

# METHODOLOGY

## **METHODOLOGY**

A healthy and long life has been an utmost desire of every human being. There has been an enormous effort by various scientists and researchers in searching alchemy for immortality.

Ayurveda a non-human medical science supposed to be evolved by god himself and passed the knowledge to humans by them, is one of the oldest known healing sciences to mankind. Ayurveda has dealt with promotion and preservation of health of a healthy individual as the first priority, where in Rasayana therapy has been explained. Rasayana therapy helps to prevent the diseases by enhancing the overall bodily defense mechanism by producing top quality structural and functional entities.

Rasayana therapy explained in Ayurveda is a specialized stream of medication for immunity enhancer, anti-degenerative and rejuvenative health care which is supposed to prevent the effects of ageing and improving the quality of life of healthy person as well as diseased.

Krushna tila i.e. black sesame is supposed to one of the dravya (drug) bearing Rasayana properties. Black sesame has been used worldwide especially in Middle East, china, japan and Indian sub-continent as a inseparable part of their diet. To analyze the Rasayana properties of Krushna tila the present study was undertaken.

**Design of the study:**

A clinical study with pre-test and post-test design where in 100 patients fulfilling the inclusion criteria of either sex between the age group of 40 to 60 yrs were selected for the study.

**Source of Data**

The source of collection of the patients was from OPD of Bharati Vidyapeeth Medical Foundation's Ayurveda Hospital, Pune- 411043

**Literary source:**

All the Ayurvedic, modern literatures and contemporary texts including the journals, publications, websites etc. were reviewed and documented for the intended study.

**INTERVENTION:**

Sample size	: 100 patients
Drug	: Krushna Tila
Dose	: 10 gram once daily to be chewed at Rasayana kala (Morning) empty stomach
Methods	: Oral administration
Anupana	: Sheeta jala (normal water at room temperature)
Duration of the treatment	: 90 days
Total period of study	: 90 days

The research work included 100 patients based on the selection criteria mentioned in the protocol approved by ethics committee. The research drug i.e. Kruṣṇa Tila (semen sesami nigrum) was administered to the patients enrolled for the study in the dose of 10 gm daily morning empty stomach with water (at room temperature) for a total duration of 90 days.

**Observation period:**

Patients were observed before treatment, on 15<sup>th</sup>, 30<sup>h</sup>, 60<sup>th</sup>, 90<sup>th</sup>, day to assess the progress.

Total study duration including follow up: 90 days.

**Inclusion criteria:**

1. Individuals between 40 to 60 yrs of age were included.
2. Individuals having complaints of Karshya, early ageing signs, general debility, minor health complaints related to Asthi dhatu were included.
3. Individuals of both the sex were included.

**Exclusion Criteria:**

1. Individuals with any systemic disorders were excluded.
2. Pregnant women were excluded.
3. Individuals undergoing any other therapy or secondary cases of karshya etc. were excluded.

**ASSESSMENT CRITERIA:**

**Objective Parameters**

1. WEIGHT

2. Height

3. *QUETELET'S INDEX (devenport-kaup's adaptation) / BMI<sup>47</sup>*

Quetelet's index (QI) represents a measure of nutrition status. It is calculated according to a formula:

$$QI = BW / BH^2$$

where BW means body weight (g) and BH body height (cm). People with normal nutritional status have QI values between 2.15–2.56.

4. *MUSCLE INDEX<sup>47</sup>*

Muscle index (MI) is an orientation method about someone's muscle development. It is calculated according to a formula:

$$MI = ((CCB - CRB) / CRB) \times 100,$$

where CCB means circumference of the upper arm during an isometric contraction of muscle biceps brachii at 90° of elbow flexion (cm) and CRB circumference of the upper arm in relaxed position of muscle biceps brachii at 90° of elbow flexion (cm). Values between 5–12 are normal, values under 5 represent obese subjects with weak muscles and values over 12 represent people with strong muscles.

5. LORENZ'S CONSTITUTIONAL INDEX<sup>47</sup>

Lorenz's constitutional index (LKI) gives information about body's components with a following formula:

$$LCI=CT-CA- 14,$$

where CT means circumference of thorax (cm) and CA circumference of abdomen (cm). If a calculated value is a positive, than an increase in a body mass goes on the account of muscles and bones. On contrary, if it's a negative then the adipose tissue is responsible for an increased body mass.

**Subjective Paramters**

**Abhyavaharan Shakti**

Normal intake of food	-----	0
Eats 25% less than normal diet	-----	1
Eats 50% less than normal diet	-----	2
Eats 75% less than normal diet	-----	3

**Jāraṇa Shakti: scoring according to Jeerna Ahara Lashana**

(Udgara shudhi, Utsaha, Vega Pravrutti, Laghuta, Kshuth, Pippasa)

Presence of all symptoms	-----	0
Presence of all 4 symptoms	-----	1
Presence of all 3 symptoms	-----	2
Presence of all 2 symptoms	-----	3
Presence of all 1 symptoms	-----	4

**Nidrā**

Normal sleep for 7 – 8 hrs / night	-----	0
Sleep for 5 – 6 hrs / night	-----	1
Sleep for 4 – 5 hrs / night	-----	2
Sleep for 3 – 4 hrs / night	-----	3

**Twak parushata (dryness of skin)**

No dryness	-----	0
Scratches can be made on the skin	-----	1
Skin looks dry but not cracked	-----	2
Skin looks dry with cracked	-----	3

**Slatha asthi (bone weakness)**

No bony pain	-----	0
Occasionally bony pain on pressure	-----	1
Often discomfort and bony pain during slight exertion	-----	2
Dull aching pain even at rest	-----	3

**Slatha sandhi (flaccid joints)**

No pain in joint	-----	0
Occasionally feels pain & cracking sound in joint during movement	-----	1
Often feels pain & cracking sound in joint during movement	-----	2
Always feels pain & cracking sound in joint during movement	-----	3

**Khalitya (hair fall)**

No hair fall	-----	0
Hair fall notice only while combing in morning	-----	1
Hair fall always during combing	-----	2
Visible baldness	-----	3

**Follow Up Of the Study**

Participants were observed before treatment and detailed case report using the case proforma formulated for the study was taken.

Participants were asked to report after every 15 days from the starting of the course of the study i.e. on 15<sup>th</sup>, 30<sup>th</sup>, 60<sup>th</sup> & 90<sup>th</sup> day after commencement of the research to assess the progress.

Total study duration including follow up was 90 days.