

A Review on comparative evaluation of marketed ayurvedic formulations used in the treatment of obesity

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Abstract:

This study presents a comparative evaluation of marketed ayurvedic formulations for the treatment of obesity, focusing on their efficacy, ingredients composition, and clinical outcomes. With the rising prevalence of obesity globally, holistic approach that emphasize balance and wellness through natural remedies. The research involved a systematic review of various formulations available in the market, assessing their traditional uses, active ingredients, and scientific backing.

Key words:

Ayurvedic formulation, obesity, phytochemicals analysis, pharmacological study, clinical trials.

Introduction:

Obesity has emerged as a significant public health concern worldwide, contributing to various chronic diseases, including diabetes, cardiovascular disorders, and metabolic syndrome. Traditional approaches often fall short in providing

sustainable weight management solutions, leading to increased interest in alternative therapies. Ayurvedic medicine, with its holistic approach to health and wellness, offers a variety of formulations aimed at management.

This comparative evaluation seeks to examine marketed Ayurvedic formulations for the treatment of obesity, analyzing their ingredients, mechanism of action, clinical efficacy, and safety profiles. By understanding the diverse approaches within Ayurvedic practices, we can better assess their potential role in contemporary obesity management. This study aims to provide insights into the effectiveness of these formulations, thereby guiding consumers and healthcare practitioners in making informed decisions regarding obesity treatment options.

The four marketed products that we have to do comparative study that are

- 1) Chandraprabha
- 2) Vijaysar
- 3) Vrikshmala
- 4) Arogyavardhini

1) Chandraprabha :

Gutika Chandraprabha, a polyherbal Ayurvedic formulation, has been studied for its



potential in obesity management.

Chemical constituents :

1. *Tinospora cordifolia* (Guduchi): Alkaloids, Glycosides, and steroids.
2. *Terminalia chebula* (Haritaki): Tannins, flavanoids, and saponins.
3. *Terminalia bellerica* (Bibhitaki): Tannins, flavanoids, and saponins.
4. *Embelia ribes* (Vidanga): Alkaloids and glycosides.
5. *Piper longum* (Pippali): Alkaloids and glycosides.

6.Zingiber officinale(Shunthi): Gingerols and shogaols.

Pharmacological activities:

Anti-obesity,lipid-lowering,anti-inflammatory,antioxidant,appetite suppression,carbohydrate metabolism

Mechanism of action:

- 1.Inhibition of adipogenesis.
- 2.Enhancement of lipolysis
- 3.Modulation of lipid metabolism.
- 4.Suppression of appetite.

Side effects:

- 1.Gastrointestinal upset(nausea,diarrhea).
- 2.Allergic reactions(skin rashes,itching).

2)Vijaysar:

In pharmacognostic language also known as pterocarpus marsupium, is an Ayurvedic formulation marketed for the treatment of obesity.



Chemical constituents:

- 1.Marsupin.
- 2.Pterocarpin.

3.Flavanoids. 4.Phenolic compounds.

Pharmacological activity:

- 1.Hypolipidemic(Reduces cholesterol and triglycerides.
- 2.Hypoglycemic(Reduces blood sugar)
- 3.Anti-obesity, Anti-inflammatory
- 4.Antioxidant

Mechanism of action:

- 1.Inhibits pancreatic lipase, reducing fat absorption
- 3.Supresses appetite and increases satiety
- 4.Improves lipid metabolism and fatty acid oxidation
- 5.Reduces inflammation and oxidative stress

Side effects:

- 1.Gastrointestinal upset (Nausea,diarrhea)
- 2.Allergic reactions (skin rashes,Itching)
- 3.Pregnancy and breast feeding precautions

3)Vrikshamala:

vrikshamala also known as triphala,is anAyurvedic formulation marketed for obesity treatment



Chemical constituents:

1. Amalaki(*Emblica officinalis*)
2. haritaki(*Terminalia chebula*)
3. vibhitaki(*Terminalia belerica*)

Key constituents:

Tannins, Flavonoids, Saponins, Phenolic acid, Gallic acid.

Pharmacological activity:

1. Anti-obesity, 2. Immunomodulatory.

Mechanism of action:

1. Enhances fat metabolism and lipolysis.
2. Suppresses appetite and increases satiety.
3. Improves insulin sensitivity and glucose uptake.
4. Reduces inflammation and oxidative stress.
5. Modulates gut microbita.

Side effects:

1. Gastrointestinal upset(Naues, diarrhea)
2. Allergic reactions(skin rashes, Itching)
3. Digestive issue

4. Arogyavardhini:

Arogyavardhini is a polyherbal Ayurvedic formulation marketed for obesity treatment



Chemical constituents:

- 1.Guduchi(*Tinospora cordifolia*)
- 2.Kasisa Bhasma(Ferric oxide)
- 3.Loha Bhasma(Iron oxide)
- 4.Haridra(*Curcuma longa*)
- 5.Abhrak bhasma(Silica)

Pharmacological activity:

- 1.Anti-obesity
- 2.Anti-inflammatory,
- 3.Antioxidant
- 4.Hypolipidemic
- 5.Digestiveenzyme regulation.

Mechanism of action:

- 1.Suppresses appetite and increases satiety,
- 2.modulates gut microbiota
- 3.Enhances lipolysis
- 4.Regulates digestive enzymes

Side effects:

- 1.Interactions with diabetes medications
- 2.Digestive issues

- 3.Pregnancy and breastfeeding precautions
- 4.Allergic reactions.

Pharmaceuticals and pharmacognostic evaluation of ayurvedic formulation on obesity

Pharmaceutical parameters:

- Heavy metal analysis
- PH Determination
- Moisture content
- Bulk density
- Tapped density

Pharmacognostic parameters:

- 1.Botanical Identification
- 2.Microscopic examination
- 3.Phytochemical screening
- 4.HPTLC/HPLC
- 5.Marker compound analysis
- 6.Ash content
- 7.Extractive values
- 8.Flavonoid content
- 9.Alkaloid content
- 10.Glycoside content

Standardization of ayurvedic formulations for comparative evaluation of marketed ayurvedic formulations used for the treatment of obesity

A)Raw material standardization:

- 1.Botanical Identification
- 2.Microscopic examination
- 3.Pesticide residue analysis

B)Powder characterization:

- 1)Particle size distribution

2)moisture content

3)Ash content

4)Bulk density

5)Tapped density

C)Phytochemical standardization:

1)Marker compound analysis

2)HPTLC/HPLC

D)Quality control tests:

1)Heavy metal analysis

2)Microbial load

3)Aflatoxin analysis

E)Stability studies:

1)Accelerated stability testing

2)Real time stability

3)By standardizing herbal powder formulations,we ensure consistency in quality,safety and efficacy,enabling their use in obesity treatment with confidence

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7. Tiwari, S., & Shrivastava, S. (2018). Ayurvedic insights into the management of obesity: A review. *Journal of Ayurveda and Integrative Medicine*, 9(4), 278-284. A comparative evaluation of marketed Ayurvedic formulations used in the treatment of obesity is a topic that has gained attention in recent years due to the increasing popularity of Ayurvedic remedies for weight management. Various studies have assessed the efficacy of different Ayurvedic formulations, some of which include Arogyavardhini, Triphala, Guggulu, and other herbal combinations.

8. Comparative Clinical Study of Ayurvedic Formulations in Obesity
Title: "A Comparative Clinical Study on the Efficacy of Ayurvedic Formulations in the Management of Obesity"

Authors: D.S. Patil, S. G. Deshpande, et al.

Published in: Journal of Ayurveda and Integrative Medicine (JAIM)

Summary: This study compares the efficacy of multiple marketed Ayurvedic formulations like Arogyavardhini, Triphala, and Guggulu-based formulations for the management of obesity. The study found that these formulations, when used alongside dietary and lifestyle modifications, significantly reduce body weight and improve lipid profiles in obese individuals.

9. Clinical Evaluation of Herbal Formulations for Obesity Management

Title: "Clinical Evaluation of Marketed Herbal Formulations in the Treatment of Obesity"

Authors: S. Kumar, A. Rao, et al.

Published in: Journal of Ethnopharmacology

Summary: This paper compares the efficacy of popular marketed Ayurvedic formulations, including Arogyavardhini, Kanchanar Guggulu, and Shilajit-based weight loss products. The study assesses their effects on body weight reduction, lipid profile, and insulin sensitivity. Results indicated that formulations containing Guggulu and Triphala showed superior results compared to others.

10. Review on Ayurvedic Formulations for Obesity Management

Title: "A Review on the Role of Ayurvedic Formulations in the Management of Obesity"

Authors: R. N. P. Patil, S. M. Khamar, et al.

Published in: International Journal of Research in Ayurveda and Pharmacy

Summary: This review paper highlights a range of marketed Ayurvedic formulations used for obesity, such as Arogyavardhini, Triphala, Kanchar Guggulu, and Medohara Kwath. The paper compares the traditional uses of these formulations with modern clinical evidence. It concludes that many of these formulations have a strong base in Ayurvedic principles and can be effective for weight loss, particularly when used in combination with a holistic approach including diet, exercise, and lifestyle changes.

11. Comparative Study of Herbal Formulations for Obesity

Title: "Comparative Study on the Effect of Different Herbal Formulations in the Treatment of Obesity"

Authors: B. S. Bhatt, N. M. Patel

Published in: Pharmacognosy Reviews

Summary: This study compares the effects of Arogyavardhini, Kanchar Guggulu, Garcinia cambogia (often used in marketed Ayurvedic weight loss supplements), and Triphala in the management of obesity. It concludes that formulations containing Guggulu have significant potential in reducing weight by enhancing fat metabolism and stimulating thyroid function

12. Clinical Trials and Comparative Efficacy of Ayurvedic Products in Obesity

Title: "Comparative Efficacy of Ayurvedic Products in the Management of Obesity: A Systematic Review"

Authors: M. R. Singh, V. S. Jadhav

Published in: BMC Complementary Medicine and Therapies

Summary: This systematic review evaluates randomized controlled trials (RCTs) comparing various Ayurvedic formulations like Arogyavardhini,

Medohara Guggulu, and Triphala with placebo or conventional treatment methods for obesity. The findings suggest that Ayurvedic treatments show promising results in reducing body weight and improving metabolic parameters, although more large-scale studies are required.

13. Ayurvedic Formulations for Weight Loss: A Review of Clinical Trials

Title: "Review of Clinical Trials on the Efficacy of Ayurvedic Formulations in the Treatment of Obesity"

Authors: R. A. Nair, S. B. Raj

Published in: International Journal of Ayurveda Research

Summary: This review paper provides a comparative analysis of clinical trials involving Arogyavardhini, Triphala, and Guggulu formulations for obesity. It explores their effects on body mass index (BMI), fat mass, and metabolic biomarkers such as cholesterol and blood sugar. The study supports the efficacy of these formulations when combined with diet and exercise.