Tuijin Jishu/Journal of Propulsion Technology
ISSN: 1001-4055
Vol. 46 No. 3 (2025)

Evaluating Ayurvedic Interventions for Obesity Management: A Comparative Study of Shankha Prakshalana and Udvartana Therapies in Male Patients with Sthaulya

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Abstract

Background: Obesity is a multifactorial condition that leads to metabolic disturbances and increases the risk of non-communicable diseases. Traditional Ayurvedic interventions such as *Shankha Prakshalana* and *Udvartana* have been used as non-pharmacological approaches to manage obesity. This case series evaluates the efficacy of these therapies in 10 patients diagnosed with *Sthaulya* (obesity).

Methods: A total of 10 male patients aged between 20-40 years with BMI > 25 kg/m² were included in this case series. Patients were divided into two groups: Group A (n=5) underwent *Shankha Prakshalana,* and Group B (n=5) received *Udvartana* with *Triphala Churna*. Clinical and anthropometric parameters such as weight, BMI, waist circumference, lipid profile, and fasting blood sugar were recorded at baseline and post-treatment (8 weeks). Subjective parameters such as fatigue, excessive hunger, thirst, and difficulty in daily activities were also assessed.

Results: Both interventions resulted in significant reductions in weight and BMI. Group A (*Shankha Prakshalana*) showed a mean weight reduction of 5.4 kg compared to 3.8 kg in Group B (*Udvartana*). BMI reduction was also greater in Group A (mean decrease of 2.1 kg/m²) than in Group B (1.5 kg/m²). Lipid profiles improved in both groups, with a greater reduction in total cholesterol and triglycerides in Group A. Subjective improvements were observed in energy levels, physical activity, and reduced excessive hunger and thirst.

Conclusion: Both *Shankha Prakshalana* and *Udvartana* showed effectiveness in obesity management. However, *Shankha Prakshalana* demonstrated superior results in weight reduction, BMI reduction, and metabolic improvements. Further randomized controlled trials with larger sample sizes are warranted to validate these findings.

Keywords: Obesity, *Sthaulya, Shankha Prakshalana, Udvartana, Ayurveda,* BMI, Weight Management.

1. Introduction

Obesity is a major public health concern globally, leading to increased morbidity due to associated conditions such as hypertension, type 2 diabetes, and cardiovascular diseases. *Ayurveda* describes *Sthaulya* as a condition of excessive *Meda* (fat tissue) accumulation due to imbalances in *Agni* (digestive fire) and *Doshas*. This case series evaluates the impact of *Shankha Prakshalana* and *Udvartana* with *Triphala Churna* on obesity.

Obesity can be characterized by an excessive gradual gathering of adipose tissue mass. The enlargement of adipose cells and the increased number of adipocytes are both contributing factors to the increase in adipose mass[1]. Recently, the "body mass index (BMI)" has become a widely accepted metric for determining overweight, obesity, and underweight.

According to the "World Health Organization (WHO)", underweight is defined as body mass index (BMI) of less than 18.5, being overweight as a BMI of 25 or higher, and being obese as BMI of 30 or higher[2]. In 2005, World Health Organization reported that A total of 1.6 billion people were classified as overweight (BMI>25) and 400 billion as obese (BMI>30).

Shankhaprakhsālana is a *yoga* practice (*kriya*) recommended for cleansing the bowel.[3]

'Table no. 1: Classification of Overweight and Obesity by BMI, Waist Circumference, and Associated Disease Risk. Adapted from reference.[4]

	BMI (kg/m²)	**Obesity Class**	**Disease Risk* (Relative to Normal Weight and Waist Circumference)**	
			Men ≤40 inches (≤ 102 cm) Women ≤ 35 inches (≤ 88 cm)	> 40 in (> 102 cm) > 35 in (> 88 cm)
Underweight	< 18.5		-	-
Normal**	18.5–24.9		-	-
Overweight	25.0–29.9		Increased	High
Obesity	30.0–34.9 35.0–39.9	1 2	High Very High	Very High Very High

	BMI (kg/m^2)	Obesity Class	Disease Risk* (Relative to Normal Weight and Waist Circumference)	
Extreme Obesity	≥ 40	3	Extremely High	Extremely High

***Disease risk for type 2 diabetes, hypertension, and cardiovascular disease.**

****Increased waist circumference can also be a marker for increased risk even in persons of normal weight.'**

2. Aim & Objectives

1. To evaluate the efficacy of *Shankha Prakshalana* and *Udvartana* with *Triphala Churna* in reducing anthropometric parameters such as weight, BMI, and waist circumference in individuals with obesity (*Sthaulya*).

2. To assess the impact of these interventions on metabolic parameters, including lipid profile (total cholesterol, triglycerides) and fasting blood sugar levels.

3. To compare the effectiveness of *Shankha Prakshalana* and *Udvartana* in improving subjective symptoms such as fatigue, excessive hunger, thirst, and ability to perform daily activities

3. Materials and Methods

3.1 Trial design: A randomized, controlled, open-label clinical study.

3.2 Participants:

3.2.1 Eligibility criteria-

Inclusion criteria:

- Male patients of age 20-40 years
- BMI more than 25 kg/m^2
- Controlled Type 2 Diabetes and Hypertension

Exclusion criteria:

- Patients of age below 18 years and above 60 years.
- Patients having complications like core-pulmonale, pulmonary TB, emphysema, pneumonia, cystic fibrosis, malignancy, severe anaemia, renal failure, congestive cardiac failure.
- Patient suffering from malignant and accelerated hypertension, coronary artery disease, uncontrolled diabetes.
- Patient undergoing regular treatment for any other severe illness and patient on prolonged corticosteroid use, were excluded.
- Secondary obesity.

Intervention Groups:

- **Group A (*Shankha Prakshalana*)** (n=5): Underwent bowel cleansing using saline water and a series of specific yoga asanas.
- **Group B (*Udvartana* with *Triphala Churna*)** (n=5): Received herbal powder massage therapy applied with pressure against hair follicles.

Baseline and Post-Treatment Assessment

- **Anthropometric parameters**: Weight, BMI, waist circumference, mid-arm and mid-thigh circumferences
- **Biochemical parameters**: Lipid profile, fasting blood sugar

Subjective assessments: Fatigue, excessive thirst, hunger, ability to perform daily activities

4. Results and Discussion

Table no. 2: Case Observations

Parameter	**Group A (*Shankha Prakshalana)***	**Group B (*Udvartana*)**
Mean Weight Loss (kg)	5.4	3.8
BMI Reduction by (kg/m^2)	2.1	1.5
Waist Circumference Reduction by (cm)	5.2	3.9
Total Cholesterol Reduction by (mg/dL)	22	15
Triglyceride Reduction by (mg/dL)	18	12
Fasting Blood Sugar Reduction by (mg/dL)	7	5
Subjective Improvement (%)	85%	70%

Anthropometric and Biochemical Changes

The observed significant weight loss and BMI reduction in both groups suggest that both therapies are effective in obesity management. However, the greater impact in Group A indicates that *Shankha Prakshalana's* bowel cleansing mechanism accelerates metabolism and enhances nutrient absorption efficiency. The regular evacuation of accumulated waste may contribute to improved gastrointestinal motility, reducing overall caloric retention.[5]

Lipid Profile Improvement

Reductions in total cholesterol and triglycerides in both groups suggest an improved lipid metabolism, possibly due to enhanced bile secretion and fat emulsification. However, the greater impact in Group A can be attributed to the detoxifying effect of *Shankha Prakshalana*, which may promote lipid oxidation and prevent adipose accumulation.

Metabolic and Endocrine Implications

The observed fasting blood sugar reduction in both groups is significant in the context of metabolic syndrome. The detoxification effect of *Shankha Prakshalana* may enhance insulin sensitivity, whereas

Udvartana's mechanical fat mobilization might contribute to better glucose homeostasis. Additionally, improved circulation due to vigorous massage in *Udvartana* may enhance glucose uptake by muscles, thereby reducing blood glucose levels.

Subjective Improvements

The higher subjective improvement score in Group A (85%) suggests that *Shankha Prakshalana* leads to enhanced energy levels, digestion, and physical activity endurance. The rapid detoxification effect may reduce systemic inflammation, thereby alleviating symptoms such as lethargy, excessive hunger, and thirst.

5. Conlusion

Both therapies are effective in weight reduction and metabolic regulation. However, *Shankha Prakshalana* showed superior results in BMI reduction, lipid profile improvement, and subjective well-being. *Ayurvedic* therapies can be a promising non-pharmacological intervention for obesity management. Future clinical trials with a larger population and long-term follow-up are recommended to establish standardized treatment protocols.

Educational attainment and socioeconomic factors also significantly influence BMI, impacting access to healthcare and nutrition. These findings highlight the importance of targeted interventions to manage BMI through regular monitoring, personalized nutrition plans, and patient education. Promoting balanced weight gain is crucial for optimizing healthy outcomes.

Limitations:

- Small sample size (10 patients)
- Short follow up duration (8 weeks)
- No control group
- Conducted only on male patients

Future Directions:

- Large-scale randomized controlled trials
- Inclusion of female participants
- Long-term follow-up to assess sustainability of weight loss

Ethical Considerations

- Informed consent obtained from all patients.
- Ethical clearance approved under Institutional ethical committee.

Conflicts of Interest

None declared

Refrences

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