ORIGINAL RESEARCH

DIETS BASED ON AYURVEDIC CONSTITUTION—POTENTIAL FOR WEIGHT MANAGEMENT

Shikha Sharma, MBBS, MD; Seema Puri, PhD; Taru Agarwal, MSc; Vinita Sharma, BAMS

Context • Ayurveda, the traditional Indian medical system, is receiving increasing attention worldwide.

Objective • A retrospective study was conducted to determine the effectiveness of Ayurvedic constitution–based diets on weight loss patterns of obese adults.

Design, setting, subjects, and intervention • Records of 200 obese adults, both male and female, who had completed 3 months of the diet therapy at Ayurvedic clinics, were examined and data collated. Techniques used included a checklist of personality traits, physical signs, and food likes and dislikes to determine the *dosha*. Based on the predominant *doshas*, diets were prescribed and closely monitored for a period of 3 months.

Outcome measures • Records of height and weight and chest, abdominal, waist, arm, and thigh circumferences noted initially and after each month for the period of 3 months were obtained.

Results • Among the 200 subjects, 55 (27.5%) were *vatta*-, 83 (41.5%) were *pitta*-, and 62 (31.0%) were *kapha*-predominant. At the beginning, *kapha* and *pitta* people were heavier than *vatta* people. After the 3 months of therapy, the *pitta* group lost the most weight (9.84%). The decrease in all the anthropometric measurements was higher in *pitta* and *kapha* people than in *vatta* individuals. Hence, diets based on Ayurvedic constitution may prove useful in promoting weight loss. Though these promising findings support traditional Indian Ayurvedic scriptures, more closely controlled trials are needed to substantiate these findings. (*Altern Ther Health Med.* 2009;15(1):44-47.)

Shikha Sharma, MBBS, MD, is managing director of NutriHealth Systems, New Delhi, India. Seema Puri, PhD, is a reader, Department of Nutrition, Institute of Home Economics, University of Delhi. Taru Agarwal, MSc, is a nutritionist, and Vinita Sharma, BAMS, is an Ayurvedic consultant, Clinique De Rejuvenation, New Delhi.

We are in the midst of a global paradigm shift in healthcare. At the center of this change is Ayurvedic medicine, a healing system that promotes health using natural, nontoxic substances and recognizes the important role of the mind and emotions. It employs a variety of natural means to bring harmony to the physiology, including diets, herbs, spices, minerals, exercise, meditation, yoga, mental hygiene, sounds, smells, and mechano-procedure to eliminate toxic substances from the body.[1]

Physiology or constitution of the body is a central concept of Ayurveda. It considers that the universe is made up of combinations of the 5 elements (*pancha mahabhutas*): *akasha* (ether), *vayu* (air), *teja* (fire), *aap* (water), and *prithvi* (earth). The 5 elements can be seen to exist in the material universe at all scales of life and in both organic and inorganic things. In biological systems, such as humans, elements are coded into 3 forces, which govern all life processes. These 3 forces (*vatta*, *pitta*, and *kapha*) are known as the 3 *doshas* or simply the *tridosha*. Each of the *doshas* is composed of 1 or 2 elements. *Vatta* is composed of space and air, *pitta* of fire, and *kapha* of water and earth. *Vatta dosha* has the mobility and quickness of space and air, *pitta dosha* the metabolic qualities of fire, *kapha dosha* the stability and solidity of water and earth. The *tridosha* regulates every physiological and psychological process in the living organism. The interplay among them determines the qualities and conditions of the individual. A harmonious state of the 3 *doshas* creates balance and health; an imbalance, which might be an excess (*vriddhi*) or deficiency (*kshaya*), manifests as a sign or symptom of disease.[2,3] Therefore, the purpose of treatment of any disease including obesity is to bring this altered state of *doshas* back to the basal state of normalcy. Hence, if a person indulges in a right food pattern according to his/her body constitution, he/she not only loses weight but also remains healthy and is less prone to diseases that might be due to an imbalance of *doshas*.

Changes in dietary patterns, physical activity levels, and lifestyles associated with affluence and migration to urban areas are related to increasing obesity in adults as well as children. Apart from dietary excesses and easy availability of ready-to-eat foods, the lack of physical exercise among affluent people with sedentary lifestyle patterns is a major contributor to obesity. Weight loss has hence become a significant concern among them. In India the weight loss industry is booming, with weight loss being promoted through fad diets, machines, liposuction, surgery, medications, etc. Although these measures show short-term results, they often do not target holistic well-being. Ayurveda promotes sustainable weight loss along with alleviation of disease states, thereby ensuring good health.

Weight loss based on body constitution is well documented in Ayurveda. Obesity is generally due to aggravation of *kapha dosha*—that is, the vitiated *kapha* targets body tissues and causes water retention and fat accumulation; therefore, weight loss strategies target balancing *kapha* with the other 2 *doshas*.[4]

Several Ayurvedic practitioners have been counseling individuals on weight loss based on the principle of body constitution. They have reported significant weight loss among their clients. This retrospective study was planned to determine the effectiveness of *dosha*-based diets on weight loss pattern of obese adults.

METHODS

Seven centers in Delhi where weight loss techniques based on the principle of Ayurveda were being used were identified. At these centers, Ayurvedic consultants analyzed the body constitution of the individuals, and nutritionists prescribed diets based on body constitution. Three centers in South Delhi were selected for the study based on their willingness to cooperate, accessibility, and large client base. Records of obese adults (body mass index [BMI] >25kg/m^2), both male and female, who had visited the weight loss clinics over the past 3 years (2004-2007) were examined and data collected. Only subjects who had completed 3 months of the therapy were included in the study. Subjects whose records for 3 months were incomplete or who had not adhered to the program were excluded. Subjects with medical problems like metabolic syndrome, diabetes, polycystic ovary syndrome, and renal disorders were excluded. The total number of subjects for whom complete data was available was 200 (24 males, 176 females); these subjects constituted the sample for the study.

Records available at these weight loss clinics were analyzed and the following information collected:

- **Body constitution** based on Ayurveda was determined according to a checklist of personality traits, physical signs, and food likes and dislikes against which the subjects were evaluated. Based on the responses, the subjects were classified as predominantly *vatta*, *pitta*, or *kapha*.

TABLE 1 Mean ± SD and Range of Mean Weight (kg) and Mean Body Mass Index (kg/m^2) According to Prakriti

Weight	**Mean weight (kg) ±SD**			
	Vatta (n=55)	*Pitta* (n=83)	*Kapha* (n=62)	Total (n=200)
At entry (Range)	81.14±19.23 (52.7-138.8)	83.78±18.52 (59.3-161.6)	84.65±16.29 (55.4-151.8)	83.33±18.03 (52.7-161.6)
After 1 month (Range)	77.08±18.11 (50.60-130.0)	79.65±17.65 (55.9-153.6)	80.37±15.46 (52.9-143.1)	79.17±17.10* (50.6-153.6)
After 2 months (Range)	74.99±17.77 (50.20-127.0)	77.31±17.33* (53.5-149.4)	78.39±14.77* (52.0-135.7)	77.01±16.68‡ (50.2-149.4)
After 3 months (Range)	73.41±17.65* (49.0-125.0)	75.54±16.96† (51.7-144.0)	76.53±13.71† (51.0-117.6)	75.26±16.19‡ (49.0-144.0)
BMI	**Mean± SD BMI (kg)**			
	Vatta (n=55)	*Pitta* (n=83)	*Kapha* (n=62)	Total (n=200)
At entry (Range)	30.97±5.32 (22.69-45.16)	31.98±5.21 (23.55-53.14)	31.63±4.95 (23.63-52.53)	31.50±5.15 (22.69-53.14)
After 1 month (Range)	29.43±5.09 (21.79-43.56)	30.41±4.96* (21.8751.92)	30.04±4.78 (21.93-49.52)	30.02±4.93† (21.79-51.92)
After 2 months (Range)	28.63±5.03* (21.61-42.74)	29.51±4.89† (21.09-50.37)	29.32±4.67† (20.54-46.96)	29.21±4.85‡ (21.09-50.37)
After 3 months (Range)	28.01±4.98† (21.09-42.08)	28.83±4.50‡ (20.19-48.67)	28.63±4.33‡ (20.88-40.76)	28.54±4.70‡ (20.19-48.67)
	Weight in loss kg (%)			
	Vatta (n=55)	*Pitta* (n=83)	*Kapha* (n=62)	Total (n=200)
Entry to month 1	3.06 (5.00)	4.13 (4.93)	4.28 (5.06)	4.16 (4.99)
Entry to month 2	6.15 (7.58)	6.47 (7.72)	6.26 (7.40)	6.32 (7.58)
Entry to month 3	7.73 (9.53)	8.24 (9.84)	8.12 (9.59)	8.07 (9.68)

*$P \leq .05$, †$P \leq .01$, ‡$P \leq .001$ as tested by *t*-test.

- **Anthropometric profiles** included records of height and weight and chest, abdominal, waist, arm, and thigh circumference noted initially and after each month for 3 months. Standard tools and techniques had been used to determine the anthropometric measurements. Weight was recorded to the nearest 100 g, height to the nearest 1 cm, and circumferences to the nearest 0.5 cm. BMI was calculated using this formula:

$$\frac{\text{Weight (kg)}}{\text{Height}^2\,(\text{m}^2)}$$

- **Diet intervention** was based on the Ayurvedic constitution, and the nutritionist counseled the individuals on the diets to be followed. These diets were administered based on the predominant *doshas*.
  1. For people of *vatta* constitution, the diets were based mainly on wheat, potato, rice,[5] black gram, besan (gram flour),[6] and fish.[7]
  2. For people of *pitta* constitution, the diets were based on barley, besan (gram flour),[8,9] dairy (*paneer*), animal foods like chicken or egg, rice, amla,[10] soya, and green gram.[11,12]
  3. For people of *kapha* constitution, the diets were based mainly on wheat bran, barley,[13,14] soy nuggets, besan (gram flour), green gram, and garlic.[15]

Adherence to the diets had been ensured by weekly monitoring. The respondents visited the clinics twice a week and interacted with the nutritionists. The emphasis on compliance was on inclusion of certain foods based on suitability to body constitution and not the calorie content. Subjects who reported any deviations from the diets prescribed were excluded; only those who complied with the diets prescribed have been included in the study.

RESULTS

The total number of subjects for whom complete data were available was 200 (24 males, 176 females). All of the subjects were obese, with a BMI >25kg/m^2, and their ages ranged from 20 to 60 years. The subjects were classified according to 3 predominant *doshas*: *vatta*-predominant, *pitta*-predominant, and *kapha*-predominant (henceforth written as *vatta*, *pitta*, and *kapha*). Of the 200 subjects, 55 (27.5%) were *vatta*-, 83 (41.5%) were *pitta*-, and 62 (31.0%) were *kapha*-predominant. Among obese subjects of the study, the dominant constitution of the subjects was *pitta* followed by *kapha* and *vatta*. According to Ayurvedic text, obesity is caused by vitiation of body tissues with *kapha*[16]; hence, most *kapha*-predominant people are prone to obesity, whereas *vatta* people have the least tendency to gain weight.

Table 1 shows that at the beginning of the study, *kapha* and *pitta* subjects were heavier that *vatta* subjects. All groups lost weight at the end of the first month. After 2 months of therapy, there was a significant weight loss in the *pitta*- and *kapha*-dominant subjects ($P<.05$) but not in the *vatta* group. After 3 months of diet therapy, however, weight loss in the subjects of the *vatta* group also was significant, though it was more so in the subjects of *pitta*- and *kapha*-dominant *dosha*. *Kapha*-predominant people lost more weight initially, presumably due to a decrease in water retention, as *kapha dosha* tends to retain more water, the major liquid component of the body.[17]

The trend in reduction in BMI was similar to that of weight, the significance level being even higher than that with weight loss. *Pitta* subjects lost the maximum weight (9.84%) over the

TABLE 2 Mean± SD of Anthropometric Measurement According to Prakriti Group

Anthropometric parameters	At entry	After month 1	After month 2	After month 3
Arm circumference (cm)				
Vatta	34.19±4.35	32.44±4.03	31.50±3.61	30.78±3.41†
Pitta	35.13±6.02	33.21±5.42	32.13±5.19	31.51±5.14†
Kapha	35.74±10.55	34.08±10.24	33.10±10.24	32.39±10.07
Total	35.05±7.81	33.27±8.15	32.26±6.14	31.58±6.24†
Chest circumference (cm)				
Vatta	104.44±10.94	100.95±10.54	99.63±10.27	98.22±9.98*
Pitta	105.40±9.79	101.89±9.09	99.58±13.35	98.36±8.75†
Kapha	106.62±9.63	102.98±8.84	101.18±8.62	100.08±8.66†
Total	105.52±10.01	101.97±9.98	100.10±10.81	98.87±9.01†
Abdominal circumference (cm)				
Vatta	103.54±16.34	98.06±15.14	96.75±14.86	95.40±14.86*
Pitta	105.49±12.31	100.29±11.95	97.06±11.08	94.58±15.31†
Kapha	105.70±12.60	100.38±12.10	97.78±11.11	94.97±14.84†
Total	105.02±14.18	99.70±13.19	47.21±12.18	94.93±14.88†
Thigh circumference (cm)				
Vatta	64.50±7.37	62.68±7.18	60.89±6.26	59.94±6.58*
Pitta	64.61±8.12	61.51±8.13	59.62±7.85	58.71±7.76†
Kapha	63.47±7.53	61.28±7.19	59.63±7.38	58.54±7.47†
Total	64.22±7.93	61.77±7.08	59.99±7.85	59.01±7.58†
Hip circumference (cm)				
Vatta	113.45±11.62	108.64±10.80	107.06±10.28	106.11±10.29†
Pitta	115.61±8.91	111.12±8.57	108.64±8.66	107.08±8.88†
Kapha	114.08±9.92	109.50±9.75	107.31±9.62	106.15±9.65†
Total	114.51±10.11	109.90±10.01	107.77±9.88	106.51±9.85†
Waist circumference (cm)				
Vatta	92.74±14.80	87.34±14.05	86.47±13.89	85.24±13.93*
Pitta	93.50±13.97	88.92±13.44	86.65±13.00	84.45±13.17†
Kapha	93.15±10.09	89.18±9.52	86.70±9.53	85.72±9.81†
Total	93.17±13.81	88.53±14.01	86.61±12.48	85.06±12.18†

*$P\leq.01$, †$P\leq.001$ as tested by *t*-test.

3-month period. *Pitta* people are reported to have intense metabolic fire (*pitta*) and therefore a higher fat metabolism, contributing to a greater weight loss over time.[2]

All the anthropometric parameters measured at entry for the 3 *doshas* decreased after the third month of therapy at a highly significant level, either at 1% or 0.1% (Table 2). The percentage of decrease in arm circumference was highest in *pitta* individuals (10.3%), followed by *vatta* (10%) and *kapha* (9.4%), and the decrease in waist circumference was higher in *pitta* (9.7%) than in the *vatta* (8.1%) and *kapha* (8%) groups after 3 months of dietary intervention. The percentage decrease in chest circumference, abdominal circumference, thigh circumference, and hip circumference was highest in the *pitta* group, followed by *kapha* and *vatta* individuals after 3 months of dietary intervention. As shown in Table 3, the change in circumference measurements across all locations was highest in the *pitta* group. This finding is supported by the fact that the maximum weight loss was also reported among the *pitta* group. Not much difference was seen in the percentage loss among the *kapha* and *vatta* groups.

TABLE 3 Percentage Decrease in Anthropometric Measurements

Arm circumference (cm)	After month 1	After month 2	After month 3
Vatta	-5.1	-7.9	-10.0
Pitta	-5.5	-8.5	-10.3
Kapha	-4.6	-7.4	-9.4
Total	-5.1	-8.0	-9.9
Chest circumference (cm)	**After month 1**	**After month 2**	**After month 3**
Vatta	-3.3	-4.6	-6.0
Pitta	-3.3	-5.5	-6.7
Kapha	-3.4	-5.1	-6.1
Total	-3.4	-5.1	-6.1
Abdominal circumference (cm)	**After month 1**	**After month 2**	**After month 3**
Vatta	-5.3	-6.6	-7.9
Pitta	-4.9	-8.0	-10.3
Kapha	-5.0	-7.5	-10.15
Total	-5.1	-7.4	-9.6
Thigh circumference (cm)	**After month 1**	**After month 2**	**After month 3**
Vatta	-2.8	-5.6	-7.1
Pitta	-4.8	-7.7	-9.1
Kapha	-3.5	-6.1	-7.8
Total	-3.8	-6.6	-8.1
Hip circumference (cm)	**After month 1**	**After month 2**	**After month 3**
Vatta	-4.2	-5.5	-6.5
Pitta	-3.9	-6.0	-7.4
Kapha	-4.0	-5.9	-7.0
Total	-4.0	-5.9	-7.0
Waist circumference (cm)	**After month 1**	**After month 2**	**After month 3**
Vatta	-5.8	-6.8	-8.1
Pitta	-4.9	-7.3	-9.7
Kapha	-4.3	-6.9	-8.0
Total	-5.8	-7.0	-8.7

Classic Ayurvedic texts such as *Charak Samhita, Charak Sutra Sthanam*, and *Ashtanga Hridayam* have documented the role of diet in achieving weight loss without any side effects. This retrospective study has shown that diets based on Ayurvedic constitution are useful in promoting weight loss. Though these promising findings support traditional Indian Ayurvedic scriptures, more closely controlled trials are needed to substantiate these findings.

REFERENCES

1. Frawley D. *Ayurvedic Healing: A Comprehensive Guide.* Delhi, India: Motilal Banarsidass Pvt Lmt; 2005.
2. Hankey A. CAM modalities can stimulate advances in theoretical biology. *Evid Based Complement Alternat Med.* 2005;2(1):5-12.
3. Lad V. *Ayurveda: The Science of Self-Healing.* Silver Lake, WI: Lotus Press; 1984.
4. Tripathi B. *Ashtanga Hridaya.* Sutra Sthanam 14/21. Delhi, India: Chaukhambha Orientalia; 2007.
5. Tripathi B. *Ashtanga Hridaya.* Sutra Sthanam 6/26. Delhi, India: Chaukhambha Orientalia; 2007.
6. Tripathi B. *Ashtanga Hridaya.* Sutra Sthanam 6/21-22. Delhi, India: Chaukhambha Orientalia; 2007.
7. Tripathi B. *Ashtanga Hridaya.* Sutra Sthanam 6/67. Delhi, India: Chaukhambha Orientalia; 2007.
8. Sharma PV. *Charak Samhita.* Sutra Sthanam 27/273. Delhi, India: Chaukhambha Orientalia; 2005.
9. Sharma PV. *Charak Samhita.* Sutra Sthanam 27/28. Delhi, India: Chaukhambha Orientalia; 2005.
10. Sharma PV. *Charak Samhita.* Sutra Sthanam 27/147. Delhi, India: Chaukhambha Orientalia; 2005.
11. Tripathi B. *Ashtanga Hridaya.* Sutra Sthanam 6/17. Delhi, India: Chaukhambha Orientalia; 2007.
12. Sharma PV. *Charak Samhita.* Sutra Sthanam 27/65. Dehli, India: Chaukhambha Orientalia; 2005.
13. Tripathi B. *Ashtanga Hridaya.* Sutra Sthanam 6/38-39. Delhi, India: Chaukhambha Orientalia; 2007.
14. Sharma PV. *Charak Samhita.* Sutra Sthanam 27/19-20. Delhi, India: Chaukhambha Orientalia; 2005.
15. Sharma PV. *Charak Samhita.* Sutra Sthanam 27/23. Delhi, India: Chaukhambha Orientalia; 2005.
16. Sharma PV. *Charak Samhita.* Sutra Sthanam 21/4. Delhi, India: Chaukhambha Orientalia; 2005.
17. Sharma PV. *Charak Samhita.* Sutra Sthanam 20/18. Delhi, India: Chaukhambha Orientalia; 2005.