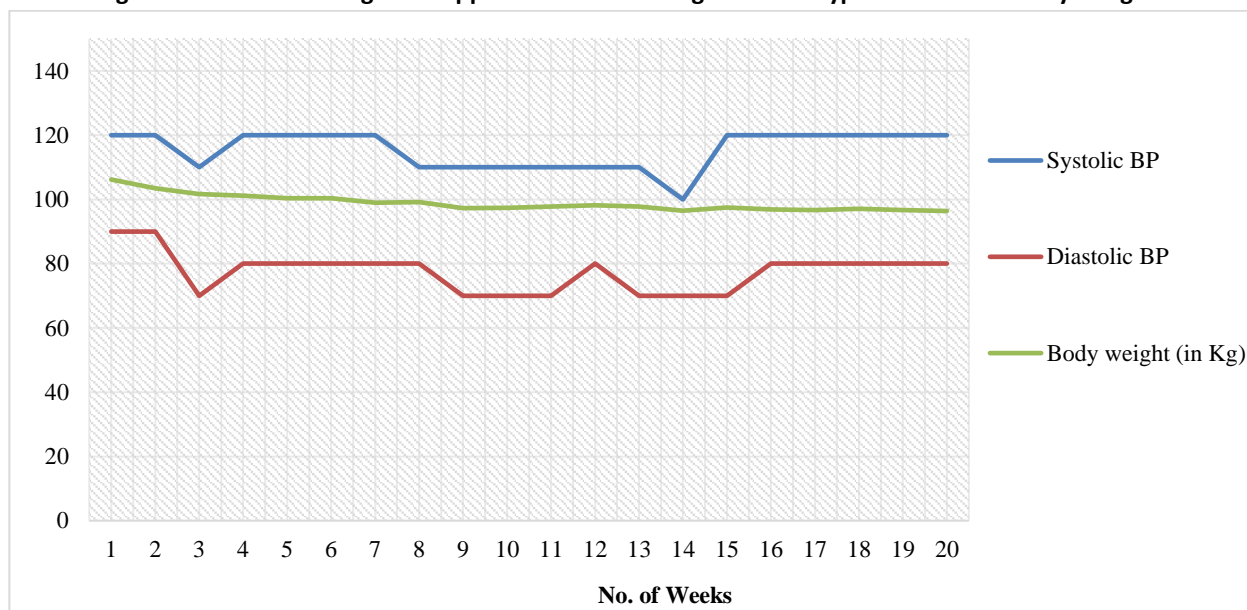
Hypertension is directly accountable for 57% of all stroke deaths and 24% of all coronary heart disease (CHD) related deaths in India.<sup>1</sup> Significant comorbidities linked to hypertension, such as heart disease and kidney failure, are all linked to common underlying mechanisms. Treating the underlying cause(s) can prevent or reverse most of the comorbidities. Lifestyle intervention has been shown to reduce the incidence of hypertension. Such findings strongly suggest that hypertension results not only from genetic factors, but also from the interactions of environmental factors and genetic factors.<sup>2</sup>

The case study deals with the management of hypertension, obesity and concurrent conditions in a patient receiving oral hypotensive agent (lisinopril 2.5mg) and other allopathic medicines over 15 years, using the Integrated Approach.

### CASE REPORT

MF, a 75-year-old male presented at the centre for evaluation and treatment of hypertension, obesity and other chronic lifestyle diseases. MF had a history of hypertension for 15 years and he was allergic to sulpha drugs, augmentin and strong smells. He suffered from severe back and thigh pain, along with severe cravings for sweets and alcohol on a daily basis. He fatigued easily due to severely low energy levels; complained about disturbed sleep and high levels of stress. His appetite was good and had normal bowel movements daily.

The patient's physical exam findings included a blood pressure of 120/90 mm Hg (with oral hypotensive therapy [lisinopril (2.5mg) once daily] (Table 1). He weighed 106 kg, was 5'8½" tall and his body mass index (BMI—the weight in kilograms divided by the height in metre square) was 35 kg/m<sup>2</sup>, considered obese.

**Fig. 1: Effect of the 'Integrated Approach' in the management of Hypertension and Body Weight**

**Table 1: List of medicines prescribed before enrolling for the Integrated Approach.**

Period of administration	Name of medicine	Condition	Dosing
10 years	Lisinopril (2.5 mg)	High blood pressure	1-0-0
10 years	Pentazocine (10 mg)	Pain	0-0-1

**Table 2: An account of detailed blood pressure and weight of the patient through the weeks of treatment**

Week	Body weight (in Kg)	Blood Pressure (in mm Hg)	Lisinopril (2.5 mg)
1	106.2	120/90	1 daily
2	103.5	120/90	1 daily
3	101.7	110/70	1 daily
4	101.2	120/80	1 daily
5	100.4	120/80	1 daily
6	100.4	120/80	1 daily
7	99	120/80	1 daily
8	99.2	110/80	1 daily
9	97.3	110/70	1 daily
10	97.38	110/70	1 daily
11	97.8	110/70	1 daily
12	98.2	110/80	1 daily
13	97.8	110/70	1 daily
14	96.5	100/70	1 daily
15	97.5	110/70	1 Weekly
16	96.9	110/80	1 Weekly
17	96.7	120/80	1 Weekly
18	97.1	120/80	1 Weekly
19	96.74	120/80	1 Weekly
20	96.4	120/80	Stopped completely

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Follow up (after 1 month)	120/80	No medicine
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## DISCUSSION

Post review and assessment of the patient's medical history, he was put on a hypertension and weight management programme. The primary objective of the programme was to help lower the patient's BP and simultaneously manage his body weight better. His diet recall consisted of light breakfast followed by heavy lunch that included non-vegetarian food and sweets, as well as alcohol consumption every evening. We replaced this with a high fibre, low-glycemic index (GI) complex carbohydrate and moderate protein diet along with therapeutic lifestyle changes (TLC) to bring about the desired results.

The secondary objective was to boost his energy and immunity levels, to restore normal sleep patterns and as a result help lower stress levels. For this ayurvedic herbs were used, such as Haritaki (lowers blood cholesterol and BP)<sup>3,4</sup>; Guggul (the presence of guggulsterone regulates thyroid function and improves metabolism and digestion, and also prevents the conversion of carbohydrates to triglycerides while reducing the cholesterol levels in the body)<sup>5</sup>, Vibhitaki (anti-hypertensive)<sup>6</sup>, Trikatu (facilitates efficient digestion in the stomach while promoting proper bile flow, healthy detoxification and fat metabolism)<sup>7</sup>, Brahmi (anti-stress agent)<sup>8</sup>, etc.

The patient was also given vitamin and dietary supplements that included essential oils, B-vitamins, D3 supplements, probiotics and antioxidants both in natural and supplemental form and a low GI, complex-carbohydrate food plan.

The patient visited the centre weekly for BP and weight monitoring and to report status of his other health conditions. At each visit he was given a nutritionally adequate food plan. His blood pressure and weight were recorded (Table 2) and other symptoms like lumbar pain, energy level and appetite were checked on a weekly basis. All problems were managed with the use of herbs, vitamins and diet. After making dietary changes and taking supplements, his blood pressure normalized, and he lost weight (from 106.2 kg to 96.5 kg) (Fig. 1) by the end of the programme. Also, he was taken off anti-hypertensive drugs by his physician. The patient reported improvement in energy levels and his

immunity improved significantly. His sleep patterns normalized, and he experienced better control over his sweet cravings and alcohol addiction. In short, his quality of life improved greatly.

As is common knowledge, nutritional therapy is an important part of any medical therapy because it helps to improve disease outcome.<sup>9</sup> Obesity has a multisystem impact in the form of both mechanical burden and chemical burden on the body. In Indian population, obesity has been found to be associated with high comorbidities and therefore needs more aggressive treatment. Lifestyle optimization is the cornerstone in the treatment of all lifestyle diseases. The 'Integrated Approach' is a combination of advanced nutritional therapies,<sup>10</sup> low GI functional foods, Ayurvedic herbs, therapeutic lifestyle management and moderate exercise<sup>11</sup> to bring about improved health and reduction in body weight in an individual. Together, the Integrated approach and lifestyle modifications have shown positive results in the treatment of obesity and related disorders in subjects from different ethnic groups over an extensive period of 25 years.

## CONCLUSION

The 'Integrated Approach' was successful in managing hypertension, reducing drug dosage, losing weight, improving energy and quality of life of the patient.

## CONFLICTS OF INTEREST

There are no conflicts of interest.

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**\*Corresponding Author:**

**Anjali Mukerjee**

Email: [anjali@health-total.com](mailto:anjali@health-total.com)