

**AYURVEDIC MANAGEMENT OF SELECT
GERIATRIC DISEASE CONDITIONS**

**TREATMENT PROTOCOLS - GUIDELINES AND COSTING
OF SELECT GERIATRIC DISORDERS**

A CCRAS -WHO COUNTRY OFFICE, INDIA COLLOBORATIVE PROJECT



CENTRAL COUNCIL FOR RESEARCH IN AYURVEDA AND SIDDHA

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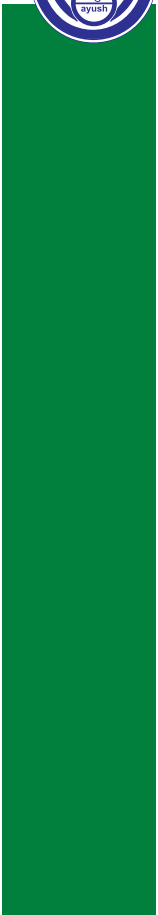
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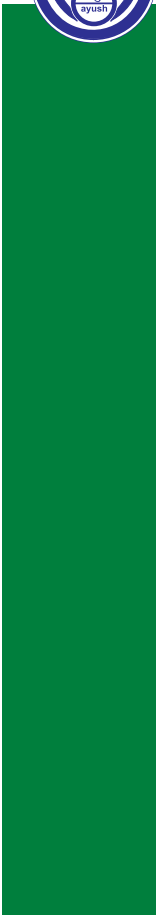
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PREFACE

There is a slow and steady growth of elderly population during the last few decades. It is interesting to note that there is a shift in the population growth from child and young to higher age groups. The elderly population is presently about 70 millions and the demographers project that within 25 years time, this would come to 150 million. The percentage of elderly population is also increasing in faster than that of total population. These demographic changes may be due to the improvement of health status, socio-economic status and medical care facilities.

Due to increased elderly population, the prevalence of Geriatric specific disease conditions is also increasing. The emergence of new refractory and lifestyle related problems calls for development of Ayurvedic treatment protocols for selected geriatric disease conditions for dissemination of messages among health care professionals.

Rasayana is one among eight branches Ayurveda. Through Rasayana therapy, one can attain longevity, improved harmony, intelligence, freedom from disease, youthful vigor, complexion and voice, physical strength and good sensory functions. Rasayana therapy prevents various degenerative disease conditions; promote the health status of an individual.

Other strength of Ayurveda is Panchakarma therapies (bio-cleansing procedures). Panchakarma is beneficial for preventive, promotive and rejuvenative health purposes and management of various systemic diseases. It is also widely prescribed for improving the quality of life in various incurable diseases.

Besides Rasayana and Panchakarma therapies, various single and compound Ayurvedic formulations, dietary and life style guidelines will help in the effective management of Geriatric conditions.

The Government of India, Ministry of Health and Family Welfare, Department of AYUSH has launched the National Campaign on Ayurveda and Siddha for Geriatric Health Care on 23rd and 24th January 2008 for promotion of merits of Ayurveda and Siddha for the care of elderly in the Country.



The CCRAS and WHO India country office have joined together for developing a concise and comprehensive document on Ayurvedic Management of Selected Geriatric Disease Conditions (Treatment Protocols for Geriatric Disorders) focusing on general information about the disease, diagnosis, preventive aspect, treatment (medicines, procedure based therapies and yoga), general and dietary advises and the approximate cost of the treatment modalities.

I personally and on behalf of CCRAS appreciate the encouragement and support received from Dr. S. J. Habayeb, WHO Representative to India and Dr. D. C. Katoch, National Consultant (Traditional Medicine & Homoeopathy) and Sh. Pradeep Diwan, Administrative Officer, WHO Country Office for India, New Delhi.

The Council is grateful to the members of working group and consultative group for their valuable inputs and suggestions, which have made this document comprehensive and informative.

I hope that this document would serve the Ayurvedic medical practitioners, policy makers, health insurance sector and other health care professionals as ready reference manual.

Ramesh Babu
Director General
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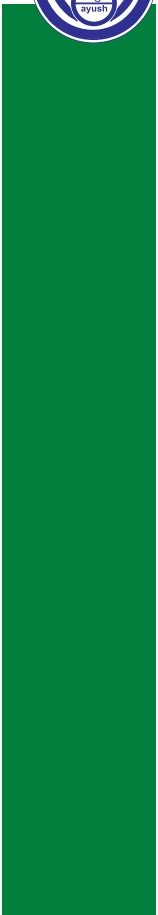
KEY TO TRANSLITERATION

अ	-	a	ठ	-	ṭha
आ	-	ā	ड	-	ḍa
इ	-	i	ढ	-	ḍha
ई	-	ī	ण	-	ṇa
उ	-	u	त	-	ta
ऊ	-	ū	थ	-	tha
ऋ	-	ṛ	द	-	da
ए	-	e	ध	-	dha
ऐ	-	ai	न	-	na
ओ	-	o	प	-	pa
औ	-	au	फ	-	pha
.	-	ñ	ब	-	ba
:	-	ḥ	भ	-	bha
क	-	ka	म	-	ma
ख	-	kha	य	-	ya
ग	-	ga	र	-	ra
घ	-	gha	ल	-	la
ङ	-	ṅa	व	-	va
च	-	ca	श	-	śa
छ	-	cha	स	-	sa
ज	-	ja	ष	-	ṣa
झ	-	jha	ह	-	ha
ञ	-	ña	क्ष	-	kṣa
ट	-	ṭa	ज्ञ	-	jñ





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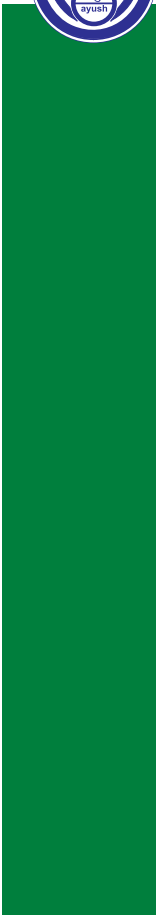


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SECTION 1

PREVENTIVE HEALTH CARE IN GERIATRICS



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1.1 INTRODUCTION

Ageing is a process of physical, psychological and social change in multi dimensional aspects. The World population of the elderly is increasing and by the year 2050, adults older than 65 years will comprise 1/5th of the global population. In India 3.8% of the population are older than 65 years of age. According to an estimate the likely number of elderly people in India by 2016 will be around 113 million¹.

The cause of morbidity and mortality world over is shifting from communicable diseases a few decades ago to non-communicable diseases. The leading causes of mortality among aged people comprise respiratory problems, heart diseases, cancer and stroke. Significant causes of morbidity among this group is chronic inflammatory and degenerative conditions such as arthritis, diabetes, osteoporosis, depression, psychiatric disorders, parkinson's disease and age related urinary problems.

Ayurvedic understanding of Geriatrics

Ayurveda, the Indian traditional holistic health science has got the potential for prevention of diseases by promotion of health and management of diseases occurring in old age. It has a focused branch called *Rasāyana* (Rejuvenation) which deals with the problems related to ageing and methods to counter the same. Geriatrics or *Jarā cikitsā* or *Rasāyana* in *Ayurveda* is a unique therapeutic methodology to delay ageing and to minimize the intensity of problems occurring this degenerative phase of one's life.

Contemporary application of Ayurvedic Geriatrics

Ayurvedic treatment as such is very individualistic and general; sometimes physician may need to prescribe different formulations for patients having the same disease, considering their *prakṛti* (constitution), *sātmya* (habit / allergies), *bala* (strength), etc. It is difficult to bring out generalised management plans for a particular disease condition and implement the same in a large scale geriatrics population. There is a need to come up with protocols to



document, diagnose in an integrative frame work for the holistic management of geriatric problems.

Prevention and management of health problems could help the elderly to improve quality of life and remain self dependant for their daily activities to maximum possible extent. *Ayurveda* has broad spectrum of preventing measures for combating the ageing process which is still widely practiced in our country. *Ayurvedic* literature record numerous single and compound plant based medicines, herbo-mineral, herbo-metalic (a few) formulations for general well being and in disease specific conditions relating to geriatrics.

1.2 Daily and Seasonal Regimens

Maintenance of a healthy life by one's own right action is called *Svasthanvṛtta* which means the regime of abiding one's own nature. Health is the dynamic integration between our environment, body, mind and spirit. *Ayurveda* and other traditional Indian health systems lay emphasis on preventing the diseases. Elaborate description is available on personal hygiene encompass diet and regimen during daily routine (*dinacaryā*), seasonal routine (*ṛtucaryā*) and behavioural and ethical guidelines (*sadvṛtta*). Observance of certain rules regarding suppressible and non-suppressible urges also paves way towards positive health. These practices lay emphasis on prevention of diseases and promotion of health.

1.2a. Daily regimen (*Dinacaryā*)

The *Ayurvedic* regimen of right living is designed for maintenance of health achievement of a long, healthy active life, providing relief from pain and disease thereby achieving satisfactory enjoyment of life and attainment of self-realisation.

Time to wake up

It is advisable to wake up during *brahma muhūrta* (preferably between 4.00 a.m. to 5.30 a.m.). This is the best time for study and to gain knowledge.

Cleansing of teeth and mouth

Cleansing of teeth and mouth should be practiced after every meal in addition to early morning and before going to bed. The soft brushes made out of twigs of *khadira*, *karañja*, *nimba*, *arka*, *apāmārga*, etc. should be used for this purpose. Tongue and mouth should be cleaned by a long flexible strip of metal or plant material. It not only cleanses the tongue but also stimulates digestion. Mouth should also be cleaned properly.



Drinking Water

Drinking water early in the morning according to one's capacity cleanses the body by enhancing the elimination of toxic wastes.

Bowels

One should attend the nature's calls. Elimination of urine and faeces cleanse the body and cheers up the mind.

Eye Care

Eyes should be cleaned with fresh water to prevent eye diseases and promote vision. Also wash eyes with *triphalā* water every day.

Betel Chewing

Chewing of betel leaves with small pieces of *pūga* (Areca nut) and fragrant substances like cardamom, cloves, refreshes the mouth and enhance digestion. Tobacco and tobacco preparations should be strictly avoided.

Abhyaṅga (Oil Massage)

It is highly beneficial to massage whole body including scalp with oil everyday to prevent dryness of body and stiffness of joints due to ageing in elderly. For massaging, *tila taila* (gingelly oil), *sarṣapa taila* (mustard oil), *nārikela taila* (coconut oil) or any medicated oils like *Nārāyana taila* may be used. Oil massage ensures softness and unctuousness of skin, free movement of joints and muscles; renders nourishment, improves peripheral circulation and eliminates metabolic wastes.

Exercise

Regular exercise builds up stamina and resistance against disease, clears the channels of body (*srotas*) and increases the blood circulation and efficiency of vital organs, promotes appetite and digestion and prevents obesity. Daily walking is the best exercise that can be advised to old people. Before starting any exercise programme consult with consultant physician.



Bath

Bathing improves enthusiasm, strength, appetite, span of life and removes sweat and other impurities from the body. After bath, one should wear clean clothes and smear the body with natural perfumes. One should have regular shaving, hair cut, clipping of nails etc.

Marital Life

Person should avoid extra marital sexual relationship and sexual intercourse with a woman during her menses, pregnancy, within one and half month after delivery, devoid of passion, older than one and suffering from disease to prevent *Dhātu kṣaya* in elderly.

1.2b. Seasonal regimen (*Rtucaryā*)

Seasonal changes bring about diseases and they may be prevented by adopting certain seasonal regimen. The seasons are classified mainly by the movement of the Sun i.e. *dakṣiṇāyana* (winter solstice) and *uttarāyana* (summer solstice) and are again sub classified into six seasons, viz. *Śīśira* (winter), *vasanta* (spring), *grīṣma* (summer), *varṣā* (rainy), *śarada* (autumn) and *hemanta* (post autumn [pre winter]). *Hemanta* and *śīśira* are cold seasons, *grīṣma* is a hot season; *varṣā* is a season of rains, *śarada* and *vasanta* seasons are moderate that is to say the days are moderately hot and nights are cold and pleasant.

SEASONAL VARIATIONS OF THE *DOṢĀS* (BIOLOGICAL HUMORS)

Season	<i>Sañcaya</i> (accumulation)	<i>Prakopa</i> (provocation/ aggravation)	<i>Praśama</i> (dissemination/ spread)
<i>Hemanta</i> (post autumn [pre winter]) (Nov. - Dec.)	-	-	<i>Pitta</i>
<i>Śīśira</i> (winter) (Jan. - Feb.)	<i>Kapha</i>	-	-
<i>Vasanta</i> (spring) (Mar. - April)	-	<i>Kapha</i>	-
<i>Grīṣma</i> (summer) (May - June)	<i>Vāta</i>	-	<i>Kapha</i>



<i>Varṣā</i> (rainy) (July - August)	<i>Pitta</i>	<i>Vāta</i>	-
<i>Śarada</i> (autumn) (Sept. - Oct.)	-	<i>Pitta</i>	<i>Vāta</i>

THE DIET REGIMEN AND PAÑCAKARMA (BIO- CLEANSING MEASURES) IN DIFFERENT SEASONS

Season	Diet and regimen	Pañcakarma (Bio-cleansing) regimen
<i>Hemant</i> (Nov.-Dec.)	Massage, exercise, intake of sweet, sour, salty items	-
<i>Śiśira</i> (Jan.-Feb.)	Use of woolen blankets, measures for protect against cold	-
<i>Vasanta</i> (March-April)	Massage exercise, fomentations, light and dry food etc.	<i>Vamana</i> (Therapeutic Emesis)
<i>Griṣma</i> (May-June)	Seasonal fruits like <i>āmra</i> (Mango), <i>jambu</i> (Jamun), milk, sweets, butter milk etc.	-
<i>Varṣā</i> (July-August)	Avoid stagnant water in surrounding area and sleeping on ground	<i>Vasti</i> (Administration of medicated enemata)
<i>Śarada</i> (Sept.-Oct.)	To sit in moon light in the first quarter of night	<i>Virecana</i> (Therapeutic purgation)

1.2c. Some preventive regimens

Observations of certain prescriptions and prohibitions given in *Ayurveda* ensure physical, mental and spiritual well-being.

Non-suppressible urges

In *Ayurveda* thirteen types of natural urges (activities) are described; these are not to be suppressed, if suppressed they may lead to various diseases and treatment measures mentioned in various *Ayurvedic* classics should be followed for that.



1. Suppression of urine may lead to difficulty in passing urine, urinary stone and atony of bladder and inflammation of urinary tract.
2. Suppression of stool may lead to pain in abdomen, indigestion, flatulency and headache.
3. Suppression of semen may produce a stone (spermolith), pain in testis and difficulty in intercourse.
4. Suppression of flatus may lead to pain in abdomen, indigestion, heart diseases, constipation or diarrhoea.
5. Suppression of vomiting produces different types of diseases like urticaria, giddiness, anaemia, hyperacidity, skin diseases and fever.
6. Suppression of sneezing may produce rhinitis and chronic cold, headache, sinusitis and diseases of respiratory system.
7. Suppression of eructation may lead to hiccough, pain in chest, cough and loss of appetite.
8. Suppression of yawning may lead to diseases of the eyes, throat, ear and nose.
9. Suppression of hunger may lead to nutritional disorders and debility.
10. Suppression of thirst may lead to nutritional disorders and *bādhīrya* (deafness).
11. Suppression of tears may lead to mental disorders, chest pain, giddiness and digestive disorders.
12. Suppression of sleep may lead to insomnia, mental disorders, digestive disorders and diseases of sense organs.
13. Suppression of respiration may lead to suffocation, respiratory disorders, heart diseases and even death.

In addition, *ācārya Vāgbhaṭa* included the *Kāsa* under non suppressive urges.

14. Suppression of cough may lead to its increase, difficulty in breathing, loss of taste, heart disease, emaciation and hiccup.

1.3 Dietetics / Nutrition Ageing and Nutrition

Elderly people have different nutritional requirements compared to the normal adult population. With increasing age, people become more vulnerable to malnutrition for many reasons including *arocaka* (anorexia) due to ageing, medication, disease like *smṛti nāśa* (dementia), *manoavasāda* (depression), stroke, *kampavāta* (Parkinson disease) and other



neurological disorders, poor dentition, delayed gastric emptying, ill fitting dentures, swallowing problems, oral infections, taste changes and diminished smell sensation. Older individuals tend to respond to thirst much less than the younger ones, predisposing to dehydration particularly in case of fever and diarrhoea. Therefore fluid intake is necessary to replace physiological losses, better digestion and intestinal function and for renal clearance. There is no change in absorption of fats and carbohydrates, whereas vitamin D and calcium absorption is impaired, which leads to their deficiency. Calcium intake along with vitamin D is necessary to prevent bone mineral loss in elderly. Diet containing dairy products, fish, legumes, nuts, eggs, etc. are full of vitamin D and calcium. In addition, organic calcium like *Pravāla piṣṭī*, *Pravāla pañcāmṛta*, *Kukkuṭāṇḍatvak bhasma*, *Śaṅkha bhasma*, *Kaparda bhasma* etc. may be given as medication. Folic acid deficiency is more common in elderly. Diet containing cereals, vegetables, legumes and fruits should be given to the elderly.

The diet should be regulated taking into account the habitat, season, age, etc. the diet should be balanced and the quantity should be according to one's digestive capacity. Following points may be considered while planning/ advising dietary and other life style regimen.

1. The food should be tasty, nutritious, fresh and good in appearance
2. Too spicy, salty and pungent food should be avoided
3. It should neither be very hot nor very cold
4. Liquid intake should be more frequent and in small amount
5. Heavy food can be prescribed in a limited quantity
6. Heavy food should not be given at night. The proper time for night meals is two to three hours before going to bed. After dinner, it is better to advice for a short walk.
7. Heavy physical work should be avoided after meals
8. Mind should be peaceful while eating
9. Eating only whenever hungry and avoidance of over eating
10. Inclusion of sufficient amount of vegetables and fruits in diet.
11. Daily intake of vegetable soup and fruit juices
12. Milk and ghee are the *agrauṣadha* (drug of choice) of *vārdhakya* (senility). Hence their daily usage is advisable. Patient with hyperlipidaemia, ischemic heart disease, obesity these use in moderate quantity is essential.



1.4 CODE OF CONDUCT

A. Ethical regimen

A healthy mind is as important as healthy body. This ethical regimen contains principles of right conduct that are applicable to all. Effort should be made to maintain mental balance by *sātvik* food and life style. *Sātvik āhāra* is considered to be the best *hitakara* (wholesome), *pathyakara* (compatible) diet. It is a vegetarian diet containing non-oily, non-spicy articles which are easily assimilable (*sātmya*) e.g. milk, rice, green vegetables, certain fruits etc.

1. One should suppress urges of greed, grief, fear, fury, pride, shamelessness, envy and excessive passion
2. Observe self control and always speak truth
3. One should not harm others and should always act in a polite manner
4. Errors/ mistakes in dietetic and behavioural habits if any should be given up gradually and good habits should be practiced.
5. An intelligent person who seeks happiness should make a great effort to make good company and avoid the bad one.

B. Social hygiene

Man is a social animal and one has to work in the society in a manner which is conducive to better hygiene and sanitation of his community. This can only be achieved by individual's efforts as well as his co-operation with the concerned authorities.

1. The house refuse /waste should not be thrown at random. It should be consigned to its proper place
2. The drainage should not remain blocked
3. Latrines and urinals should be kept properly cleaned
4. Water sources should not be contaminated and well protected from environmental pollutants
5. In case of outbreak of any infectious disease concerned authorities should be immediately reported
6. Always discourage use of plastic bags



C. *Ācāra rasāyana* (Good conduct)

Ayurveda adopts *Satvāvajaya cikitsā* (non-drug psychotherapies) that includes various codes of conduct (*ācāra rasāyana*) for maintenance of better mental health and to prevent various mental disorders. This includes the factors viz.

1. Practice universal prayer
2. Be truthful
3. Speak softly, gently
4. Speak with others kindly and with smiling face
5. Be considerate about others' feelings
6. Donate generously
7. Don't loose temper
8. Don't take much stress
9. Don't redicule
10. Don't harm others

1.5 PREVENTIVE REGIMENS

A. *Rasāyana* (rejuvenation)

The strength of *Ayurveda* in the context of Geriatric care is *Rasāyana* therapy. *Rasāyana* stands as an answer in preventing premature ageing and to solve the problems due to ageing; it also ensures healthful longevity including mental health and resistance against various geriatric disease conditions. The observance of dietetics, rules of hygiene are essential for the success of treatment prescribed for healthy longevity of life and rejuvenation.

There are specific *Rasāyana* for different age groups, which help in restoring the loss of specific bio-values of respective ages.

Specific *Rasāyana* drugs according to age²

Age in yrs.	Bio-values which are on decline	Suitable <i>Rasāyana</i>
1-10	<i>Bālya</i> (Childhood)	<i>Vacā</i> (<i>Acorus calamus</i> Linn.), <i>Kāśmarī</i> (<i>Gmelina arborea</i> Linn.), <i>Svarna</i> (<i>Aurum</i>)
11-20	<i>Vṛddhi</i> (Growth)	<i>Kāśmarī</i> (<i>Gmelina arborea</i> Linn.), <i>Balā</i> (<i>Sida cordifolia</i> Linn.), <i>Aśvagandhā</i>



		(<i>Withania somnifera</i> Dunal)
21-30	<i>Chavi</i> (Colour and complexion)	<i>Āmalakī</i> (<i>Phyllanthus emblica</i> Gartn), <i>Lauha Rasāyana</i>
31-40	<i>Medhā</i> (Intelligence)	<i>Śaṅkhaṣpī</i> (<i>Convolvulus pluricaulis</i> Choisy), <i>Yaṣṭhīmadhu</i> (<i>Glycyrrhiza glabra</i> Linn.), <i>Aśvagandhā</i> (<i>Withania somnifera</i> Dunal), <i>Guḍūcī</i> (<i>Tinospora cordifolia</i> (Wild) miers.)
41-50	<i>Tvak</i> (Skin Lusture)	<i>Bhṛṅgarāja</i> (<i>Eclipta alba</i> Hussk), <i>Somarājī</i> (<i>Psoralea corylifolia</i> Linn), <i>Priyāla</i> (<i>Buchanania lanzen</i> Spreng.), <i>Haridrā</i> (<i>Curcuma longa</i> Linn.)
51-60	<i>Dṛṣṭi</i> (Vision)	<i>Triphalā ghr̥ta</i> , <i>Saptāmṛta lauha</i> , <i>Kataka</i> (<i>Strychnos potatorum</i> Linn.f.)
61-70	<i>Śukra</i> (Semen)	<i>Kapikacchu bīja</i> (<i>Mucuna pruriens</i> Hook), <i>Aśvagandhā</i> (<i>Withania somnifera</i> Dunal), <i>Kṛṣṇa mūsālī</i> (<i>Curculigo orchioides</i> Gaertn), Milk, <i>ghṛta</i> etc.
71-80	<i>Vikrama</i> (Valour)	These age group are not fit for <i>Rasāyana karma</i>
81-90	<i>Buddhi</i> (Wisdom)	
91-100	<i>Karmendriya</i> (Muscles and organs)	

Actions of some medicinal plants used in Geriatric disease condition

Karma	Indications	Suggested drugs
<i>Balya</i> (General tonics)	General debility, <i>Oja kṣaya</i> (Immuno-deficiency)	<i>Aśvagandhā</i> (<i>Withania somnifera</i> Dunal), <i>Śatāvārī</i> (<i>Asparagus racemosus</i> Wild), <i>Balā</i> (<i>Sida cordifolia</i> Linn.), Milk, <i>ghṛta</i>
<i>Hṛdya</i> (Cardioprotective)	Hypertension and Ischemic Heart Diseases	<i>Arjuna</i> (<i>Terminalia arjuna</i> W. and A.), <i>Puṣkaramūla</i> (<i>Inula racemosa</i> Hook. f.), <i>Āmra</i> (<i>Mangifera indica</i> Linn.), <i>Dāḍīma</i> (<i>Punica granatum</i> Linn.)



<i>Kanṭhya</i>	Throat and speech related problems in elderly	<i>Vacā</i> (<i>Acorus calamus</i> Linn.), <i>Pippalī</i> (<i>Piper longum</i> Linn.), <i>Drākṣā</i> (<i>Vitis vinifera</i> Linn.), <i>Yaṣṭhīmadhu</i> (<i>Glycyrrhiza glabra</i> Linn.)
<i>Tvacya</i>	Skin diseases in elderly people	<i>Candana</i> (<i>Santalum album</i> Linn.), <i>Haridrā</i> (<i>Curcuma longa</i> Linn.), <i>Khadira</i> (<i>Acacia catechu</i> Willd.), <i>Tuvaraka</i> (<i>Hydnocarpus laurifolia</i> (Dennst.) Sleumer), <i>Somarājī</i> (<i>Psoralea corylifolia</i> Linn.)
<i>Cakṣuṣya</i>	Diabetic retinopathy and other eye problems in elderly	<i>Triphalā</i> (Three myrobalans), <i>Jyotiṣmatī</i> (<i>Celastrus paniculatus</i> Willd), <i>Kataka</i> (<i>Strychnos potatorum</i> Linn.f.)
<i>Medhya</i> (Brain tonic)	Dementia, Depression, Anxiety, Alzheimers disease	<i>Brāhmī</i> (<i>Bacopa monnieri</i> Linn.), <i>Śāṅkhaṣpī</i> (<i>Convolvulus pluricaulis</i> Choisy), <i>Yaṣṭhīmadhu</i> (<i>Glycyrrhiza glabra</i> Linn.), <i>Guḍūcī</i> (<i>Tinospora cordifolia</i> (Willd) miers.)
<i>Śvāsahara</i> (Anti asthmatic)	Bronchial asthma, Chronic bronchitis	<i>Tulasī</i> (<i>Ocimum sanctum</i> Linn.), <i>Puṣkaramūla</i> (<i>Inula racemosa</i> Hook. f.), <i>Hiṅgu</i> (<i>Ferula foetida</i> Regel), <i>Haridrā</i> (<i>Curcuma longa</i> Linn.), <i>Pippalī</i> (<i>Piper longum</i> Linn.), <i>Śiriṣa</i> (<i>Albizzia lebeck</i> Benth), <i>Vāsā</i> (<i>Adhatoda vasica</i> Nees.)
<i>Śūlapraśamana</i> (Analgesic)	<i>Āmavāta</i> / <i>Sandhivāta</i> (Arthritis)	<i>Pippalī</i> (<i>Piper longum</i> Linn.), <i>Śuṅṭhī</i> (<i>Zingiber officinale</i> Rose), <i>Eraṇḍa</i> (<i>Ricinus communis</i> Linn.), <i>Guḍūcī</i> (<i>Tinospora cordifolia</i> (Willd) miers.), <i>Citraka</i> (<i>Plumbago zeylanica</i> Linn.)
<i>Vayasthāpana</i> (Rejuvenators)	Premature ageing	<i>Guḍūcī</i> (<i>Tinospora cordifolia</i> (Willd) miers.), <i>Śatāvarī</i> (<i>Asparagus racemosus</i> Wild), <i>Āmalakī</i> (<i>Phyllanthus emblica</i> Gartn.), <i>Sārivā</i> (<i>Hemidesmus indicus</i> R.Br.), <i>Harītaki</i> (<i>Terminalia chebula</i>)



<i>Pramehaghna</i> (Anti-diabetic)	Prameha (urological disorders)	<i>Śilājatu</i> (<i>Asphaltum panjabinum</i>), <i>Āmalakī</i> (<i>Phyllanthus emblica</i> Gartn.), <i>Haridrā</i> (<i>Curcuma longa</i> Linn.)
<i>Mūtrala</i> (Micturation regulariser)	Benign prostatic hypertrophy and other related geriatric urological problems	<i>Punarnavā</i> (<i>Boerhavia diffusa</i> Linn.), <i>Gokṣura</i> (<i>Tribulus terrestris</i> Linn.),

Another *Rasāyana* described in *Ayurveda* i.e. *Ājasrika Rasāyana* refers to daily rejuvenative dietetics. Regular use of ghee, milk, fruits and vegetables in diet acts as *Rasāyana*.

B. *Pañcakarma*

Pañcakarma is a speciality of *Ayurveda* having preventive, promotive and curative actions and indicated in wide range of disease conditions/ health problems. It is a bio-cleansing regimen, which facilitates the body system for better availability of therapies, besides achieving homeostasis of humours.

Pañcakarma is beneficial for

1. Preventive and promotive health
2. Before performing rejuvenative therapies.
3. Management of various systemic diseases viz. Joint, Musculoskeletal, Dermatological, Neurological, Psychiatric, Gynaecological, Respiratory, Geriatric disorders etc.
4. The regimen is also widely prescribed in chronic diseases for improving the quality of life.

(Descriptions on indications and contraindications of *Pañcakarma* procedures are available in Annexure-I of this document)

The principles laid down in the daily routine (*Dinacaryā*), seasonal routine (*Ṛtucaryā*) and behavioural and ethical principles (*Sadvṛtta*) has been described here in brief. These measures are for preventing the diseases as well as for promoting the health. Proper observance of these principles leads to the perfect physical, mental and spiritual well being.



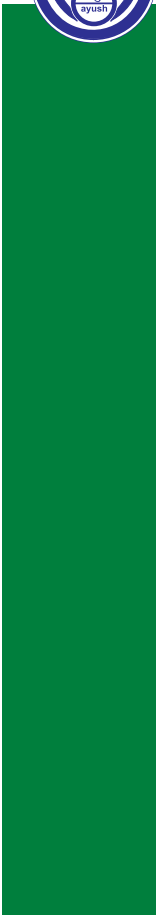
SECTION 2

MANAGEMENT





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2.1 PHYSICAL EXAMINATION AND TREATMENT MEASURES IN THE ELDERLY

A. Physical examination in the elderly³

In elderly patients, clinical features of disease conditions may differ from those in younger patients. The clinical presentation in the elderly is non specific and frequently vague.

While taking history and in examination, physician should give more emphasis on physical health, mental health, functional status, social and economic status and environmental characteristics etc.

The following activities of daily living (ADL), instrumental activities of daily living (IADL) and advanced activities of daily living (AADL) should be assessed to know the functional status of daily living.

ADL: Bathing, dressing, toileting, continence, transferring, feeding etc.

IADL: Use of telephone, use of public transportation, shopping, preparation of meals, housekeeping, washing personal clothing, taking medication properly, managing personal finance etc.

AADL: Occupation related activities, traveling, volunteer activities, recreational activities, community tasks, organizing events etc.

Before starting the patient examination in the elderly, the following details should be recorded under history which may help either in diagnosis, counselling or in disease management.

- Education
- Marital status, number of children, present status of family/ care giver
- Present and/ or previous occupation
- Financial status/ monthly income



- Age of menopause (in females)
- Habits - Smoking, alcohol consumption, drug abuse etc.
- Details of present medication, use of over the counter (OTC) drugs if any, previous illness
- Home environment, dependency if any etc.
- Details about sleep and appetite
- History of recent falls/ injuries

Once the above details are recorded, the following general physical examination is to be carried out.

- Weight, height, BMI, Temperature, Respiratory rate
- Blood Pressure at both lying and standing position in both hands
- Pulse - radial and other peripheral pulse
- Examine the mouth for bleeding or swollen gums, loose or broken teeth, dental caries, fungal infections and signs of cancer.
- Examine the abdomen for weak abdominal muscles, which are common among elderly people and may cause Hernia. Check also for Hydrocele, Swellings, Growth, Lumps etc.
- The spine is examined for scoliosis and tenderness. Severe low back, hip, and leg pain with tenderness in sacral region may indicate spontaneous osteoporotic fractures of the sacrum, which can occur in elderly patients.
- Examine for the voluntary and involuntary movements
- Extremities should be checked for any tenderness, swelling, muscle wasting, flexion, extension and movement difficulties, deformities, nodules etc.

Any difficulties in sitting, standing and walking, check for upper and lower limbs movement by asking the patient

- to pick up any item (pen) etc.
- to sit in the chair, rise from the chair
- to walk for 10-15 feet

Shoulder and elbow problems are commonly seen in elderly.

- Examine the joints for any functional impairment including tenderness, swelling,



flexion, extension and movement difficulties, stability, deformities etc.

- Status of hydration is to be examined by presence/ absence of sweating in the axilla region. Conventional examination like skin elasticity, oral cavity for dryness, sunken eyes may not be reliable as these may be due to ageing changes.
- Mental status and orientation, behavior and emotional status should be assessed and recorded. Depression, dementia and confusion states are common in the elderly.

After completing the general physical examination, examination of special senses is to be carried out.

- Both eyes should be examined for visual acuity using a Snellen chart, visual fields, etc. Check for corneal opacity, ulcers, any growth etc. intra ocular pressure (IOP) should be recorded to rule out glaucoma and ophthalmoscopic examination should be done to check for cataract, optic nerve or macular degeneration and evidence of glaucoma, hypertension and diabetic retinopathy.
- Whisper voice test: Hearing test should be done for both ears. To avoid lip-reading, whisper 3 to 6 words or letters into each of the patient's ears (12 inches away from testing ear) behind the patient and ask whether hearing or not. The external auditory canal should be examined for cerumen, especially if a hearing problem is noted during the interview.

Others

The following mental state in the elderly is to be examined.

- Cheerful / sad
- Well presented/ disheveled with a neglected appearance

In women, breast and cervical cancers are the common cancers. Hence, breast and cervical examination in female patients along with cervical Pap smear is of essential part of examination. Check for any symptoms due to hormonal imbalance occurring after menopause.

Perineal and anal region should be examined for presence of hemorrhoids, fissures, fistula, etc. A digital rectal examination (DRE) is vital part in both sexes to detect a mass, stricture, tenderness or fecal impaction and especially in elderly males to rule out the prostatic enlargement and prostatic cancer.

Faecal and urinary incontinence should be recorded by history of bed wetting and urgency in faecal evacuation etc.



Any difficulties in the following basic activities of daily living should be enquired and evaluated for any pathology for those difficulties.

- Bowel movements
- Bladder emptying
- Toilet use
- Feeding
- Dressing
- Transfer/ movement
- Bathing
- Climbing stairs/ movement

Once the above examination is completed, systemic examination is to be carried out. Every system is to be examined even if there are no complaints relating to it, because asymptomatic pathology may be discovered which has vital importance.

B. Treatment measures in the elderly

Some important points should be kept in mind before prescribing the treatment for any ailment in elderly i.e.

1. Prognosis and chronicity of disease may not be assessed due to ageing process.
2. There should be clear indication about doses and duration of drug. There are some difficulties to take medicine in elderly. Suitable dosage forms (per dose) should be chosen considering the palatability, ease of administration (syrup, *avaleha*, *vati*, etc).
3. *Ayurveda* recommends less doses of medicine in elderly than the adult dose. This is to be kept in mind while prescribing the medicine in elderly.
4. Due to memory loss there is possibilities of over or missed doses in older people. To avoid this, proper labeling should be done and checked by physician during follow up visit.
5. In addition to these things physio-therapy may be advised with treatment to improve the quality of life in elderly having neuro-muscular diseases.



***Pañcakarma* therapy in elderly**

In view of increased incidence of refractory diseases attributable to change in life style and environmental conditions globally, it is imperative to adopt safe and effective regimen that could effectively manage such conditions. *Pañcakarma* is a specialty of *Ayurveda* having diversified preventive, curative and promotive actions that are indicated in wide range of diseases/ health problems. *Pañcakarma* procedures cleanse various systems of the human body and expel out cumulated toxic metabolites (waste products) from the body; maintain normal functioning of tissue, digestion, metabolism, mental function etc.

Application of *Pañcakarma*

Pañcakarma is beneficial for

1. Preventive, promotive health purposes
2. Management of various systemic diseases viz. geriatric, joint, musculoskeletal, dermatological, neurological, psychiatric, gynecological and respiratory disorders etc.
3. The regimen is also widely prescribed in chronic incurable diseases for improving the quality of life.

Definition of *Pañcakarma*

Pañcakarma is basically a bio-cleansing regimen, which facilitates the body for better bioavailability of the pharmacological therapies, besides achieving homeostasis of humours (*doṣa*). It also increases the acceptability of body to various dietary regimens and use of rejuvenation therapy (*Rasāyana*) for promotive health as well as for therapeutic regimens. These therapies help in the elimination of disease-causing factors and maintainance the equilibrium of body tissues (*dhātus*) and humours (*doṣa*).

Pañcakarma therapy has three major components.

1. Preparatory procedures (*Pūrvakarma*) before *pañcakarma* therapy
2. Main procedures (*Pradhānakarma*) of *pañcakarma* therapy.
3. Post therapeutic procedures (*Paścātkarma*) after *pañcakarma* therapy.

a. Preparatory procedures (*Pūrvakarma*)

Before performing *Pañcakarma*, preparatory procedures are essential. These are

1. *Dīpana and Pācana* - Correction/ improvement the digestive process



2. Internal use of medicated oil/ ghee and external application of oils (*Snehana*).
3. Medicated sudation / fomentation (*Svedana*)

b. Main procedures (*Pradhānakarma*)

1. *Vamana karma* (Therapeutic emesis)
2. *Virecana karma* (Therapeutic purgation)
3. *Anuvāsana vasti* (Oil/ unctuous enema)
4. *Āsthāpana vasti* (Decoction based enema)
5. *Nasya karma* (Nasal administration of medicaments)

c. Post therapeutic procedures (*Paścātkarma*)

1. *Saṃsarjana karma (Dietary regimen)* - Regular diet is not advisable for few days following *Vamana* and *Virecana Karma*. The digestive power is very weak immediately after the *Vamana* and *Virecana karma*, hence only liquid food is advisable. As the digestive power gradual increases, the food may be also changed from liquids to solids and then to regular food. For the purpose this, four forms of food are prescribed i.e., liquid gruel, gruel, rice and meat soup for 7 days or 5 days/ 3 days. This helps in the complete restoration of the digestive ability.
2. Medicated smoking (*Dhūmapāna*), retaining of medicated liquids/ solids in oral cavity (*Kavalagraha*) etc.
3. Life style the following life style guidelines should be strictly followed during and after the procedure for a period of days double than the *Pañcakarma* procedure performed.

Don'ts

1. Sitting and standing for prolonged period
2. Walking for long distance
3. Strenuous travelling / riding on animals
4. Using of pillow of unsuitable height/ thickness
5. Day time sleep / excessive/ loud speaking / coitus
6. Suppression of natural urges e.g. passing of flatus, stools, urine etc.



7. Exposure to breeze/ intake of cold food items
8. Over exposure to sun light, smoke, dust etc.
9. Grief / anger / exercise
10. Intake of food in unusual time/ Intake of incompatible food.

Do's

1. Use of warm water throughout the treatment for all purposes
2. Maintain once celibacy
3. Following advice of attending the physician

Brief Note on Pañcakarma Procedures

i. SNEHANA (Oleation)

Oleation is of two types based on routes of administration of *Snehadravya* (medicated oil/ clarified butter).

1. Internal (oral) administration of *Snehadravya* (*Snehapāna*)
2. External administration of *Snehadravya* (*Abhyaṅga* etc.)

Snehapāna is carried out before performing bio-cleansing procedures. It is also indicated in various disease conditions as a palliative treatment.

ii. SNEHAPĀNA (Method of administration of medicated *taila* / *ghṛta*)

The medicated *taila* (oil) / *ghṛta* (clarified butter) must be administered for confirming the digestive capacity. Every day before administration of *Snehadravya*, patient has to be examined for any signs and symptoms of indigestion or features of proper oleation. *Snehapāna* must be stopped once proper oleation features are attained or after 7 days.

According to *Suśruta*, *Snehadravya* is to be consumed 15 to 30 minutes after the sunrise and the *Snehadravya* is to be selected based on the disease condition/ indication for which *Snehadravya* is advocated. The quantity of *Snehadravya* is to be increased day by day in the following manner and if needed, must be adjusted according to the digestive capacity of the patient.

1. First day : 30ml
2. Second day : 50 ml



3. Third day	:	75 ml
4. Fourth day	:	100 ml
5. Fifth day	:	125 ml
6. Sixth day	:	150 ml
7. Seventh day	:	175 ml

In elderly people, *Sadya Sneha* (instant oleation) is to be preferred. Medicated *Sneha* (oil/clarified butter) 50ml with 2-3 gm of *Saindhava lavaṇa* (Rock salt) for 3-7 days is to be administered for *Sadya Snehana*.

iii. SVEDANA (Sudation)

After attaining proper *Snehana*, *Svedana* is to be carried out before performing *Vamana karma/ Virecana karma*. This procedure liquefies the vitiated doṣa and help in expelling out them through *Vamana / Virecana* procedures.

iv. VAMANA (Therapeutic emesis)

Expelling out the vitiated *doṣa* through oral route is called *Vamana* (therapeutic emesis). It is performed after the preparatory procedures i.e. *Snehana* and *Svedana*. Medicated smoking (*dhūmapāna*) is advocated immediately after *Vamana*. As *Vamana* procedure alters the digestion process, specific dietary regimen (*Saṃsarjana krama*) is to be followed for certain period based on the level emesis process. This procedure is commonly contraindicated in children and in elderly people.

v. VIRECANA (Therapeutic purgation)

Expelling out the vitiated *doṣa* through anal route is called *Virecana* (therapeutic purgation). It is also performed after the preparatory procedures i.e. *Snehana* and *Svedana*.

After administration of *Virecana yoga*, patients should be properly examined for features of proper/ incomplete/ excess purgation. Complications if any, arises needed to be managed timely and appropriately. Like in *Vamana* procedure, specific dietary regimen (*Saṃsarjana krama*) is to be followed after *Virecana karma* for certain period based on the level purgation.



vi. ANUVĀSANA VASTI (Medicated oily/ unctuous enema)

Administration of unctuous / oily medicaments through anal route is called *Anuvāsana vasti*. Unlike *Vamana* and *Virecana* procedures, to perform *Vasti*, preparatory procedures are not commonly required. Local massage (*abhyāṅga*) with medicated oils (body) followed by mild sudation (*svedana*) at perineal region is suffice. *Anuvāsana vasti* should be performed only after *mala-mūtra visarjana* (after attending natural urges i.e. urination, defaecation) and it should not be performed on empty stomach.

The patient is advised to lie down on left lateral position with left leg straightened and right leg flexed at knee joint. The left hand should be kept below the head. After smearing the oil to the anal region, the medicated enemata should be administered by introducing the nozzle of enema apparatus through anal route. The administered contents commonly come out with in 12 hours (or 24 hours) after administration and sometimes they are retained also. Specific dietary and other guidelines should be followed accordingly to prevent complications and to achieve the benefits of *Vasti*.

vii. NIRŪHA VASTI (Medicated decoction enema)

Nirūha vasti is performed in similar to *Anuvāsana vasti* except the following main differences.

1. the medicaments for enemata are of decoction based
2. it is administered on empty stomach
3. the contents commonly come out with in 48 minutes after administration. If not, should be evacuated through *tīkṣṇa vasti* or other procedures.

These *Anuvāsana* and *Nirūha vasti* are commonly administered alternatively for the desired benefits. The contents and quantity of the enemata varies based on the disease conditions.

viii. UTTARA VASTI (Administration of medicine (douche) through genitourinary tract)

Administration of medicaments through urethral/ vaginal route is called *Uttara vasti*. It is indicated in various urological and gynaecological disorders and should be performed with utmost care and under aseptic conditions.

ix. NASYA (Nasal administration of medicaments)

Administration of medicaments through nasal route is called *Nasya karma*. It is mainly



indicated in diseases of head and neck region.

In elderly people usually *Vāta* is predominant and they are prone to develop *Vāta* disorders like, *Sandhivāta* (osteoarthritis), *Kampavāta* (parkinsonism), dryness of skin, *Gṛdhrasī* (sciatica), *Kaṭiśūla* (lumbago), *Daurbalya* (general debility), *Vibandha* (constipation) etc. *Ayurveda* advises regular oil massage, fomentation and periodical *Vasti karma* for prevention and cure of these old age related diseases. *Pañcakarma* should be advocated with special precautions and careful monitoring of the general condition and existing disease in elderly people. The dose of *Snehapāna* should be minimized in elderly and *Mṛdu Virecana* drugs should be used for *Virecana karma*.



2.2 NEUROLOGICAL/ NEURODEGENERATIVE AND SPECIAL SENSES DISORDERS

2.2.1 Hemiplegia (*Pakṣāghāta*)

Introduction

Hemiplegia is the commonest manifestation of a 'stroke' with neurological deficit affecting the face, limbs and trunk on one side or either side of the body. Impulses for voluntary movement are transmitted by the pyramidal tracts or upper motor neurons. Damage to these pyramidal tracts due to any lesion, trauma, ischemia or hemorrhage produces paralysis. In *Ayurveda*, it can be correlated with '*Pakṣāghāta*'. When *Vāta* getting aggravated, dries up the *Srotas* and *Snāyu* (tendons) of one side (half) of the body, makes the organ/ parts of that side incapable of functioning and loss of sensation.

Aetiology

1. Cerebro-vascular accidents (Stroke)
 - i. Cerebral hemorrhage
 - ii. Sub - arachnoid hemorrhage
 - iii. Cerebral thrombosis
 - iv. Internal carotid artery thrombosis or stenosis
 - v. Cerebral embolism
 - vi. Venous sinus thrombosis
2. Hypertensive encephalopathy
3. Cerebral tumors
4. Acute encephalitis



Pathogenesis

Damage to the pyramidal tracts produces impairment or loss of voluntary movement from interruption of the conduction of motor impulses.

Risk factors

1. Age
2. Sex
3. Hypertension
4. Diabetes mellitus
5. Smoking, Alcohol abuse
6. Obesity
7. Hyperlipidemia

Clinical features

1. Unilateral loss of voluntary power in the affected arm, leg and in the lower face
2. Clasp-knife type spasticity
3. Tongue is protruded towards the paralysed side (in facial palsy)
4. Upper limb flexed at the elbow and wrist forearm slightly pronated
5. Movement of the hand and fingers are more affected than those of upper arm

Investigation

1. Haemogram
2. Lipid profile
3. C T Scan /MRI
4. Doppler studies of the Neck
5. CSF examination
6. X - Ray Spine
7. ECG.



Management approaches

a. Prevention

1. Add *māṣa* (black gram), *kulattha* (horse gram), *palāṇḍu* (onion), *rasona* (garlic), *śuṅṭhī/ ādraka* (ginger), *mūlaka* (radish), *kūṣmāṇḍa* (ash gourd), *mudga* (green gram) in regular diet
2. Use fruits like *dāḍima* (pomegranate), *āmra* (mango), *drākṣa* (grape) etc.
3. Consume low fat and high fiber diet and *Rasāyana* drugs
4. Control the treatable risk factors like diabetes mellitus, hypertension, heart diseases
5. Take necessary treatment of hypertension (if any)
6. Control cholesterol level and weight
7. Practice regular exercises
8. Avoid excessive use of pungent, astringent and/ or salty, oily/ fatty food and incompatible diet, *canā* (bengal gram), peas, barley etc.
9. Avoid excessive starvation, excess exercises, suppressing of natural urges and awakening in the nights
10. Avoid alcohol consumption, smoking
11. Avoid discontinuation of any regular medication without medical advise

b. Medical management

Line of treatment (*Ca. Ci. 28/100*)

1. ***Nidāna parivarjana* (avoidance of aetiological factors)** - Management of treatable risk factors and diseases like hypertension, acute encephalitis, heart disease etc. and avoid trauma.
2. ***Samśōdhana cikitsā*** - (Bio-cleansing therapies) followed by *Śamana cikitsā* (Palliative therapy) should be advocated.
 - i. ***Snehana* (Oleation)**: massage with medicated oils such as
 - *Mahā nārāyaṇa taila*
 - *Sahacarādi taila*



- *Dhānvantara taila*
- *Kārpāsāsthyādi taila*
- *Prabhañjana vimardana taila*
- *Kṣīrabalā taila*
- *Mahāmāṣa taila*
- *Balā taila*

ii. Svedana (Medicated fomentation)

- *Ṣaṣṭika śāli piṇḍa sveda* (made from *Ṣaṣṭiaka śāli*, *Balāmūla*, *Aśvagandhā mūla* and milk)/ *patra piṇḍa sveda* for 7-14 days
- *Sarvāṅga sveda* for 7 - 14 days

iii. Virecana (Purgation) with decoctions of :

<i>Drākṣa (Vitis vinifera)</i>	-	10 gm
<i>Āragvadha (Cassia fistula)</i>	-	10 gm
<i>Harītakī (Terminalia chebula)</i>	-	10 gm
<i>Katukī (Picrorhiza kurroa)</i>	-	5 gm along with
<i>Eraṇḍa (Ricinus communis) taila</i>	-	1 teaspoonful

or

Eraṇḍa taila 10 - 20 ml with half glass of milk at night

iv. Vasti (medicated enema)

- *Mātrā vasti* with *Nārāyana taila* 50 ml daily for 7 - 14 days
- *Kaṣāya vasti* for 15 days (*Kāla vasti krama*)

<i>Eraṇḍamūla kvātha</i>	-	480 ml
<i>Taila</i>	-	240 ml
Honey	-	240 ml
<i>Kalka</i>	-	30 gm
<i>Saindhava lavana</i>	-	15 gm
- *Kṣīra vasti* 350 - 500 ml for 7 - 14 days



- v. **Nasya karma/ Bṛmhaṇa nasya** with *Purāṇa ghr̥ta* (old ghī) / *Nārāyaṇa taila* / *Kṣīra balā taila* 8-8 drops in both nostrils for 7 days
- vi. **Śirovasti** with medicated oils (*Nārāyaṇa taila* / *Kṣīra balā taila* / *Candana balā lākṣādi taila*) daily 45 minutes for 7 days
- vii. **Śirodhārā** with medicated liquids (*Nārāyaṇa taila* / *Kṣīra balā taila* / *Candana balā lākṣādi taila* / decoctions etc.) daily 45 minutes for 21 days

*(above said formulations are common in practice but dose should be adjusted by the physician according to patient's condition).

3. **Drug Therapy** - All therapeutic measures may be started after crossing the acute phase of attack.

SINGLE DRUGS

Drug	Dosage (per dose)	MOA ^s / Vehicle	Duration*
<i>Aśvagandhā</i> (<i>Withania somnifera</i> Dunal) <i>cūrṇa</i>	3-5 gm	Milk	15 days
<i>Brāhmī</i> (<i>Bacopa monnieri</i> Linn.) <i>svarasa</i>	5-10 ml	Water	15 days
<i>Rasona</i> (<i>Allium sativum</i> Linn.) <i>kṣīra pāka</i>	5-10 ml	Water/ milk	15 days
<i>Eraṇḍa</i> (<i>Ricinus communis</i> Linn.) <i>taila</i>	5-10 ml	Milk	3 days

COMPOUND FORMULATIONS

Drug	Dosage (per dose)	MOA ^s / Vehicle	Duration*
<i>Gandharva hastādi kvātha</i>	10-20 ml	Water	15 days
<i>Sahacarādi kvātha</i>	10-20 ml	Water	15 days
<i>Mahārāsnādi kvātha</i>	10-20 ml	Water	15 days
<i>Brāhmī vaṭī</i>	125-250mg	Water	15 days
<i>Mānasa mitra vaṭaka</i>	125 mg	<i>Rāsnāsaptaka kvātha</i>	15 days
<i>Vātāri guggulu</i>	1-1.5 gm	Warm water	15 days



<i>Trayodaśāṅga guggulu</i>	1-1.5 gm	Warm water	15 days
<i>Balāriṣṭa</i>	10-20 ml	Water	15 days
<i>Aśvagandhāriṣṭa</i>	15-30 ml	Water	15 days
<i>Hīṅgutriguṇa taila</i>	5 ml	Lukewarm water	15 days
<i>Candana balā lākṣādi taila</i>	external use	-	15 days
<i>Kṣīrabalā taila</i>	external use	-	15 days
<i>Mahāmāṣa taila</i>	external use	-	15 days
<i>Mahā nārāyaṇa taila</i>	external use	-	15 days
<i>Nārāyaṇa taila</i>	external use	-	15 days
<i>Sahacarādi taila</i>	external use	-	15 days
<i>Dhānvantara taila</i>	external use	-	15 days
<i>Kārpāsāsthyādi taila</i>	external use	-	15 days
<i>Prabhañjana vimardana taila</i>	external use	-	15 days
<i>Vātagajāñkuśa rasa</i>	125-250 mg	Honey	15 days
<i>Vātakulāntaka rasa</i>	125-250 mg	Honey	15 days
<i>Rasarāja rasa</i>	65 - 125 mg	Honey	15 days
<i>Yogendra rasa</i>	125-250 mg	<i>Rasona svarasa</i> and honey	15 days
<i>Bṛhatvāta cintāmaṇi rasa</i>	125-250 mg	Honey	15 days
<i>Ekāṅgavīra rasa</i>	125-250 mg	Honey	15 days

§ **MOA** - Mode of administration

* Initially 2 times in a day after meal for 15 days followed by condition of patient and physician's direction.

NOTE: Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

*Hīṅgutriguṇa taila*⁴, *Pañcakarma* treatment with *Māśādi Yoga*⁵, *Ekāṅgavīra rasa*⁶ have shown improvement in Hemiplegia patients.



c. Yogic practices - The following *yogic* practices are beneficial in Hemiplegia; however, these should be performed only under the guidance of qualified *Yoga therapist*. Duration should be decided by the *Yoga therapist*.

1. Practice of *Prāṇāyāma* (*Anuloma Viloma, Nāḍī Śodhana, Bhrāmarī*) and meditation alongwith the practice of *Yama* and *Niyama*
2. Deep relaxation technique, *Yoga nidrā*
3. *Āsanās* to correct the postural imbalances

Counselling - Advise the patient to

1. Be active and optimum use of affected part
2. Grasp the spastic arm at wrist with unaffected arm and push it above head regularly (10-15 times at each time) for 3-4 times a day
3. Continue exercises as suggested by the physiotherapist
4. To increase the practice of exercise gradually
5. Take balanced diet
6. Maintain healthy body weight
7. Limit salt intake and fat in diet
8. Control of hypertension and diabetes mellitus
9. Check lipid profile periodically
10. Avoid over exertion
11. Avoid smoking and alcohol consumption

Indications for referral

1. Further deterioration
2. Patient with head injury requires surgical intervention.
3. Not responding to medication

The other neurological conditions like monoplegia (paralysis of one limb), paraplegia (paralysis of both lower limbs) and quadriplegia (paralysis of all four limbs) are also to be managed in the similar manner.



COSTING DETAILS

Approx. costing of Hemiplegia Management

S.No.	Medicine	Requirement	Unit	Rate in Rs.	Cost in Rs.
1.	<i>Aśvagandhā cūrṇa</i>	90-150	gm	0.48	44-88
1.	<i>Brāhmī svarasa</i>	150-300	ml	0.75	113-226
2.	<i>Rasona kṣīra pāka</i>	150-300	ml	0.5	75-150
3.	<i>Eraṇḍa taila</i>	15-30	ml	0.48	07-14
4.	<i>Gandharva hastādi kvātha</i>	300-600	ml	0.27	81-162
5.	<i>Sahacarādi kvātha</i>	300-600	ml	0.28	84-168
6.	<i>Mahārāsnādi kvātha</i>	300-600	ml	0.132	40-80
7.	<i>Brāhmī vaṭī</i>	3.75-7.5	gm	4.4	17-34
8.	<i>Mānasa mitra vaṭaka</i>	3.75	gm	5.73	22
9.	<i>Vātāri guggulu</i>	30-45	gm	1.67	52-75
10.	<i>Trayodaśāṅga guggulu</i>	30-45	gm	1.35	41-61
11.	<i>Balāriṣṭa</i>	300-600	ml	0.24	72-144
12.	<i>Aśvagandhāriṣṭa</i>	300-600	ml	0.43	130-260
13.	<i>Hiṅgutriguṇa taila</i>	150	ml	1.02	153
14.	<i>Vātagajāṅkuśa rasa</i>	3.75-7.5	gm	3.6	14-28
15.	<i>Vātakulāntaka rasa</i>	3.75-7.5	gm	3.0	12-24
16.	<i>Yogendra rasa</i>	3.75-7.5	gm	370	1388-2775
17.	<i>Bṛhatavāta cintāmaṇi rasa</i>	3.75-7.5	gm	343	1287-2573
18.	<i>Ekāṅgavīra rasa</i>	3.75-7.5	gm	7.4	28-56
19.	<i>Candana balā lākṣādi taila</i>	200	ml	0.7	140
20.	<i>Kṣīrabalā taila</i>	200	ml	0.68	136
21.	<i>Sahacarādi taila</i>	200	ml	0.76	152
22.	<i>Dhānvantara taila</i>	200	ml	0.41	82



23.	<i>Kārpāsāsthyādi taila</i>	200	ml	0.30	60
24.	<i>Mahāmāṣa taila</i>	200	ml	1.28	256
25.	<i>Mahā nārāyaṇa taila</i>	200	ml	1.75	350
26.	<i>Nārāyaṇa taila</i>	200	ml	0.51	102
27.	<i>Prabhañjana vimardana taila</i>	200	ml	0.33	65

Approx. costing of *Pañcakarma* procedure in Hemiplegia**

S.No.	<i>Pañcakarma</i> procedure	Days	Rate in Rs./ day	Cost in Rs.
1.	<i>Snehana</i> (externally)	21	200	4200
2.	<i>Ekāṅga sveda</i>	21	100	2100
3.	<i>Sarvāṅga sveda</i>	14	150	2100
4.	<i>Ṣaṣṭhika śāli piṇḍa svēda</i>	14	350	4900
5.	<i>Mātrā vasti</i>	14	100	1400
6.	<i>Nirūha vasti</i>	16	100	1600
7.	<i>Kṣīra vasti</i>	14	150	2100
8.	<i>Nasya karma</i>	7	100	700
9.	<i>Śirovasti</i>	7	300	2100
10.	<i>Śirodhārā</i> (oils)	7	300	2100
11.	<i>Śirodhārā</i> (milk)	7	150	1050

** Procedural costing is based on the CGHS fixation package rates of Department of AYUSH.

2.2.2 Parkinson's disease (*Kampavāta/ Vepathu*)

Introduction

Parkinson's disease is a degenerative disorder. It is the most common extra-pyramidal crippling disease affecting the older adults. It is a syndrome consisting of classical triad of resting tremor, bradykinesia and rigidity⁷. This triad does not include the equally important gait and postural stability problems which also constitutes the syndrome. It is a disease of



elderly and its prevalence increases from 1% in people over the age of 65 years to 5% in people over the age of 80 years and affects men and women equally⁸. The disease has insidious onset and is slowly progressive leading to severe morbidity in advanced age. A disease condition '*vepathu*' described in *Ayurveda* may also be correlated with Parkinson's disease. Generalized involuntary movements of all parts of the body or of the head only, is known as *vepathu*. It is caused by vitiated *vāta*. So '*vātahara*' treatment should be given to these patients.

Aetiology

Although aetiology of the disease not well known but the following factors contribute in the pathogenesis of this disease

1. Genetic factors
2. Accelerated ageing
3. Environmental toxins (methyl-phenyl tetra hydro pyridine- MPTP) and other toxins (manganese, carbon monoxide and methanol)
4. Increased free radical and iron content in the Substantia Nigra
5. Drugs - Reserpine, Ethanol, Lithium, Diltiazem etc.
6. Neurodegenerative disorders such as multi system atrophy, Alzheimer's disease etc.
7. Post infections (viral encephalitis etc.)
8. Brain tumor
9. Repeated head injury (in boxing)

Pathogenesis

Parkinsonism is caused by degeneration of pigmented neurons (Dopaminergic neuron) in the zona compacta of substantia nigra, resulting decrease of dopamine levels in the brain which leads to motor dysfunctions viz. resting tremor, bradykinesia and rigidity.

Clinical features

1. Resting tremor
2. Bradykinesia
3. Rigidity



4. Stooped posture
5. Masked face
6. Pill rolling movements
7. Lack of postural adjustment
8. Festinating gait
9. Drooping of saliva due to infrequent swallowing movements
10. Monotonous soft voice
11. Absence of arm swing while walking
12. Aches and pain in body

Complications

1. Frequent falls
2. Incapacitation
3. Depressions and dementia
4. Postural hypotension
5. Urinary incontinence
6. Constipation
7. Aspiration

Investigations

There are no confirmatory tests available, diagnosis is commonly made on clinical grounds. The following investigations may help in the diagnosis.

1. CT Scan
2. MRI Scan
3. Positron-Emission Tomography (PET)
4. Levodopa drug challenge test



Differential Diagnosis

1. Drug induced Parkinson
2. Depression
3. Essential tremor
4. Normal pressure hydrocephalous
5. Cerebral hypoxia
6. Carbon monoxide poisoning

Management approaches

a. Prevention

1. Use *śali* (old rice), *godhūma* (wheat), citrus fruit, vegetable, nuts, milk and milk products, *dāḍima* (pomegranate), *nimbu* (lemon), mango, orange, guava, apple, peach, garlic, asafoetida, sprout etc.
2. Practice regular aerobic exercises
3. Take balance diet
4. Consume anti-psychotics or any other medication under close supervision of doctor
5. Be as active as possible
6. Avoid *yava* (barley), peas, *pūga* (areca nut), *jambu* (jamun), excess protein diet, hot spicy food and incompatible food article.

b. Medical management

Line of treatment

1. ***Nidāna parivarjana* (avoidance of aetiological factors)** - Modifiable causative factors like environmental toxins, drugs, head injuries, infections should be avoided.
2. ***Samśodhana cikitsā*** (Bio-cleansing therapies) followed by ***Śamana cikitsā*** (Palliative therapy) should be advocated.
 - i. ***Snehana* (Oleation):** Gentle massage with medicated oils such as:
 - *Mahā nārāyaṇa taila*
 - *Kṣīrabalā taila*



- *Sahacarādi taila*
 - *Dhānvantara taila*
 - *Mahāmāṣa taila*
 - *Balā taila*
 - *Aśvagandhā taila*
- ii. **Sarvāṅga sveda** (Steam bath) / *Patrapīṇḍa sveda* for 3-7 days
- iii. **Mātrā Vasti** with *Sahacarādi taila* 50 ml with *Saindhava lavaṇa* (Q.S.) and *Śatapuspā* (Q.S.) daily for 15-21 days
- iv. **Nasya karma**/ *Bṛmhaṇa nasya* with *Purāṇa ghr̥ta* (old ghī)/ *Nārāyaṇa taila* / *Kṣīra balā taila* 8-8 drops in both nostrils for 7 days
- v. **Śirovasti** with medicated oils (*Kṣīrabalā taila*, *Mahāmāṣa taila*, *Mahā nārāyaṇa taila*, *Brāhmītaila*) daily 45 minutes for 7 days
- vi. **Śirodhārā** with medicated liquids (milk/water)/ oils (*Kṣīrabalā taila*, *Mahāmāṣa taila*, *Mahā nārāyaṇa taila*, *Brāhmītaila*) daily 45 minutes for 7 days.

3. Drug therapy

SINGLE DRUGS

Drug	Dosage (per dose)	MOA ^s /Vehicle	Duration*
<i>Aśvagandhā</i> (<i>Withania somnifera</i> Dunal) <i>cūrṇa</i>	3-5 gm	Milk	15 days
<i>Kappikacchu bīja</i> (<i>Mucuna pruriens</i> Linn.) <i>cūrṇa</i>	5-10 gm	After meal with milk	15 days
<i>Pārasīka yavānī</i> (<i>Hyoscyamus niger</i> L.) <i>cūrṇa</i>	1-3 gm	Warm water	15 days
<i>Balā</i> (<i>Sida cordifolia</i> Linn.) <i>cūrṇa</i>	5 gm	Milk	15 days
<i>Rasona</i> (<i>Allium sativum</i> Linn.) <i>Kṣīra pāka</i>	30-50ml	Water/ milk	15 days
<i>Brāhmī</i> (<i>Bacopa monnieri</i> Linn.) <i>svarasa</i>	5-10 ml	Water	15 days



COMPOUND FORMULATIONS

Drug	Dosage (per dose)	MOA ^s /Vehicle	Duration*
<i>Daśamūla kvātha</i>	10-20ml	Water	15 days
<i>Brāhmī vaṭī</i>	250-500mg	Water	15 days
<i>Siṃhanāda guggulu</i>	1-1.5 gm	Warm water	15 days
<i>Vātāri guggulu</i>	1-1.5 gm	Warm water	15 days
<i>Koñca bīja pāka</i>	5-10 gm	Milk/ water	15 days
<i>Brāhma rasāyana</i>	10 gm	milk	15 days
<i>Balāriṣṭa</i>	12-24 ml	Water	15 days
<i>Aśvagndhāriṣṭa</i>	12-24 ml	Water	15 days
<i>Daśamūlāriṣṭa</i>	12-24 ml	Water	15 days
<i>Kṣīrabalā taila</i>	External use	-	15 days
<i>Mahāmāṣa taila</i>	External use	-	15 days
<i>Mahā nārāyaṇa taila</i>	External use	-	15 days
<i>Sahacarādi taila</i>	External use	-	15 days
<i>Brāhmītaila</i>	External use	-	15 days
<i>Dhānvantara taila</i>	External use	-	15 days
<i>Caturbhujā rasa</i>	125-250 mg	<i>Triphalā kvātha/</i> honey	15 days

^s MOA - Mode of administration

* Initially 2 times in a day after meal for 15 days followed by condition of patient and physician's direction.

NOTE: Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

c. Yogic Practices- The following *yogic* practices are beneficial in Parkinson's disease; however, these should be performed only under the guidance of qualified *Yoga therapist*. Duration should be decided by the *Yoga therapist*.



1. Practice of *Prāṇāyāma* (*Anuloma viloma*, *Nāḍīśuddhi*, *Bhrāmarī*) and meditation along with the practice of *Yama* and *Niyama*
2. *Āsanās* to correct the postural imbalances, weight bearing postures to manage the tremors
3. Deep relaxation technique and *Yoga Nidrā*

Counselling - Advice/ inform the patient to

1. The nature of illness
2. Maintain good physical and mental health
3. Practice exercise regularly
4. Be active
5. Take diet rich in fibers, antioxidants and vitamins
6. Limit protein intake
7. Limit intake of manganese and Vitamin B₆
8. Avoid stress and anxiety
9. Avoid constipation

Indications for referral

1. Advanced Parkinson's disease and associated complications
2. Severe Dyskinesia
3. Life threatening concurrent illness

COSTING DETAILS

Approx. costing of Parkinson's disease Management

S.No.	Medicine	Requirement	Unit	Rate in Rs.	Cost in Rs.
1.	<i>Aśvagandhā cūrṇa</i>	90-150	gm	0.48	44-88
2.	<i>Pārasīka yavānī cūrṇa</i>	150	gm	1.0	150
3.	<i>Balā cūrṇa</i>	150	gm	0.5	75



4.	<i>Koñca bīja cūrṇa</i>	30-60	gm	0.5	15-30
5.	<i>Brāhmī svarasa</i>	150-300	ml	0.75	113-226
6.	<i>Rasona Kṣīra pāka</i>	150-300	ml	0.5	75-150
7.	<i>Daśamūla kvātha</i>	300-600	ml	0.76	228-456
8.	<i>Brāhmī vaṭī</i>	7.5-15	gm	4.4	34-68
9.	<i>Simhanāda guggulu</i>	30-45	gm	1.34	41-60
10.	<i>Vātārī guggulu</i>	30-45	gm	1.67	52-75
11.	<i>Kōñca bīja pāka</i>	150-300	gm	1.0	150-300
12.	<i>Brāhma rasāyana</i>	300	gm	0.197	60
13.	<i>Balāriṣṭa</i>	375-750	ml	0.24	90-180
14.	<i>Aśvagndhāriṣṭa</i>	375-750	ml	0.43	162-324
15.	<i>Daśamūlāriṣṭa</i>	375-750	ml	0.2	75-150
16.	<i>Kṣīrabalā taila</i>	200	ml	0.7	140
17.	<i>Mahāmāṣa taila</i>	200	ml	0.68	136
18.	<i>Mahā nārāyaṇa taila</i>	200	ml	1.28	256
19.	<i>Sahacarādi taila</i>	200	ml	0.76	152
20.	<i>Brāhmītaila</i>	200	ml	0.29	57
21.	<i>Dhānvantara taila</i>	200	ml	0.41	82
22.	<i>Caturbhujā rasa</i>	3.75-7.5	gm	150	563

Approx. costing of *Pañcakarma* procedure in Parkinson's disease **

S.No.	<i>Pañcakarma</i> procedure	Days	Rate in Rs./ day	Cost in Rs.
1.	<i>Snehana</i> (externally)	21	200	4200
2.	<i>Sarvāṅga sveda</i>	3-7	150	450-1050
3.	<i>Patrapīṇḍa sveda</i>	3-7	200	600-1400
4.	<i>Matrā vasti</i>	15-21	100	1500-2100

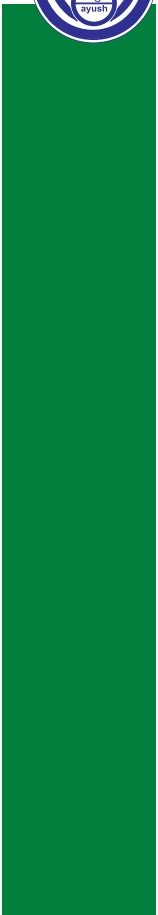


5.	<i>Nasya karma</i>	7	100	700
6.	<i>Śirovasti</i>	7	300	2100
7.	<i>Śirodhārā</i> (oils)	7	300	2100
8.	<i>Śirodhārā</i> (milk)	7	150	1050





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2.3 NEURO-PSYCHIATRIC DISORDERS

2.3.1 Anxiety neurosis (*Cittodvega*)

Introduction

Anxiety is a psychological and physiological state characterized by cognitive, somatic, emotional and behavioural components. Anxiety is often accompanied by physical sensations such as palpitations, nausea, chest pain, shortness of breath, diarrhoea, chills, dryness of mouth, abdominal pain and headache. Somatic signs of anxiety may include pale skin, sweating, trembling and pupillary dilatation.

Ageing and anxiety is not mutually exclusive, anxiety is as common in the elderly as in the young, although how and when it appears is distinctly different in older adults.

Generalized anxiety disorder is one of the most prevalent anxiety disorders in older persons. Ageing brings with it a higher prevalence of certain medical conditions as a result. In the older people differentiating a medical condition (dementia, depression, fears) from physical symptoms of an anxiety disorder is more complicated. It comes under *mānasa roga* in *Ayurveda*.

Aetiology

The following factors are believed to play an important role in the occurrence of this disease.

1. Genetics and hereditary: Anxiety neurosis tends to run in families.
2. Hormonal/ biochemical imbalance: Imbalance of serotonin and dopamine.
3. Personality type: Certain types of personalities are more prone to anxiety development e.g. people who have low self esteem and poor coping skills.
4. Social factors: Those who are exposed to abuse, violence and poverty are more



prone to this type of disorders.

5. Medical causes: Endocrine and cardio pulmonary disorders
6. Drugs and other substances: amphetamine, tranquillisers, steroids etc.

Risk factors

1. Female gender
2. Low resources to cope up with the daily demands.

Pathogenesis

Sympathetic nervous system may always be poised to react, a crisis pulling in a state of constant tension. Various factors may cause over reaction of sympathetic nervous system resulting in anxiety.

Clinical features

1. Palpitation
2. Breathlessness and nervousness
3. Chest pain
4. Trembling
5. Dizziness and fainting
6. Insomnia
7. Anorexia
8. Headache
9. Parasthesia and weakness
10. Fatigue

Investigations

1. Hamilton anxiety rating scale
2. Anxiety disorder interview schedule
3. ECG.



Differential Diagnosis

1. Post traumatic stress disorders
2. Phobias
3. Social anxiety disorders
4. Alcoholism
5. Thyrotoxicosis
6. Hypoglycemia

Management approaches

a. Prevention

1. Use of *madhura rasa* (sweet in taste) *pradhāna āhāra* and buffalo milk
2. Follow *sadvṛtta* (Mental hygiene)
3. Practice of *yoga* and meditation
4. Avoid the causative factors
5. Avoid incompatible food articles
6. Avoid excessive consumption of coffee, tea, soft drinks, hot spicy food, alcohol and smoking
7. Avoid stressful conditions

b. Medical management

Line of treatment

1. ***Nidāna parivarjana* (avoidance of aetiological factors)** - Manage the disease conditions like endocrine and cardio-pulmonary disorder. Social factors like abuse, violence etc. and certain medications like tranquillizers and steroid should be avoided.
2. ***Pañcakarma* therapies** followed by *Śamana cikitsā* (Palliative therapy) should be advocated.
 - i. *Abhyañga* (body Massage)
 - ii. *Snehapāna* (Internal oleation) - *Mahākalyāṇaka ghr̥ta* 30 -50 ml for 3 - 7 days



- iii. *Śiro abhyaṅga* (head massage) with medicated liquids / oils
- iv. *Śiro vasti* with medicated oils (*Candanādi taila/ Himasāgara taila*) daily 45 minutes for 7 days
- v. *Śirodhārā* with medicated liquid (milk, butter milk, water) / oils (*Candanādi taila/ Himasāgara taila*) daily 45-90 minutes for 7 days. Duration of the process depends upon nature of the illness and physical condition of the patient.
- vi. *Picu* with *Kṣīrabalā taila*
- vii. *Takra dhārā* daily 45 minutes for 14 days
- viii. *Nasya karma* (Nasal administration of medicaments) with *Brāhmī svarasa* 5 drops/ nostril/ day for 7 days
- ix. *Śirolepa* with *Brāhmī* (*Bacopa monnieri* Linn.) leaf *kalka*

3. Drug therapy

SINGLE DRUGS

Drug	Dosage (per dose)	MOA ^s / Vehicle	Duration*
<i>Aśvagandhā</i> (<i>Withania somnifera</i> Dunal) <i>cūrṇa</i>	3-5 gm	Sugar and <i>ghṛta</i> before meal	15 days
<i>Jaṭāmāmsī</i> (<i>Nardostachys jatamansi</i> DC.) <i>cūrṇa</i>	500 mg - 1 gm	Milk after meal	15 days
<i>Brāhmī</i> (<i>Bacopa monnieri</i> Linn.) <i>cūrṇa</i>	1-2 gm	Water	15 days
<i>Maṇḍūkapaṇḍī</i> (<i>Centella asiatica</i> (Linn.) Urban.) <i>cūrṇa</i>	1-2gm	Water	15 days

COMPOUND FORMULATIONS

Drug	Dosage (per dose)	MOA ^s / Vehicle	Duration*
<i>Brāhmī vaṭī</i>	250-500 mg	Water	15 days
<i>Sarpagandhādi vaṭī</i>	125 mg	Milk	15 days
<i>Sārasvatāriṣṭa</i>	10-20 ml	Water	15 days
<i>Mānasa mitra vaṭaka</i>	125 mg	Milk	15 days
<i>Muktā piṣṭī</i>	125-250 mg	<i>Ghṛta</i>	15 days



<i>Kalyāṇaka gṛta</i>	6 gm	Warm milk/ warm water	15 days
<i>Mahākalyāṇaka gṛta</i>	6 gm	Warm milk/ warm water	15 days
<i>Brāhmī gṛta</i>	6-12 gm	Warm milk/ warm water	15 days
<i>Candanādi taila</i>	for Śirodhārā/ Śirovasti	-	15 days
<i>Himasāgara taila</i>	for Śirodhārā/ Śirovasti	-	15 days
<i>Kṣīrabalā taila</i>	for Picu / Talam	-	15 days

*Initially 2 times in a day after meal for 15 days followed by condition of patient and physician's direction

§ MOA - Mode of administration

NOTE: Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

c. Yogic Practices- The following *yogic* practices are beneficial in Anxiety; however, these should be performed only under the guidance of qualified *Yoga therapist*. Duration should be decided by the *Yoga therapist*.

1. Practice of *Prāṇāyāma* (*Candra anuloma viloma*, cooling *Prāṇāyāma*, *Ujjai*, *Bhrāmari*) and meditation along with the practice of *Yama* and *Niyama*
2. Regular practice of *Kuñjala* and *Jalaneti*
3. *Śaśānkāsana*, *Tadāsana*, *Matsyāsana*, *Maṇḍūkāsana*, *Bhujāṅgāsana* and *Śavāsana*

These techniques may be followed in following sequence

- i. *Śavāsana*
- ii. Deep relaxation techniques
- iii. Meditation
- iv. *Prāṇāyāma*
- v. *Āsana*



Counselling - Advice the patient to

1. Practice light physical activities, *yoga* and meditation
2. Read and listen to music
3. Participate in *satsaṅga* (association with virtuous people)
4. Visit of religious places
5. Avoid stressful conditions
6. Avoid heavy meals at bed time
7. Avoid consumption of coffee, tea, soft drinks, alcohol and smoking

Indications for referral

1. Not responding to medication
2. Further deterioration in spite of medication
3. Anxiety associated with complications

COSTING DETAILS**Approximate costing of Anxiety Management**

S.No.	Medicine	Requirement	Unit	Rate in Rs.	Cost in Rs.
1.	<i>Aśvagandhā cūrṇa</i>	90-150	gm	0.48	43.2-72
2.	<i>Jaṭāmāmsī cūrṇa</i>	30-60	gm	1.0	30-60
3.	<i>Brāhmī cūrṇa</i>	30-60	gm	0.75	22.5-45
4.	<i>Maṇḍūkapaṇṇī cūrṇa</i>	30-60	gm	0.75	22.5-45
5.	<i>Brāhmī vaṭī</i>	7.5-15	gm	4.4	33-66
6.	<i>Sarpagandhādi vaṭī</i>	3.75	gm	5.2	19.5
7.	<i>Sārasvatāriṣṭa</i>	300-600	ml	0.28	84-168
8.	<i>Mānasa mitra vaṭaka</i>	3.75	gm	5.73	22
9.	<i>Muktā Piṣṭī</i>	7.5-15	gm	1.4	11-22
10.	<i>Kalyāṇaka gṛta</i>	180	gm	0.46	83



11.	<i>Mahākalyāṇaka ghr̥ta</i>	180	gm	0.67	121
12.	<i>Brāhmī ghr̥ta</i>	180-360	gm	0.45	81-162
13.	<i>Candanādi taila</i>	1200-1500	ml	0.32	384-480
14.	<i>Himasāgara taila</i>	1200-1500	ml	0.55	660-825

Approx. costing of *Pañcakarma* procedure in Anxiety **

S.No.	<i>Pañcakarma</i> procedure	Days	Rate in Rs./ day	Cost in Rs.
1.	<i>Abhyaṅga</i> (Body Massage)	7	200	1400
2.	<i>Śiro Vasti</i>	7	300	2100
3.	<i>Śirodhārā</i> (with taila)	7	300	2100
4.	<i>Śirodhārā</i> (with milk)	7	150	1050
5.	<i>Picu</i>	7	100	700
6.	<i>Takra dhārā</i>	14	150	2100
7.	<i>Nasya karma</i>	7	100	700
8.	<i>Śirolepa</i>	7	250	1750

2.3.2 Depression (*Mano-avasāda*)

Introduction

Depression is a common mental disorder, characterized by sadness, loss of interest, pleasure, feeling of guilt or low self worth, disturb sleep, poor appetite, low energy and poor concentration⁹. It is a common mood disorder in elderly and contributes to significant psychological and physical distress, physical disability and higher mortality. Depression is not a normal part of ageing.

Many elderly individuals face difficult changes such as - the death of a spouse or chronic medical problems that can lead to depression. Depression not only prevents from enjoying life like they could be, it also takes a heavy toll on death. Untreated depression poses serious risks for older people including illness, alcohol, drug abuse and even suicide.

International studies, including those in India suggest uniform prevalence of mood disorders across the world. Life time risk for major depression ranges from 2-25% with most authorities agreeing to a range of 10-15%. It is about 10% in men and 20% in women. By



2020, the World Health Organization (WHO) expects Depression to be the second frequent cause of morbidity world over¹⁰.

Aetiology

1. Family history of depression/ hereditary
2. Trauma and stress caused by things like financial problems, breakup of a relationship or death of a loved one can cause depression
3. Pessimistic personality with low self-esteem and a negative outlook are at higher risk of becoming depressed
4. Medical illnesses such as stroke, heart attack, cancer, parkinson's disease, and hormonal disorders can cause depressive illness
5. Many medications such as steroids, pain killers, anti-hypertensive drugs, tranquilizers, cancer drugs, hormones etc. can trigger or exacerbate depression
6. Psychological disorders like Anxiety disorders, eating disorders, schizophrenia, substance abuse etc.
7. Living alone can result in depression

Risk factors

1. Family history
2. Female gender
3. Death of dear ones
4. Functional disability due to chronic illness
5. Substance abuse of alcohol and drugs
6. Cognitive impairment
7. Sleep disorders

Pathogenesis

By advancing age, Acetylcholine, dopamine and norepinephrine decrease in the CNS; elevated levels of mono amine oxidase (MAO) and decrease in number of neuro-receptors with increased resistance to diffusion of drugs contribute to the vulnerability to depression in older adults.



Clinical features

1. Mood variations; often worse in the morning, improving later in the day
2. Change in sleeping, eating habits or appetite
3. Weight gain or weight loss
4. Feeling of guilt and/ or hopelessness
5. Slowed thoughts, speech and movement
6. Negative thoughts, blaming self and low self-esteem, thoughts of death / suicide
7. Complaints that have no physical cause (somatic complaints) such as unexplained aches and pains
8. Short temper, feeling of anxiety
9. Tearfulness for no reason, unrealistic sense of failure
10. Lack of concentration and difficulty in making decisions
11. Feeling of loneliness
12. Reduced desire for sex

Diagnosis

Before being diagnosed with depression, elderly adults should be screened for the following common health issues that can affect mood

1. Anxiety disorders
2. Personality disorders
3. Vit B₁₂ deficiency
4. Hypothyroidism
5. Systemic malignancies
6. Nutritional deficiencies
7. Metabolic disorders including diabetes and hepatic dysfunction

Investigations

1. Neurological examination



2. Mini mental status test
3. Geriatric depression scale (GDS) (Yesavage)
4. Haemogram
5. Blood sugar
6. Blood urea and nitrogen
7. Serum creatinine
8. Liver Function Test
9. Serum Vitamin B₁₂
10. Serum T₃, T₄, TSH

Management approaches

a. Prevention

1. Use of fiber rich food like whole grams, whole fruits, fresh vegetables, *āmalakī* (*Phyllanthus emblica* Gartn.), etc.
2. Be active physically and mentally and practice regular exercise
3. Engage in social activities and avoid loneliness
4. Continue medication as per instructions
5. Practice *yoga* and meditation
6. Avoid non-vegetarian diet, frequent eating and high calory food
7. Avoid excessive thinking

b. Medical management

Line of treatment

1. ***Nidāna parivarjana* (avoidance of aetioloical factors)** - To treat the depression, factors like trauma, use of steroids, pain killers, etc. should be avoided. Chronic illness if any should be treated first and living alone should be avoided.
2. ***Samśodhana cikitsā*** (Bio-cleansing therapies) followed by ***Śamana cikitsā*** (Palliative therapy) should be advocated.



- i. *Snehapāna* (Internal oleation) - *Kalyāṇaka ghr̥ta* 50 ml with 2 gm *Saindhava lavaṇa* for 3 - 7 days (for *Sadya Snehana*)
- ii. *Virecana* (Purgation) with *Eraṇḍa taila* 10 - 20 ml or *Tṛvṛt cūrṇa* 5-10gm with half glass of milk at night
- iii. *Nasya karma/ Bṛṃhaṇa nasya* with *Purāṇa ghr̥ta* (old ghee)/ *Aṇu taila/ Mahākalyāṇaka ghr̥ta* 8-8 drops in both nostrils for 7 days
- iv. *Śiro vasti* with *Nārāyaṇa taila* daily 45 minutes for 7 days
- v. *Śirodhārā* with medicated oils (*Nārāyaṇa taila / Candanādi taila/ Himasāgara taila*) (or) *Kṣīra dhāra / Jala dhāra / Takradhāra* daily 30-90 minutes for 1-2 weeks
- vi. *Śiro abhyāṅga* (head Massage) with medicated oils (*Brāhmī taila*) etc.

3. Drug therapy

SINGLE DRUGS

Drug	Dosage (per dose)	MOA ^s / Vehicle	Duration*
<i>Aśvagandhā (Withania somnifera Dunal) cūrṇa</i>	3 gm	Water	15 days
<i>Jaṭāmāṃsī (Nardostachys jatamansi DC.) cūrṇa</i>	1-2gm	Milk	15 days
<i>Kapikacchu (Mucuna pruriens Hook) cūrṇa</i>	2-4 gm	Water	15 days
<i>Brāhmī (Bacopa monnieri Linn.) svarasa</i>	5-10 ml	Water	15 days
<i>Maṇḍūkapaṇḍī (Centella asiatica (Linn.) Urban.) svarasa</i>	5-10 ml	Water	15 days
<i>Guḍūcī (Tinospora cordifolia (Willd.) Miers) svarasa</i>	5-10 ml	Water	15 days
<i>Kūṣmāṇḍa (Benincasa hispida) svarasa</i>	5-10 ml	Sugar	15 days
<i>Śāṅkhapusṇī (Convolvulus pleuricaulis Choisy) kalka</i>	2-4 gm	Water	15 days



<i>Tagara (Valeriana wallichii DC) cūrṇa</i>	1-2gm	Water	15 days
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COMPOUND FORMULATIONS

Drug	Dosage (per dose)	MOA [§] / Vehicle	Duration*
<i>Brāhmī vaṭī</i>	250-500 mg	Honey	15 days
<i>Mānasa mitra vaṭaka</i>	125 mg	Milk	15 days
<i>Mahākalyāṇaka ghṛta</i>	6 gm	Luke warm water	15 days
<i>Brāhmī ghṛta</i>	6-12 gm	Luke warm water	15 days
<i>Kalyāna ghṛta</i>	6 gm	Luke warm water	15 days
<i>Sārasvatāriṣṭa</i>	10-20ml	Water	15 days
<i>Aśvagandhāriṣṭa</i>	10-20ml	Water	15 days
<i>Brāhma rasāyana</i>	10 gm thrice daily	Milk	15 days
<i>Candanādi taila</i>	for <i>śirodhārā/ śirovasti</i>	-	15days
<i>Himasāgara taila</i>	for <i>śirodhārā/ śirovasti</i>	-	15days
<i>Nārāyaṇa taila</i>	for <i>śirodhārā/ śirovasti</i>	-	15 days
<i>Brāhmī taila</i>	for head massage	-	15 days

[§]MOA - Mode of administration

*Initially 2 times in a day after meal for 15 days followed by condition of patient and physician's direction

NOTE: Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

c. Yogic Practices: The following *yogic* practices are beneficial in Depression; however, these should be performed only under the guidance of qualified *Yoga therapist*. Duration should be decided by the *Yoga therapist*.



1. *Padmāsana, Śavāsana, Sūryanamaskāra, Bhujāṅgāsana, Pascimottānāsana, Sarvāṅgāsana*
2. *Prāṇāyāma (Kapālabhāti, Bhastrikā, Sūrya anuloma viloma)*
3. Meditation, etc.

Following sequence is to be followed

1. *Sūkṣma vyāyāma* (loosening exercise)
2. *Āsanā*
3. *Prāṇāyāma*
4. Deep relaxation technique
5. Meditation -*Nāda anusandhāna*

Counselling - Advice the patient to

1. Spend time with loved once
2. Take diet rich in antioxidants
3. Take green vegetables and yellow fruit (Vitamin B₁, B₂, B₁₂ and Biotin) in sufficient quantity
4. Take low fat diet
5. Practice *yoga*, meditation and exercise regularly
6. Be active and happy always
7. Participate in *satsaṅga* (association with virtuous people)
8. Visit of religious places
9. Avoid driving lonely

Indications for referral

1. Suicidal tendency
2. Complicated cases
3. Non-responsive to medication



COSTING DETAILS

Approx. Costing of Depression Management

S.No.	Medicine	Requirement	Unit	Rate in Rs.	Cost in Rs.
1.	<i>Aśvagandhā cūrṇa</i>	150	gm	0.48	72
2.	<i>Jaṭāmāṃsī cūrṇa</i>	15 - 30	gm	1.0	15 - 30
3.	<i>Kapikacchu cūrṇa</i>	60-120	gm	1.0	60-120
4.	<i>Brāhmī svarasa</i>	150-300	ml	0.75	112.5-225
5.	<i>Maṇḍūkāparnī svarasa</i>	150-300	ml	0.75	112.5-225
6.	<i>Guḍucī svarasa</i>	150-300	ml	0.75	112.5-225
7.	<i>Śaṅkhaṣpī kalka</i>	60-120	gm	0.75	45-90
8.	<i>Tagara cūrṇa</i>	60-120	gm	1.2	72-144
9.	<i>Kūṣmāṇḍa svarasa</i>	150-300	ml	0.1	15-30
10.	<i>Mānasa mitra vaṭaka</i>	3.75	gm	5.73	22
11.	<i>Brāhmī vaṭī</i>	7.5-15	gm	4.4	33-66
12.	<i>Kalyāṇa gṛta</i>	180	gm	0.46	83
13.	<i>Mahākalyāṇaka gṛta</i>	180	gm	0.67	121
14.	<i>Brāhmī gṛta</i>	180-360	gm	0.45	81-162
15.	<i>Sārasvatāriṣṭa</i>	300-600	ml	0.28	84-168
16.	<i>Aśvagandhāriṣṭa</i>	300-600	ml	0.152	46-92
17.	<i>Brāhma rasāyana</i>	450	gm	0.197	89
18.	<i>Candanādi taila (for śirodhārā/ śirovasti)</i>	1200-1500	ml	0.32	384-480
19.	<i>Himasāgara taila (for śirodhārā/ śirovasti)</i>	1200-1500	ml	0.55	660-825
20.	<i>Nārāyaṇa taila (for śirodhārā/ śirovasti)</i>	1200-1500	ml	0.51	612-765



Approx. costing of *Pañcakarma* procedures in Depression **

S.No.	<i>Pañcakarma</i> procedure	Days	Rate in Rs./ day	Cost in Rs.
1.	<i>Nasya karma</i>	7	100	700
2.	<i>Śirovasti</i>	7	300	2100
3.	<i>Śirodhārā</i> (with taila)	14-21	300	4200-6300
4.	<i>Śirodhārā</i> (with milk)	14-21	150	2100-3150
5.	<i>Jala dhāra</i>	14	150	2100
6.	<i>Takra dhāra</i>	7-14	150	1050-2100

2.3.3 Insomnia (*Anidrā* or *Nidrānāśa*)

Introduction

Insomnia is the perception or complaint of inadequate or poor quality of sleep because of difficulty in falling asleep, difficulty in maintaining sleep or waking too early in the morning. It is the most common sleep disorder in elderly. Chronic Insomnia can lead to severe fatigue, anxiety, depression and lack of concentration. Insomnia can be classified in terms of its duration. It comes under *Vāta nānātmaja vikāra* and called *Anidrā* or *Nidrānāśa* in *Ayurveda*.

This sleep disorder is 1.5 times more common in persons aged more than 65 years compared to younger counter parts and incidence in women is 1.3 times greater than in men. The prevalence of Insomnia increases steadily with age and reported by up to one in 3 people aged 65 years and above¹¹.

1. **Transient Insomnia** - lasting from a night to a week and is usually caused by events that alter normal sleep pattern, such as traveling or sleeping in an unusual environment.
2. **Short term Insomnia** - lasts about two to three weeks and is usually attributed to emotional factors such as worry or stress.
3. **Chronic Insomnia** - occurs most nights and lasts a month or more.



Aetiology

Insomnia is occasionally a symptom of an underlying medical or psychological condition but it may be caused by stress or life style changes. About half of Insomnia cases have no identifiable cause. Some conditions or situations that commonly lead to Insomnia include-

1. Substance abuse; such as smoking, excessive consumption of caffeine, alcohol and recreational drugs
2. Disruption of circadian rhythms; such as shift work, change in work schedule
3. Uncomfortable and unusual sleeping environment
4. Psychiatric and neurological conditions; such as depression, manic depressive disorder, restless leg syndrome (RLS), post traumatic stress disorder
5. Biological factors - By advancement of ageing, the internal biological 'clock' that regulate sleep creeps slightly forward, compelling most older people to go to sleep earlier and to wake earlier. Also less physical and social activities and change in health may cause insomnia in elderly
6. Sleep disordered breathing - sleep apnea
7. Chronic medical illness - such as congestive heart failure, chronic obstructive pulmonary disease, heart burn, prostatic problems, menopause, diabetes, arthritis and hyperthyroidism
8. Certain medications - decongestants, bronchodilators and beta blockers and long term use of sleep medication
9. Excessive computer work or watching T.V.

Pathogenesis

Sleep disorders are associated with an impairment of melatonin production. Melatonin produced by the pineal gland at night, plays a role in regulation of sleep-wake cycle and diminished-melatonin secretion may cause insomnia.

Clinical features

Common symptoms of insomnia include

1. Not feeling refreshed
2. Inability to sleep despite being tired



3. Day time drowsiness, irritability, difficulty in concentrating
4. Impaired ability to perform normal activities
5. Body-ache and heaviness of the body

Complications

1. Depression
2. Anxiety disorder
3. Fatal accident
4. Increase in severity of chronic diseases such as high blood pressure and diabetes

Investigations

1. Polysomnography
2. Evaluation for depression and anxiety
3. Multiple sleep latency test (MSLT)
4. Thyroid function test
5. EEG

Management approaches

a. Prevention

1. Use of *madhura rasa* (sweet in taste) *pradhāna āhāra* and warm buffalo milk before bed time
2. Maintain active life mentally and physically
3. Practice *yoga* and meditation
4. Practice of *śiroabhyaṅga* and *pādābhyaṅga* (massage of scalp and plantar region).
5. Avoid excessive consumption of coffee, tea, soft drinks, alcohol and smoking
6. Avoid incompatible, indigestible, hot, spicy food articles
7. Avoid heavy meal and stress at night
8. Correction of hypertension and diabetes mellitus and urological problems, if any



b. Medical management

Line of treatment

1. **Nidāna parivarjana (avoidance of aetiological factors)** - before starting medication for insomnia any psychiatric, neurological condition and chronic medical illness should be treated first and smoking, excessive consumption of caffeine, alcohol, excessive computer work or T.V. watching should be avoided.
2. **Pañcakarma procedures** followed by **Śamana cikitsā** (Palliative therapy) should be advocated.
 - i. *Virecana (Purgation)* with *Eraṇḍa taila* 10 - 20 ml with half glass of milk at night
 - ii. *Abhyaṅga* (body massage), *Pādābhyaṅga* (foot massage), *Śiroabhyaṅga* (head massage) with medicated oils.
 - iii. *Śirodhārā* with medicated liquids (milk/ water/ oils (*Nārāyaṇa taila*)) daily 45-90 minutes for 21 days
 - iv. Picu with *Kṣīrabalā taila/ Himasāgara taila*
 - v. *Takra dhārā* daily 45 minutes for 14 days
3. Drug therapy

SINGLE DRUGS

Drug	Dosage (per dose)	MOA ^s / Vehicle	Duration*
<i>Aśvagandhā (Withania somnifera Dunal) cūrṇa</i>	3 gm	Sugar and <i>ghṛta</i> before meal	7 days
<i>Jaṭāmāṃsī (Nardostachys jatamansi DC.) cūrṇa</i>	500 mg - 1 gm	Milk after meal	7 days
<i>Brāhmī (Bacopa monnieri Linn.) cūrṇa / svarasa</i>	1-2 gm/ 10 ml	Milk/ sugar	7 days
<i>Maṇḍūkapaṇī (Centella asiatica (Linn.) Urban.) cūrṇa / svarasa</i>	1-2 gm/ 10 ml	Milk/ sugar	7 days



COMPOUND FORMULATIONS

Drug	Dosage (per dose)	MOA [§] / Vehicle	Duration*
<i>Māṃsyādi kvātha</i>	15-20 ml	Water	7 days
<i>Brāhmī vaṭī</i>	125-250 mg	Honey	7 days
<i>Sarpagandhādi vatī</i>	125mg	Milk	7 days
<i>Mānasa mitra vaṭaka</i>	125 mg	Milk	7 days
<i>Mahākalyāṇaka ghr̥ta</i>	6 gm	Warm milk/ warm water	7 days
<i>Nārāyaṇa taila</i>	for <i>śirodhārā</i>	-	21 days
<i>Himasāgara taila</i>	for <i>śirodhārā</i>	-	7 days
<i>Kṣīrabalā taila</i>	for <i>picu</i>	-	14 days

[§] MOA - Mode of administration

*Initially 2 times in a day after meal for 7 days followed by condition of patient and physician's direction

NOTE: Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

Jaṭāmāṃsī (*Nardostachys jatamansi*)¹² has shown improvement in Insomnia.

c. Yogic Practices - The following *yogic* practices are beneficial in Insomnia; however, these should be performed only under the guidance of qualified *Yoga therapist*. Duration should be decided by the *Yoga therapist*.

1. Practice of *Prānāyāma* (*Candra anuloma viloma*, *Ujjāī*, *Bhrāmarī*, Cooling *prānāyāma*) and meditation along with the practice of *Yama* and *Niyama*
2. *Sūryanamaskāra*, *Tāḍāsana*, *Matsyāsana*, *Maṇḍūkāsana*, *Bhujāṅgāsana*, *Padmāsana*, *Pascimottānāsana* and *Śavāsana*
3. Deep relaxation techniques, *Yoga Nidrā*

Counselling - advice the patient to

1. Drink warm milk before going to bed
2. Do some light physical activities before going to bed



3. Take warm bath before bedtime
4. Sleep on comfortable bed
5. Use the bed and bedroom only for sleep (it should not be used for watching TV and reading)
6. Maintain a regular sleep /wake up schedule
7. Practice *yoga* and meditation
8. Leave the bed if unable to fall asleep
9. Avoid stressful conditions
10. Avoid heavy meals at bed time
11. Avoid consumption of coffee, tea, soft drinks, alcohol and smoking
12. Avoid irregular sleep habits and nap during the day
13. Avoid watching TV at bed time

Indications for referral

1. Not responding to medication
2. Further deterioration in spite of medication
3. Insomnia associated with complications should be referred

COSTING DETAILS

Approx. costing of Insomnia Management

S.No.	Medicine	Requirement	Unit	Rate in Rs.	Cost in Rs.
1.	<i>Aśvagandhā cūrṇa</i>	42	gm	0.48	21
2.	<i>Jaṭāmāṃsī cūrṇa</i>	15-30	gm	1.0	15-30
3.	<i>Brāhmī cūrṇa</i>	15-30	gm	0.75	12-24
4.	<i>Maṇḍūkāparṇī svarasa</i>	15-30	gm	0.75	12-24
5.	<i>Māṃsyādi kvātha</i>	210-420	ml	0.45	95-190
6.	<i>Brāhmī vaṭī</i>	1.75-3.5	gm	4.4	7.7-1.54



7.	<i>Sarpagandhādi vaṭī</i>	1.75	gm	5.2	10.0
8.	<i>Mānasa mitra vaṭaka</i>	2	gm	5.73	11
9.	<i>Mahākalyāṇaka ghṛta</i>	50	gm	0.67	34
10.	<i>Nārāyaṇa taila</i> (for <i>śirodhāra</i>)	1200-1500	ml	0.51	612-765
11.	<i>Himasāgara taila</i> (for <i>śirodhārā/ śirovasti</i>)	1200-1500	ml	0.55	660-825
12.	<i>Kṣīrabalā taila</i>	200	ml	0.7	140

Approx. costing of *Pañcakarma* procedure in Insomnia **

S.No.	<i>Pañcakarma</i> procedure	Days	Rate in Rs./ day	Cost in Rs.
1.	<i>Abhyāṅga</i> (body massage)	15	200	3000
2.	<i>Śirodhārā</i> (with taila)	21	300	6300
3.	<i>Śirodhārā</i> (with milk)	21	150	3150
4.	<i>Takra dhārā</i>	14	150	2100
5.	<i>Picu</i>	14	100	1400

2.3.4 Dementia (*Smṛti nāśa*)

Introduction

Dementia is characterized by progressive loss of memory and other cognitive domains, affecting an individual's ability to maintain normal social or occupational function¹³. It is far more common in the geriatric population. In dementia, higher mental functions are affected first in the process. In later stages, affected persons may be disoriented in time, place and person. Dementia is not a normal part of ageing. It affects about 5% of people aged over 65 and 20 percent to those over 80. All statistics show a sharp rise in the prevalence of dementia with age. Between 1990 and 2010 the number of dementia cases in the developed countries will project to increase from 7.4 million to 10.2 million¹⁴. This predicted data shows that it affects the individual as well as economy of the country.



Aetiology

Common causes of dementia are

1. Degenerative disorder such as Alzheimer's disease, Parkinson disease
2. Vascular disease (Multi infarct dementia)
3. Traumatic brain injury
4. Metabolic and endocrine disorder (Hypothyroidism, Renal failure)
5. Brain tumor
6. Vitamin B deficiency
7. Drug or alcohol abuse, medication or exposure to toxic substances
8. Infectious diseases: AIDS, Syphilis, etc.

Pathogenesis

Impairment of the cholinergic system in the brain particularly those areas involved in learning and memory, decrease in level of choline acetyltransferase and degeneration of cholinergic neurons in basal forebrain leads to decrease production of acetylcholine and other neurotransmitters (involved in cognitive dysfunction) resulting in dementia.

Risk factors

1. Increasing age
2. Female gender
3. Genetic factors
4. Head trauma
5. Toxins
6. Diabetes mellitus

Clinical features

1. Memory impairment
2. Difficulty in conversation
3. Motor skills impairment (Balance and walking)



4. Impaired ability to recognize objects
5. Inability to think
6. Depression and suicidal behaviour
7. Anxiety , mood and sleep problems
8. Hallucinations

Investigations

1. Complete neurological examination
2. Mini mental status examination
3. Abbreviated mental test score
4. Clock drawing test
5. Thyroid function test
6. Serum Vit B₁₂
7. Serum electrolytes
8. Kidney function test
9. Liver function test
10. CT scan (may suggest normal pressure hydrocephalus) or MRI of the brain
11. SPECT - To differentiate the vascular cause from the Alzheimer's disease cause dementia appears to be superior to differentiation by clinical exam

Management approaches

a. Prevention

1. Use of *śāli* variety of rice, *mudga* (phaseolus bean), *dhāroṣṇa godugdha* (freshly milched cow's milk), leaves of *brāhmī* (indian pennywort), *tanḍulīya* (a variety of amaranth) and *vāstuka* (a variety of chenopodium), leaf and fruit of *paṭola* (a variety of small cucumber), fruit of *kūṣmāṇḍa* (a variety of pumpkin gourd) and *drākṣa* (grape fruit)
2. Use of green vegetables and yellow fruits (apple, papaya, guava, mango, banana etc.)
3. To live an active life mentally and physically



4. Consume low fat and rich antioxidant diet
5. Correction of hypertension and diabetes mellitus
6. Avoid incompatible and hot spicy food articles
7. Avoid suppression of natural urges like sleep, hunger and thirst

b. Medical management

Line of treatment

1. **Nidāna parivarjana (avoidance of aetiological factors)** - Exposure to toxic substances, excessive consumption of alcohol should be avoided and metabolic, endocrine disorder and vascular diseases, if any should be managed first.
2. **Samśodhana cikitsā** (Bio-cleansing therapies) followed by **Śamana cikitsā** (Palliative therapy) should be advocated.
 - i. *Snehapāna - Kalyāṇaka ghr̥ta* 50 ml with 2 gm *saindhava lavaṇa* for 3 - 7 days (for *Sadya snehana*)
 - ii. *Virecana (Purgation)* with *Eraṇḍa taila* 10-20 ml with half glass of milk at night
 - iii. *Nasya karma/ Bṛṃhaṇa nasya* with *Purāṇa ghr̥ta* (old ghee) 8-8 drops in both nostrils for 7 days
 - iv. *Śiro vasti* with *Nārāyaṇa taila* daily 45 min for 7 days
 - v. *Takra dhārā* daily 45 minutes for 7 days
 - vi. *Śirodhārā* with medicated oils (*Candanādi taila/ Himasāgara taila*) / cold milk daily 30-90 min for 7-14 days
 - vii. *Śiro abhyaṅga* (head massage) with medicated oils (*Brāhmī taila*) etc.

Duration of the process depending upon nature of the illness and physical condition of the patient.

3. Drug therapy



SINGLE DRUGS

Drug	Dosage (per dose)	MOA ^s / Vehicle	Duration*
<i>Aśvagandhā</i> (<i>Withania somnifera</i> Dunal) <i>cūrṇa</i>	3 gm	Water	15 days
<i>Jaṭāmāmsī</i> (<i>Nardostachys jatamansi</i> DC.) <i>cūrṇa</i>	1-2gm	Milk	15 days
<i>Vacā</i> (<i>Acorus calamus</i> Linn.) <i>cūrṇa</i>	250-500 mg	Water	15 days
<i>Brāhmī</i> (<i>Bacopa monnieri</i> Linn.) <i>svarasa</i>	5-10 ml	Water	15 days
<i>Maṇḍūkarnī</i> (<i>Centella asiatica</i> (Linn.) Urban.) <i>svarasa</i>	5-10 ml	Water	15 days
<i>Guḍūcī</i> (<i>Tinospora cordifolia</i> (Willd) Miers) <i>svarasa</i>	5-10 ml	Water	15 days
<i>Śaṅkhaṣṭī</i> (<i>Convolvulus pleuricaulis</i> Choisy) <i>kalka</i>	2-4 gm	Water	15 days
<i>Tagara</i> (<i>Valeriana wallichii</i> DC.) <i>cūrṇa</i>	2-4gm	Water	15 days

COMPOUND FORMULATIONS

Drug	Dosage (per dose)	MOA ^s / Vehicle	Duration*
<i>Brāhmī vaṭī</i>	250-500 mg	Honey	15 days
<i>Śivā guṭikā</i>	6 gm	Milk	15 days
<i>Cyavanaprāśāvāleha</i>	15-30 gm	Milk	15 days
<i>Sarpagandhādi vaṭī</i>	250 mg	Butter Milk	15 days
<i>Mānasa mitra vaṭaka</i>	125 mg	Milk	15 days
<i>Kalyāṇa ghr̥ta</i>	6 gm	Luke warm water	15 days



<i>Mahākalyāṇaka ghṛta</i>	6 gm	Luke warm water	15 days
<i>Brāhmī ghūta</i>	6-12 gm	Luke warm water	15 days
<i>Sārasvatāriṣṭa</i>	10-20 ml	Water	15 days
<i>Aśvagandhāriṣṭa</i>	10-20 ml	Water	15 days
<i>Kumāryāsava</i>	10-20 ml	Water	15 days
<i>Brāhma rasāyana</i>	10 gm thrice daily	Milk	15 days
<i>Candanādi taila</i>	for Śīrodhārā/ Śīrovasti	-	15 days
<i>Himasāgara taila</i>	for Śīrodhārā/ Śīrovasti	-	15 days
<i>Brāhmī taila</i>	for head massage	-	15 days
<i>Nārāyaṇa taila</i>	for Śīrovasti		15 days

§ MOA - Mode of administration

*Initially 2 times in a day after meal for 15 days followed by condition of patient and physician's direction.

NOTE: Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

*Brāhmī (Bacopa monnieri)*¹⁵ has shown improvement in senile dementia.

c. Yogic Practices- The following *yogic* practices are beneficial in Dementia; however, these should be performed only under the guidance of qualified *Yoga therapist*. Duration should be decided by the *Yoga therapist*.

1. Śavāsana, Viparīta karaṇī, Sarvāṅgāsana, Matsyāsana
2. Practice of Prāṇāyāma (*Anuloma viloma, Kapālabhāti, Bhastrikā, Ujjāī, Bhrāmarī*)
3. Meditation - *Nādī anusandhāna, Bhrūmadhya dṛṣṭi, Nāsikāgra dṛṣṭi, Trāṭaka*

Counselling - Advice the patient to

1. Take diet rich in antioxidants, calcium, magnesium and zinc
2. Take vitamin B₁, B₂, B₁₂ and biotin in sufficient quantity



3. Add ginger and *haridrā* (*curcuma longa* Linn.) powder in diet
4. Practice *yoga*, meditation and exercise regularly
5. Take low fat diet
6. Be active and happy always
7. Avoid driving lonely

In addition, reassurance may also be beneficial in dementia patients.

Indications for referral

1. Complete dementia
2. Hydrocephalic dementia+

COSTING DETAILS

Approximate Costing of Dementia Management

S.No.	Medicine	Requirement	Unit	Rate in Rs.	Cost in Rs.
1.	<i>Aśvagandhā cūrṇa</i>	150	gm	0.48	72
2.	<i>Jaṭāmāṃsī cūrṇa</i>	30-60	gm	1.0	30-60
3.	<i>Vacā cūrṇa</i>	30-60	gm	1.0	30-60
4.	<i>Brāhmī svarasa</i>	150-300	ml	0.75	112.5-225
5.	<i>Mandūkarnī svarasa</i>	150-300	ml	0.75	112.5-225
6.	<i>Guḍūcī svarasa</i>	150-300	ml	0.75	112.5-225
7.	<i>Śaṅkhaṣṭī kalka</i>	60-120	gm	0.75	45-90
8.	<i>Tagara cūrṇa</i>	60-120	gm	1.2	72-144
9.	<i>Brāhmī vaṭī</i>	7.5-15	gm	4.4	33-66
10.	<i>Sarpagandhādi vaṭī</i>	3.75	gm	5.2	19.5
11.	<i>Mānasa mitra vaṭaka</i>	3.75	gm	5.73	22
12.	<i>Śivā guṭikā</i>	1080	gm	4.4	2376



13.	<i>Cyavanaprāśāvaleha</i>	180-360	gm	0.25	47-94
14.	<i>Kalyāṇa gṛta</i>	180	gm	0.46	83
15.	<i>Mahākalyāṇaka gṛta</i>	180	gm	0.67	121
16.	<i>Brāhmī gṛta</i>	180-360	gm	0.45	81-162
17.	<i>Sārasvatāriṣṭa</i>	300-600	ml	0.28	84-168
18.	<i>Aśvagandhāriṣṭa</i>	300-600	ml	0.15	45-90
19.	<i>Kumāryāsava</i>	300-600	ml	0.1	30-60
20.	<i>Brāhma rasāyana</i>	450	gm	0.197	89
21.	<i>Candanādi taila</i>	1200-1500	ml	0.32	384-480
22.	<i>Himasāgara taila</i>	1200-1500	ml	0.55	660-825
23.	<i>Nārāyaṇa taia</i>	1200-1500	ml	0.51	612-765

Approx. costing of *Pañcakarma* procedures in Dementia **

S.No.	<i>Pañcakarma</i> procedure	Days	Rate in Rs./ day	Cost in Rs.
1.	<i>Nasya karma</i>	7	100	700
2.	<i>Śiro vasti</i>	7	300	2100
3.	<i>Śirodhārā</i> (with taila)	7	300	2100
4.	<i>Śirodhārā</i> (with milk)	7	150	1050
5.	<i>Takra dhārā</i>	7	150	1050



2.4 CARDIO-VASCULAR DISORDERS (PREVENTIVE CARDIOLOGY)

2.4.1 Hypertension (*Vyānabala vaiśamya*)

Introduction

Hypertension is a medical condition in which the blood pressure is chronically elevated. It is considered to be present when a person's systolic blood pressure is consistently 140 mm Hg or higher, and/or their diastolic blood pressure is consistently 90 mm Hg or higher. Various epidemiologic studies had consistently demonstrated that increasing levels of systolic BP correlate directly with the risk of developing cardiovascular events and mortality. In the elderly, systolic blood pressure becomes a stronger predictor of risk than diastolic blood pressure or other standard risk factors besides age. Based on WHO definition the incidence of hypertension in urban population is around 40% and rural around 18%. High blood pressure is dangerous because it makes the heart work harder to pump blood to the body and it contributes to hardening of the arteries or atherosclerosis¹⁶.

However, there is no doubt that this disease must have been existed in the past as well, though may not in the same form, incidence and severity. The change in social and economic conditions, life style, dietary habits and an increasing stress and strain in earning the livelihood have increased the prevalence of this disease. Though a suitable term for the disease condition hypertension is not directly mentioned in the *Ayurvedic* classics, its symptomatology can be found in the chapters of *vāta vyādhi*, *prameha*, *hṛdroga*, etc. A disease condition *vyānabala vaiśamya*, which can be correlated with hypertension, seems to be resulted from the *vaiśamya / vikṛti* of *vyānavāyu*. *Vaiśamya* is of two types i.e. *vṛddhi* or *kṣaya*. Hypertension comes under *vṛddhi* type of *vaiśamya*.

Types of Hypertension

- **Primary or essential hypertension** - The hypertension is of unknown origin.



- **Secondary hypertension** - Hypertension with an identifiable cause secondary to another disease such as renal disease or tumor.
- **Isolated systolic hypertension** - Most common in elderly patients due to reduced vascular compliance, systolic B.P > 160 mm of Hg with Diastolic pressure < 90 mm of Hg.
- **Neurogenic hypertension** - It can be caused by strong stimulation of sympathetic nervous system. (e.g. when a person becomes excited for any reason or state of anxiety).

Classification of Hypertension (Clinical Geriatrics - 3, IGNOU)

	Systolic B.P.	Diastolic B.P.
Optimal B.P.	< 120	< 80
Normal B.P.	< 130	< 85
High normal	130-139	85-89
Stage 1 Hypertension	140-159	90-99
Stage 2 Hypertension	160-179	100-109
Stage 3 Hypertension	180	≥ 110

Aetiology

1. Hereditary
2. Excess salt intake
3. Sleep apnea
4. Secondary to disease (e.g. polycystic kidney disease or chronic glomerulonephritis, adrenal disease, cushing's syndrome and coarctation of aorta etc.)
5. Certain medication (e.g. NSAIDS, steroids, throat lozenges and peptic ulcer medicines)

Pathogenesis

Hypertension is not a simple physiological feature of ageing. Blood pressure tends to be normal or even low in the aged population. Development of Hypertension more depends on environmental factors, rather than simple ageing. Pathophysiological mechanism includes an



increase in peripheral vascular resistance, secondary to arteriolar smooth muscle vasoconstriction with the lower plasma renin activity and low aldosterone levels.

Risk factors

1. Child of Hypertensive parents
2. Obese person
3. Age > 45 years
4. Gender (men and postmenopausal women)
5. Diabetes mellitus, dyslipidaemia
6. Physical inactivity
7. Smoking, alcoholism

Clinical features

Hypertension is usually found incidentally by healthcare professionals during a routine checkup, usually produces no symptoms although there may be

1. Headache
2. Fatigue
3. Dizziness
4. Transient insomnia
5. Difficulty in sleeping due to feeling of hot or flushed
6. Tinnitus

Complications

While elevated blood pressure alone is not an illness, it often requires treatment due to the following short and long term effects like:

1. Cerebrovascular accidents (CVA) or strokes
2. Myocardial infarction
3. Hypertensive cardiomyopathy (heart failure)
4. Hypertensive retinopathy, nephropathy and encephalopathy



5. Congestion in the lungs
6. Left ventricular hypertrophy
7. Epistaxis
8. Blurring of vision owing to retinal changes
9. Impotence
10. Angina pectoris

Investigations

1. 24 hour ambulatory blood pressure monitoring
2. Urine for protein, blood and glucose
3. Serum electrolytes
4. Serum creatinine
5. Renal function test
6. Blood sugar fasting
7. Lipid profile
8. Electro cardiogram (ECG)
9. Chest X Ray (PA view)

Management approaches

a. Prevention

1. Consume plenty of fruits and vegetables such as apple, banana, blackberrie, broccoli, cabbage, carrot, garlic, grape fruit, green leafy vegetable, onion, pea, tomato etc.
2. Consume preferably vegetarian, low fat, low calory diet rich in whole grain, high fibre and nuts
3. Use of garlic and onion in regular diet
4. Practice physical exercises such as brisk walking daily for 30 - 45 minutes
5. Weight reduction (in obese)
6. Limit use of salt (<5 gm/ day), fats and sweets



7. Avoid day sleep, anger, anxiety, hyper activity, over exertion
8. Avoid use of caffeine, alcohol and tobacco

b. Medical management

Line of treatment (Ca. Ci.28/92)

1. **Nidāna parivarjana (avoidance of aetiological factors)** -According to *Ayurveda*, avoidance of the causative factor is the first line of treatment for all diseases. Excess intakes of salt and fatty substance should be avoided and certain medicines such as NSAIDS, steroids, cough syrups etc. are also to be taken carefully.
2. **Samśōdhana cikitsā (Bio-cleansing therapies)** followed by *Śamana cikitsā* (Palliative therapy) should be advocated.
 - i. *Lekhana Vasti* 350-500 ml for 8 days.
 - ii. *Virecana karma* (Purgation) with *Eraṇḍa taila* 15 - 30 ml with half glass of milk at night
 - iii. *Śirodhārā* with medicated liquids (milk/ water/ oils (*Nārāyaṇa taila*) daily 45-90 minutes for 21 days
 - iv. *Takra dhārā* daily 45 minutes for 14 days

*It should be decided by physician according to the condition of the patient whether *śōdhana* therapy is beneficial or not.

3. Drug Therapy

SINGLE DRUGS

Drug	Dosage (per dose)	MOA ^s / Vehicle	Duration*
<i>Sarpagandhā (Rauwolfia serpentina</i> Benth ex. Kurz.) <i>cūrṇa</i>	1 -3 gm	water	15 days
<i>Aśvagandhā (Withania somnifera</i> Dunal) <i>cūrṇa</i>	3-6 gm	Milk	15 days
<i>Jaṭāmāṃsī (Nardostachys jatamansi</i> DC.) <i>cūrṇa</i>	1-3 gm	Water	15 days



<i>Arjuna (Terminalia arjuna W. and A.) tvaka cūrṇa</i>	3-6 gm	Water	15 days
<i>Arjuna (Terminalia arjuna W. and A.) kṣīrapāka</i>	10 -30ml	-	15 days
<i>Rasona (Allium stivum Linn.) kṣīrapāka</i>	10-30 ml	-	15 days

COMPOUND FORMULATIONS

Drug	Dosage (per dose)	MOA/Vehicle	Duration
<i>Māṃsyādi kvātha</i>	10-20 ml	Water	15 days
<i>Sarpagandhā ghana vaṭī</i>	125-250 mg	Water	15 days
<i>Brāhmī vaṭī</i>	125-250 mg	Water	15 days
<i>Prabhākara vaṭī</i>	125-250 mg	Water/Milk	15 days
<i>Arjunāriṣṭa</i>	10-15 ml	Water	15 days
<i>Abhayāriṣṭa</i>	10-15 ml	Water	15 days
<i>Pravāla piṣṭī</i>	250-500 mg	Water	15 days
<i>Śveta parpatī</i>	125-250 mg	Water	15 days
<i>Nāgārjunābhra rasa</i>	125-250 mg	Water/Honey	15 days
<i>Hṛdayārnava rasa</i>	125-250 mg	Honey/ <i>Triphalā kvātha</i>	15 days

§ MOA - Mode of administration

*Initially 2 times in a day after meal for 15 days followed by condition of patient and physician's direction

NOTE: Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

Lekhana Vasti (medicated enema)¹⁷, *Arjuna (Terminalia arjuna W. and A.)*¹⁸, *Arjunavacādi yoga*¹⁹ have shown improvement in the hypertensive patients.



c. Other practices- Complementary or alternative therapies those help to reduce stress and improve quality of life may have some effect on blood pressure.

Yoga- The following *yogic* practices are beneficial in hypertension; however, these should be performed only under the guidance of qualified *Yoga therapist*. Duration should be decided by the *Yoga therapist*.

1. Breathing exercises (hand stretch breathing, hand in and out breathing)
2. *Śavāsana, Vajrāsana, Bhujāṅgāsana, Vagrāsana, Gomukhāsana, Pavanmuktāsana, Katicakrāsana, Ardhaḥaṭi cakrāsana, Taḍāsana,* etc.
3. Practice of *Prāṇāyāma (Candra anuloma viloma, Nāḍīśodhana, Ujjai, Bhrāmarī)*

Counselling - Advice the patient to

1. Regular blood pressure monitoring
2. Maintain healthy weight
3. Practice regular aerobic exercises (e.g. brisk walk, jogging, weight lifting etc.)
4. Increase intake of potassium, calcium and magnesium in diet
5. Relax mind and body by *yoga*, meditation and other methods
6. Consume plenty of fruits and vegetables such as apple, banana, broccoli, cabbage, carrot, garlic, grape, green leafy vegetables, onion, pea, tomato etc.
7. Use anti-inflammatory medicines wisely
8. Avoid cheese, animal fat, aged / stored meat, chocolate, cream, wine and yogurt and artificial sweetner
9. Avoid the use of antihistamines except under a physician's direction
10. Restrict use of sugar and salt in diet
11. Discontinue tobacco and alcohol in any form

Indications for referral

Refer the patient in following conditions

1. Refractory hypertension - suboptimal control of blood pressure in spite of appropriate therapy
2. Target organ damage
3. Secondary hypertension not responding to medication



COSTING DETAILS

APPROX .COSTING OF HYPERTENSION MANAGEMENT

S.No.	Medicine	Requirement	Unit	Rate in Rs.	Cost in Rs.
1.	<i>Sarpagandhā cūrṇa</i>	30-90	gm	0.75	23-68
2.	<i>Aśvagandhā cūrṇa</i>	90-180	gm	0.48	43-86
3.	<i>Jaṭāmāṃsī cūrṇa</i>	30-90	gm	1.0	30-90
4.	<i>Arjuna tvaka cūrṇa</i>	90-180	gm	1.0	90-180
5.	<i>Arjuna kṣīrapāka</i>	300-900	ml	0.50	150-300
6.	<i>Rasona kṣīrapāka</i>	300-900	ml	0.50	150-300
7.	<i>Māṃsyādi kvātha</i>	300-600	ml	0.45	135-270
8.	<i>Sarpagandhā ghana vaṭī</i>	3.75-7.5	gm	5.2	20-40
9.	<i>Brāhmī vaṭī</i>	3.75-7.5	gm	4.4	17-34
10.	<i>Prabhākara vaṭī</i>	3.75-7.5	gm	4.4	17-34
11.	<i>Arjunāriṣṭa</i>	300-450	ml	0.26	78-117
12.	<i>Abhayāriṣṭa</i>	300-450	ml	0.23	69-104
13.	<i>Eraṇḍa taila</i>	50	ml	0.4	20
14.	<i>Pravāla piṣṭi</i>	7.5-15	gm	4.0	30-60
15.	<i>Śveta parpatī</i>	3.75-7.5	gm	3.0	10-20
16.	<i>Nāgārjunābhra rasa</i>	3.75-7.5	gm	5.4	21-42
17.	<i>Hṛdayārṇava rasa</i>	3.75-7.5	gm	8.0	30-60

Approx. costing of Pañcakarma procedure in hypertension **

S.No.	Pañcakarma procedure	Days	Rate in Rs./ day	Cost in Rs.
1.	<i>Lekhana Vasti</i>	8	150	1200
2.	<i>Śirodhārā (with milk)</i>	14	150	2100
3.	<i>Takra dhārā</i>	14	150	2100



2.5 ENDOCRINE DISORDERS

2.5.1 Diabetes mellitus (*Madhumeha*)

Introduction

The metabolic deregulation in terms of increased plasma glucose levels (hyperglycemia) is called Diabetes mellitus. Reduced insulin production and decreased insulin sensitivity are the contributing factors for hyperglycemia. The term diabetes is derived from two greek words meaning 'to go through' in urine / honey like urine, similarly in *Ayurveda* a condition in which a person passes honey like (sweet) urine is called *Madhumeha*. It is one among 20 types of *Prameha* (urological disorder) described in various *Ayurvedic* classics i.e. *Caraka saṃhitā*, *Suśruta saṃhitā*, *Aṣṭāṅga saṅgraha*, *Mādhava nidāna*, *Yōga ratnākara* etc.

Ācāryās have narrated that excess use of *guru* (heavy to digest), *snigdha* (unctuous), *amla* and *lavaṇa rasa*, *navānna* (food prepared from newly harvested grains), new wine, *āsyā sukha* (sedentary life style), *atinidrā* (excess sleep), *avyāyāma* (lack of exercise), *acintā* (lack of mental exercise), abstain from *saṃśodhana* (purification) therapy are the causes of *Madhumeha*²⁰.

Chronic hyperglycemia is associated with significant long term sequelae particularly damage or dysfunction of various organs especially the kidneys, eyes, nerves, heart and blood vessels. Diabetes is the seventh-leading cause of death, and is on the rise, both in developed and developing countries. It is the single most important metabolic disease that affects nearly every organ/ system in the body. Today diabetes affects more than 135 million people worldwide and that number is expected to increase to 300 million by 2025. India has the largest number of Diabetes patient in the world. The data published by the International Diabetes Federation in the year 2006, the number of people with type 2 diabetes in India is around 40.9 million and this is expected to rise to 69.9 million by 2025. In India, about 10% elderly people aged 65 or more have diabetes²¹.



The classification of diabetes is based on the etiology of diabetes

1. Type-I DM - Due to 'Beta' cell destruction, usually leading to absolute insulin deficiency.
2. Type-II DM - Due to variable degree of
 - i. Insulin resistance
 - ii. Impaired Insulin secretion
 - iii. Glucose intolerance and insulin resistance increases with age.
3. Other specific types of Diabetes due to
 - i. Impaired Beta cell function due to genetic defects
 - ii. Impaired Insulin action due to genetic defects
 - iii. Diseases of pancreas
 - iv. Endocrinopathies
 - v. Drugs (chemical induced)
 - vi. Infections- congenital rubella, cytomegalovirus etc.

Risk factors

1. Family history
2. Obesity ($\text{BMI} \geq 27\text{kg/ m}^2$)
3. Age ≥ 45 years
4. Hypertension (B.P. $\geq 140/ 90$ mm of Hg)
5. HDL $\leq 35\text{mg/ dl}$ and/ or triglycerides levels $\geq 250\text{mg/ dl}$
6. Habitual physical inactivity

Clinical features

1. Polyuria
2. Increased appetite (Polyphagia)
3. Excess thirst (polydypsia)
4. Turbidity in urine



5. Debility/ tiredness
6. Weight loss
7. Non-healing ulcer
8. Visual disturbances
9. Inflammation of glans penis

The presentation of symptoms in elderly patients with diabetes may be significantly different from the classic triad of polyuria, polydipsia, polyphagia and weight loss. They may present with fatigue, anorexia, failure to thrive, loss of motivation, difficulty in concentration and urinary incontinence.

Complications

In later stage of diabetes mellitus the following complications may appear

1. Burning sensation (neuropathy) over palmar and plantar region
2. Boils and carbuncles
3. Gangrene
4. General debility
5. Retinopathy
6. Renal tissue damage (nephropathy)
7. Cardiovascular diseases

Investigations

Disease Specific

- i. Measurement of the plasma glucose level
 - a. Random blood sugar (RBS)
 - b. Fasting blood sugar (FBS)
 - c. Post prandial blood sugar (PPBS)
- ii. Urine routine and microscopic
- iii. Glycosylated haemoglobin (HbA1c)
- iv. Lipid Profile



Other related Investigations

- i. Blood urea and serum creatinine
- ii. E.C.G.
- iii. Fundus examination
- iv. Serum electrolytes

Diagnosis²²

The diagnosis will be made by the symptoms and on the basis of plasma glucose levels

1. Fasting plasma glucose ≥ 126 mg/dl after an overnight fasting (or)
2. Random plasma glucose ≥ 200 mg/dl (or)
3. Two hours prandial glucose ≥ 200 mg/dl

Management approaches

a. Prevention

1. Use of various preparations made from *yava* (barley), *mudga* (green gram), old rice, bitter gourd, drum-stick, *methī*, *paṭola* (snake gourd), pumpkin, cucumber, *bimbī*, watermelon, buttermilk, *triphala* etc. are beneficial in diabetic patients
2. *Dinacaryā* (daily regimen) and *ṛtucaryā* (seasonal regimen)
3. Practicing regular exercise/ increase calorie consuming activities (walking, swimming, etc.)
4. Regular use of *rasāyana* drugs (*āmalaki rasāyana* etc.)
5. Restrict sugar/ sugar products, fried food and dairy products
6. Restrict the use of different types of wine, excess use of oil, clarified butter, milk, sugarcane products, cakes and the flesh of domestic and aquatic animals
7. Avoid day sleep and laziness

b. Medical management

Line of treatment (Ca. Ci.6/ 15)

1. *Nidāna parivarjana* (avoidance of aetiological factors) - tubers, sweets, dairy



products, soft drinks, fried foods and sweet fruits like mango, banana, custard apple and date must be restricted for a diabetic patient.

2. If patient is obese then ***Samśōdhana cikitsā*** (bio-cleansing therapies) in the form of *vamana*, *virechana*, *vasti* are to be performed, but it should be decided by the physician that which procedure should be employed. If patient is lean and thin then only ***Śamana cikitsā*** (Palliative therapy) should be given.
3. **Drug therapy** - In *Ayurveda* most of the drugs indicated in diabetes mellitus may act on beta cell of pancreas thus improve insulin production/ increase the insulin sensitivity. The following drugs/ formulations are useful to control type II diabetes mellitus. In case of type I diabetes mellitus, these drugs/ formulations may be used as a supportive therapy in addition to conventional insulin therapy to prevent long term complications.

SINGLE DRUGS

Drug	Dosage (per dose)	MOA ^s / Vehicle	Duration*
<i>Āmalakī</i> (<i>Phyllanthus emblica</i> Gartn.) <i>cūrṇa</i>	3 - 6 gm	Warm water	90 days
<i>Haridrā</i> (<i>Curcuma longa</i> Linn.) <i>cūrṇa</i>	1 - 3 gm	Luke warm water	90 days
<i>Jambū</i> (<i>Syzygium cumini</i> (Linn.) Skeels) <i>bīja cūrṇa</i>	3 - 6 gm	Water	90 days
<i>Meṣaśṛṅgī</i> (<i>Gymnema sylvestre</i> R.Br.) <i>cūrṇa</i>	3 - 6 gm	Water	90 days
<i>Methikā</i> (<i>Trigonella foenum-graecum</i> Linn.) <i>cūrṇa</i>	3 - 6 gm	Water	90 days
<i>Vijayasāra</i> (<i>Pterocarpus marsupium</i> Roxb.) <i>cūrṇa</i>	3 - 6 gm	Water	90 days



COMPOUND FORMULATIONS

Drug	Dosage (per dose)	MOA [§] / Vehicle	Duration*
<i>Niśāmalakī cūrṇa</i>	3 - 6 gm	Honey	90 days
<i>Triphalā cūrṇa</i>	3 - 6 gm.	Luke warm water/ honey	90 days
<i>Śivā guṭikā</i>	6 gm	Water/ milk	90 days
<i>Chandraprabhā vaṭī</i>	250- 500 mg	Water	90 days
* In case of associated complications			
<i>Dhānvantara ghr̥ta</i> (Diabetic carbuncles)	48 gm	Warm water	7 - 10 days
<i>Kṣīra balādi taila</i> (Neuropathy)	6 gm (orally) also used for <i>abhyaṅga</i>	Milk/ warm water	7 - 10 days
<i>Saptāmṛta lauha</i> (Retinopathy)	250 mg	Milk/ <i>ghr̥ta</i>	7 - 10 days
<i>Śilājatvādi vaṭi</i>	250-500 mg	<i>Asana kvātha</i>	7 - 10days

[§] MOA - Mode of administration

*Initially 2 times in a day after meal for 15 days followed by condition of patient and physician's direction.

NOTE: Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

*Vijayasāra (Pterocarpus marsupium)*²³, *Ayush-82*²⁴, *Bimbī (Coccinia indica)*²⁵ have shown improvement in the diabetic patients.

c. Yogic practices: Lean diabetic patients may be advised to perform specific *yoga* positions that are believed to benefit them with the least physical stress. Certain postures are believed to stimulate the endocrine pancreas and improve its function. The following *yogic* practices are beneficial in diabetes mellitus; however, these should be performed only under the guidance of qualified *Yoga therapist*. Duration should be decided by the *Yoga therapist*.

1. *Kaṭicakrāsana, Tāḍāsana, Pavanamuktāsana, Gomukhāsana, Śalabhāsana, Vagrāsana, Śasāngāsana, Dhanurāsana, Mayurāsana, Paścimottānāsana, Ūṣṭrāsana* etc



2. *Bhastrikā, Bhrāmarī, Sūryabhedana prāṇāyāma*
3. *Kunjala, Śaṅkha prakṣāḷana, Vastra dhauti*

Counselling - Advice the patient to

1. Do physical activity at least for 30 - 60 minutes daily
2. Increase the use of barley, wheat, *mudga* and roasted *chanā* (bengal gram) in diet
3. Limit the use of potato, rice, milk, milk products and oily foods
4. Take utmost care of personal hygiene especially of feet and hand
5. Avoid any injury and immediately consult in case of injuries/ skin infections
6. Avoid tobacco and liquor consumption in any form
7. Restrict or stop intake of sweets
8. Regular monitoring of blood glucose level and medical checkup
 - a. Glycosylated haemoglobin (HbA1c) test twice in a year
 - b. Eye examination annually
 - c. Foot examination twice in a year/ daily by the patient
 - d. Renal function screening yearly
 - e. Blood pressure quarterly
 - f. Lipid profile annually
 - g. Cardiac check up once annually

Indications for referral:

- a. Renal failure, severe infections
- b. Associated with complications (diabetic foot, coronary artery disease, diabetic nephropathy, diabetic neuropathy, diabetic retinopathy etc.) and not responding to the medication



COSTING DETAILS

Approx. costing of Diabetes mellitus

S.No.	Medicine	Requirement	Unit	Rate in Rs.	Cost in Rs.
1.	<i>Āmalakī cūrṇa</i>	540-1080	gm	0.25	135-270
2.	<i>Haridrā cūrṇa</i>	180-540	gm	0.30	54-162
3.	<i>Jambū bīja cūrṇa</i>	540-1080	gm	0.20	108-216
4.	<i>Meṣaśṅgī cūrṇa</i>	540-1080	gm	0.40	216-512
5.	<i>Methikā cūrṇa</i>	540-1080	gm	0.40	216-512
6.	<i>Vijayasāra cūrṇa</i>	540-1080	gm	0.4	216-512
7.	<i>Nisāmālakī cūrṇa</i>	540-1080	gm	0.45	243-486
8.	<i>Triphalā cūrṇa</i>	540-1080	gm	0.32	173-346
9.	<i>Śivā guṭikā</i>	1080	gm	4.4	4752
10.	<i>Candraprabhā vaṭī</i>	45-90	gm	2	90-180
11.	<i>Dhānvantara ghr̥ta</i>	680-960	ml	0.36	245-346
12.	<i>Kṣīra balādi taila</i>	85-120	ml	0.43	40-52
13.	<i>Saptāmṛta lauha</i>	3.5-5.0	gm	1.5	5.25-7.5

Approx. costing of *Pañcakarma* procedure in Diabetes mellitus **

S.No.	<i>Pañcakarma</i> procedure	Days	Rate in Rs./ day	Cost in Rs.
1.	<i>Vamana</i> Package (including preparatory and post therapeutic procedures)	11	1000	1000
2.	<i>Virecana</i> Package (including preparatory and post therapeutic procedures)	11	1000	1000



2.6 RESPIRATORY DISEASES

2.6.1 Chronic bronchitis (*Jīrṇa kāsa*)

Introduction

Chronic bronchitis is defined as the presence of chronic productive cough for at least three months in each of two successive years²⁶. Chronic bronchitis, as a cause of chronic obstructive pulmonary disease (COPD) is a significant cause of morbidity, especially in the elderly. Functional impairment of mobility and communication may result from the associated breathlessness and copious respiratory secretions that are produced in chronic bronchitis. Altered mucus secretion in respiratory tracts as a senility change facilitates bacterial adherence. Decreased clearance of the airway due to less effective coughing may predispose to respiratory infection. The prevalence of chronic bronchitis in rural India may be as high as 30% in the over 40 years age group where as in urban India the incidence is around 10%²⁷.

Similarly in *Ayurveda*, a condition in which vitiated *prāṇa vāyu* producing a loud noise as of from a cracked vessel, comes out of the mouth suddenly with expectoration is called *kāsa*. Exposure to smoke, dust etc, consumption of *rukṣa* (non-fatty/ dry) food and suppression of natural urges are the main cause of *kāsa* according to *Ayurveda*.

Aetiology

1. Exposure to dust, fumes, pollutants
2. Respiratory infections
3. Smoking
4. Prolonged use of tobacco

Chronic bronchitis may be associated with other pulmonary diseases such as emphysema, pulmonary fibrosis, bronchial asthma, tuberculosis and sinusitis.



Pathogenesis

The characteristic pathologic features of chronic bronchitis are hyperplasia and hypertrophy of the mucous secreting goblet cell glands and the upper and mid level bronchi. These anatomic airway changes can be quantified pathologically by measurement of goblet cell density, and they are distinct from the smooth muscle changes (asthma) and to alveolar changes (emphysema).

Risk factors

1. Increasing age
2. Smoking (active or passive)
3. Work exposure to toxic chemicals such as silica, cadmium etc.

Clinical features

The following are the most common symptoms of chronic bronchitis

1. Cough
2. Expectoration of mucous
3. Difficulty in breathing
4. Recurrent respiratory infection
5. Decreased exercise tolerance
6. Wheezing

Signs

1. On inspection, barrel shape chest and use of neck muscles (accessory muscles of respiration) during inspiration may be seen.
2. On auscultation specific sounds such as moist rales, crackling and wheezing may be heard that indicate airway narrowing and fluid secretion in the bronchial tubes.

Complications

Potential complications of chronic bronchitis are

1. Pulmonary hypertension



2. Cardiomegaly and heart failure
3. Cardiac arrhythmias
4. Pneumothorax
5. Pneumonia and other opportunistic infections

Investigation

In addition to the complete medical history and physical examination, following investigation should be done

1. Pulmonary function test (PFT)
 - Spirometry
 - Peak flow monitoring
2. Pulse oximetry
3. X-Ray chest (PA view)
4. BAL (Broncho Alveolar Lavage) fluid analysis (if required)
5. CT Scan of lungs, if required
6. Complete haemogram
7. Sputum analysis

Management approaches

a. Prevention

1. Use of *gōdhūma* (wheat), *mudga* (green gram), *kulattha* (horse gram) old rice *paravala* (snake gourd), hot pungent diet, *rasōna* (garlic), *haridrā* (turmeric), *ādraka* (ginger), *kṛṣṇa marica* (black pepper), *miśrī*, (sugar candy), *guḍa* (jaggery), *tulasī* (holy basil), cow's urine, raisins, *śuṅṭhī* (dry ginger), *elā* (cardamom), goat milk, honey, luke warm water, fruits like *āmalakī* and *drākṣā* (grapes) are beneficial
2. Practice of physical and respiratory exercises (*prāṇāyāma* and *yoga*) regularly
3. Use of *cyavanaprāśa/ agastya harītakī* (1 teaspoon with milk in the morning) and *indukānta ghr̥ta* 2 teaspoon with milk after food especially in winter (if the patient is non-diabetic).
4. Use of goat's milk regularly (if possible)



5. Avoid sweets, chilled food items, curd, contaminated water, mustard leaves and incompatible food, oily and fried food
6. Avoid exposure to cold, humid atmosphere, smoke, dust, fuel, pollen, fumes and pollution
7. Avoid chemical and environmental irritants
8. Avoid sleep in day time
9. Avoid tobacco use in any form

b. Medical management

Line of treatment (Ca. Ci.18/32-34)

1. **Nidāna parivarjana (avoidance of aetiological factors)** - To manage the bronchitis causative factors should be avoided first. Smoking, use of tobacco, exposure of dust, fumes, pollutants etc. should be avoided and other pulmonary diseases should be corrected timely.
2. **Samśodhana cikitsā** (Bio-cleansing therapies) followed by **Śamana cikitsā** (Palliative therapy) should be advocated. But it should be decided by physician according to the condition of the patient whether **Śodhana** therapy (Bio-cleansing therapies) should be given or not.
 - i. *Snehana* externally with oil (preferably *Tila taila/ Sarṣapa taila/ Daśamūla taila/ Karpūra taila*) mixed with *Saindhava lavaṇa* .
 - ii. Internal *Snehana* (internal oleation) with medicated *ghṛta* (*Kaṇṭakārī ghṛta, Vāsā ghṛta, Indukānta ghṛta, Vidāryādi ghṛta, Śaṭphala ghṛta* etc) 50 ml with 2-3 gm *saindhava lavaṇa* daily for 3-7 days before *pañcakarma* (bio cleansing procedure).
 - iii. *Ekāṅga sveda* (hot fomentation), *Sarvāṅga svēda* (steam bath) for 1-2 days
 - iv. *Sneha virechana with Eraṇḍa taila* 10 - 20 ml with half glass of milk at night

3. Drug therapy

Numbers of herbal and herbo-mineral preparations are in practice which strengthen the respiratory system and have curative effect in respiratory disorders. The following drugs/ formulations may act as expectorant, bronchodilator and immunomodulator and helpful in patients.



SINGLE DRUGS

Drug	Dosage (per dose)	MOA ^s / Vehicle	Duration*
<i>Vāsā</i> (<i>Adhatoda vasica</i> Nees.) <i>svarasa</i>	10 ml	Honey	15 days
<i>Pippalī</i> (<i>Piper longum</i> Linn.) <i>cūrṇa</i>	1-3 gm	Honey	15 days
<i>Śuṅṭhī</i> (<i>Zingiber officinale</i> Rose.) <i>cūrṇa</i>	1-3 gm	Honey	15 days
<i>Tulasī</i> (<i>Ocimum sanctum</i> Linn.) <i>svarasa</i>	10 ml	Honey	15 days
<i>Ārdraka</i> (<i>Zingiber officinale</i> Rose.) <i>svarasa</i>	10 ml	Honey	15 days
<i>Haridrā</i> (<i>Curcuma longa</i> Linn.) <i>cūrṇa</i>	1 -3 gm	Luke warm water	15 days

COMPOUND FORMULATIONS

Drug	Dosage (per dose)	MOA ^s / Vehicle	Duration*
<i>Sṛṅgyādi cūrṇa</i>	1-2 gm	Honey	15 days
<i>Sitopalādi cūrṇa</i>	2.5 gm	<i>Ghṛta</i> / honey	15 days
<i>Tālīsādi cūrṇa</i>	2.5 gm	Honey	15 days
<i>Trikaṭu cūrṇa</i>	1- 2 gm	Honey/ warm water	15 days
<i>Gōjihvādi kvātha cūrṇa</i>	10-20 gm	Water	15 days
Daśamūla kaṭutraya kaṣāya	15-30 ml	Honey	15 days
Śvāsānandam guṭikā	250-500 mg	Water	15 days
<i>Marīcyādi vaṭī</i>	1.5gm	Chewable	15 days
<i>Khadirādi guṭikā</i>	500mg - 1 gm	Honey	15 days
<i>Lavaṅgādi vaṭī</i>	500mg - 1 gm	Warm water	15 days
<i>Kaṇṭakārī ghṛta</i>	15-30ml	Warm water	15 days
<i>Indukānta ghṛta</i>	3-6 gm	Warm water / milk	15 days



<i>Vidāryādi ghr̥ta</i>	10 gm	Warm water / milk	15 days
<i>Vāsāvāleha</i>	6 gm	Milk / water	15 days
<i>Cyavanaprāśa</i>	6 gm	Water / milk	15 days
<i>Kaṇṭakāryāvāleha</i>	6 gm	Milk / water	15 days
<i>Kanakāsava</i>	12-24 ml	Water	15 days
<i>Causaṭa praharī pippalī</i>	125mg - 250mg	Honey	15 days

§ MOA - Mode of administration

*Initially 2 times in a day after meal for 15 days followed by condition of patient and physician's direction

NOTE: Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

The following *rasāyana* medicines (rejuvenators) may be used to strengthen respiratory system (these may be employed for about 30 days and repeated after 4-6 months)

<i>Cyavanaprāśa</i>	5 - 10 gm	Before breakfast and at bedtime with milk boiled with 1gm <i>śuṇṭhī</i> / <i>haridrā cūrṇa</i>
<i>Agastya harītakī rasāyana</i>	5 - 10 gm	Before breakfast and bedtime with milk boiled with 1gm <i>śuṇṭhī</i> / <i>haridrā cūrṇa</i>
<i>Drākṣāvāleha</i>	5 - 10 gm	Before breakfast and bedtime with Milk boiled with 1gm <i>śuṇṭhī cūrṇa</i>
<i>Indukānta ghr̥ta</i>	5 - 10 gm	With milk after food

Bṛhatī (*Solanum indicum*) and *Kaṇṭakāri* (*Solanum xanthocarpum*)²⁸, *Cyavanaprāśa*²⁹, *Kaṭukī* (*Picrorhiza kurroa*)³⁰ and *Vibhītakī* (*Terminalia belerica*)³¹ powder have shown improvement in the COPD patients.

c. Yogic practices- The following *yogic* practices are beneficial in chronic bronchitis; however, these should be performed only under the guidance of qualified *Yoga therapist*. Duration should be decided by the *yoga therapist*.

1. *Kuñjala* with lukewarm water, *Jalaneti*



2. *Sūrya namaskāra, Śavāsana, Sarvāṅgāsana, Maṇḍūkāsana, Gomukhāsana, Trikoṇāsana, Ardhaḥaṭṭicakrāsana*
3. Deep relaxation techniques, *Yoga nidrā*

Counselling - Advice the patient to

1. Practice breathing (*prāṇāyāma*) and other regularly exercises
2. Drink plenty of fluids
3. Use lukewarm water in place of cold water
4. Add garlic, turmeric, holy basil, clove etc. in diet
5. Take nutritious diet rich in antioxidants, potassium, magnesium, selenium and zinc
6. Avoid allergic food and exposure to irritants like air pollution, fume, pollen etc.
7. Don't reside in humid, damp, dusty and smoky atmosphere
8. Avoid tobacco consumption in any form

Indications for referral

1. Patients not responding to therapy
2. Patient with acute respiratory distress/ failure
3. Patients with acute pulmonary infection
4. Patient with cardiac disease

COSTING DETAILS

Approx. costing of Chronic Bronchitis (Jīrṇa Kāsa)

S.No.	Medicine	Requirement	Unit	Rate in Rs.	Cost in Rs.
1.	<i>Haridrā cūrṇa</i>	30-60	gm	0.3	9-18
2.	<i>Pippalī cūrṇa</i>	30-60	gm	0.6	18-36
3.	<i>Śuṅṭhī cūrṇa</i>	30-60	gm	0.5	15-30
4.	<i>Tulasī svarasa</i>	300	ml	0.50	150
5.	<i>Ārdraka svarasa</i>	300	ml	1.0	300



6.	<i>Śṛṅgyādi cūrṇa</i>	30-60	gm	1.75	52-104
7.	<i>Sitopalādi cūrṇa</i>	75	gm	1.12	85
8.	<i>Tālīsādi cūrṇa</i>	75	gm	0.58	44
9.	<i>Trikaṭu cūrṇa</i>	60-120	gm	2.3	138-276
10.	<i>Gōjivhādi kvātha cūrṇa</i>	300-600	gm	0.5	150-300
11.	<i>Daśamūla kaṭutraya kaṣāya</i>	450-900	ml	0.32	145-290
12.	<i>Śvāsanandam guṭikā</i>	7.50-15.00	gm	5.3	40-80
13.	<i>Maricyādi vaṭī</i>	45	gm	1.8	83
14.	<i>Khadirādi guṭikā</i>	15-30	gm	1.6	24-48
15.	<i>Lavaṅgādi vaṭī</i>	15-30	gm	1.4	21-42
16.	<i>Kaṇṭakārī ghr̥ta</i>	450-900.	ml	0.345	156-311
17.	<i>Indukānta ghr̥ta</i>	90-180	gm	0.45	41-82
18.	<i>Vāsāvaleha</i>	180	gm	0.33	60
19.	<i>Cyavanaprāśa</i>	360	gm	0.25	90
20.	<i>Kaṇṭakāryāvaleha</i>	180	gm	0.36	65
21.	<i>Agastya harītakī rasāyana</i>	180	gm	0.30	54
22.	<i>Drākṣāvaleha</i>	180	gm	0.24	72
23.	<i>Kanakāsava</i>	375-750	ml	0.14	53-106
24.	<i>Causaṭa praharī pippalī</i>	3.75-7.5	gm	1.4	5.25-11

Approx. costing of Pañcakarma procedure in Chronic bronchitis **

S.No.	Pañcakarma procedure	Days	Rate in Rs./ day	Cost in Rs.
1.	<i>Snehapāna package</i>	3-7	-	750
2.	<i>Snehana externally</i>	1-2	200	200-400
3.	<i>Sarvāṅga sveda</i>	1	100	100
4.	<i>Virecana package</i> (including preparatory and post therapeutic procedures)	11	-	1000



2.6.2 Bronchial asthma (*Tamaka Śvāsa*)

Introduction

Bronchial Asthma is an inflammatory disorder of the airways characterized by increased responsiveness of the trachea and bronchi to various stimuli resulting in narrowing of the airways due to bronchial spasm and edema in bronchial mucous membrane. These changes are reversible either spontaneously or with medication. It may be acute or paroxysmal in type. Most asthmatic patients are diagnosed by triad episodic symptoms (wheezing, cough and dyspnoea). In older people, it is not easy to differentiate whether it is certainly a case of asthma, as these symptoms are also seen in other diseases because of poor respiratory function due to ageing. Bronchial asthma is increasing day by day with the increase in pollution levels and the stressful lifestyle. The prevalence of asthma in elderly people varies from 6.5 to 10%, however the incidence is dependent on environmental condition, occupational patterns, genetic configuration and dietary pattern of the population besides diagnostic criteria adopted by different investigators³². Bronchial asthma is similar to disease entity '*Tamaka Śvāsa*' described in *Ayurveda*. *Tamaka śvāsa* is a condition in which difficulty in breathing occurred due to the obstruction to *prāṇavāyu* due to vitiated *kapha*. According to *Ayurveda*, main causes of *tamaka śvāsa* are unwholesome diet (*vidāhī, guru, rūkṣa, abhiṣyandī* diet), exposure to allergen (cold air, dust, smoke etc.), excessive exertion etc., which are very close to etiology of bronchial asthma.

Treatment of asthma in older people needs much more attention and care. Corticosteroids can cause softening of bone resulting into fracture of fragile bones. Incidence of acquiring tuberculosis also increases in patients who are on corticosteroids.

Asthma is a heterogeneous disease, is broadly described in to two types

1. Allergic - often associated with a personal/ family history of allergic diseases like rhinitis, urticaria, eczema etc.
2. Idiosyncratic - there is no personal/ family history of allergy.

Aetiology

The causes contributing to attacks of asthma can be divided into two groups

1. Predisposing factors
 - Hereditary factors
 - Psychological factors - anxiety, frustration, fatigue, over exertion, sleeplessness
 - Endocrine cause - in women particularly before menstruation and perimenopausal period



- History of hay fever, urticaria, infantile eczema or migraine
2. Exciting factors
 - Hypersensitivity to various allergens, such as moulds, powder, feathers, dust, pollen, dandruff and ingested allergens such as - wheat, milk, chocolate, potatoes etc.
 - Drugs and chemicals - Aspirin, gum acacia and Iodine
 - Infections of bronchial tree - Viral, bacterial
 - Climatic changes
 - Physical exertion

Pathogenesis

In asthma, hyperreactivity of the bronchi to various stimuli occurs due to infiltration of airways by eosinophils, activation of T-cell and production of cytokines as well as other mediators. An increase in mast cell numbers and desquamation of airway epithelium resulting inflammation, that causes remodeling of the airways with mucosal thickening and smooth muscle hypertrophy. Finally obstruction of airways due to narrowing of bronchioles causes increased airway resistance resulting difficulty breathing.

Clinical features

1. Wheezing
2. Breathlessness (Dyspnoea)
3. Productive cough
4. Shortness of breath, feels comfortable in the sitting position
5. Nocturnal awakening with dyspnoea and/ or wheezing
6. Feeling of tightness in the chest
7. Disturbed sleep
8. Symptoms aggravated by cloudy and rainy season cold waves and wind
9. Unable to expectorate the sputum (some times)
10. Occasional giddiness



Signs

On auscultation bilateral rhonchi /coarse rales/ crepitation may be heard throughout the entire chest.

Investigation

1. Complete haemogram
2. X-Ray chest (P.A. and Lateral view)
3. Absolute Eosinophilic Count (AEC)
4. Sputum examination
5. Spirometry
6. Serum IgE levels
7. Skin allergy test

Differential Diagnosis

Patients with above said symptoms and signs may to be ruled out of the following

1. Disease from cardiac origin (presents with previous history of cardiac problems, increased jugular venous pressure (JVP) and pedal edema are seen)
2. Laryngeal edema
3. Upper airway obstruction by tumor
4. Chronic bronchitis
5. Eosinophilic pneumonias
6. Pulmonary tuberculosis

Management approaches

a. Prevention

1. Usage of *godhūma* (wheat), *mudga* (green gram), *kulattha* (horse gram) *yava* (barley), old rice, *paraval* (snake gourd), hot pungent diet, *rasona* (garlic), *haridrā* (turmeric), *ādraka* (ginger), *kṛṣṇa marica* (black pepper), *miśrī* (sugar candy), *guḍa* (jaggery), *tulasī* (holy basil), cow's urine, raisin, *śuṅṭhī* (dry ginger), *elā*



(cardamom), goat milk, honey, Luke warm water, fruits like *āmalakī* and *drākṣā* (grape).

2. Use lukewarm water
3. Regular practice of *yoga* and *prāṇāyāma*
4. *Virecana karma* in *śarada ṛtu*
5. Use of *cyavanaprāśa/ agastya harītakī* (1 teaspoon with milk in the morning) and *indukānta ghṛta* 2 teaspoon with milk after food especially in winter (if the patient is non- diabetic)
6. Avoid fish, heavy diet, *māṣa* (black gram), fried items, mustard leaves, cool drinks, ice-creams etc.
7. Avoid banana, lemon and guava fruit (if allergic to)
8. Avoid exposure to cold and humid atmosphere, smoke, dust and fumes, chilled water, stored food items, curd and curd preparations
9. Avoid excessive day sleep/ excess exercise
10. Avoid suppression of natural urges
11. Avoid use of tobacco in any form

b. Medical management

Line of treatment (*Ca. Ci. 17/71-77*)

1. ***Nidāna parivarjana* (avoidance of aetiological factors)** - Patients with bronchial asthma should avoid exposure to allergens and chemicals, allergic food articles, cold breeze, over exertion, anxiety etc.
2. ***Samśodhana cikitsā*** (Bio-cleansing therapies) followed by ***Śamana cikitsā*** (Palliative therapy) should be advocated.
 - i. External *Snehana* (oleation) with oil (preferably *Tila taila*, *Sarṣapa taila*, *Daśamūla taila*, *Karpūra taila*) mixed with *Saindhava lavaṇa*
 - ii. Internal *Snehana* (internal oleation) with medicated *ghṛta* (*Kaṇṭhakārī ghṛta*, *Vāsā ghṛta* etc.) 50 ml with 2-3 gm *saindhava lavaṇa* daily for 3-7 days before *pañcakarma* (bio cleansing procedure)
 - iii. *Ekāṅga sveda* (hot fomentation), *sarvāṅga sveda* (steam bath) for 1-2 days
 - iv. *Virecana* (therapeutic purgation) with *Eraṇḍa taila* 10-20 ml at bedtime *virecana*



should be decided by physician according to the condition of the patient whether Śodhana (bio-cleansing) therapy is to be advocated or not

v. Steam inhalation with *Tulasī*, *karpūra*, *haridrā*, menthol etc.

3. Drug Therapy

The following drugs/ formulations may act as expectorant, bronchodilator and immunomodulator and helpful in asthmatic patients.

SINGLE DRUGS

Drug	Dosage (per dose)	MOA ^s / Vehicle	Duration*
<i>Haridrā</i> (<i>Curcuma longa</i> Linn.) <i>cūrṇa</i>	1-3 gm	Luke warm water	7 days
<i>Pippalī</i> (<i>Piper longum</i> Linn.) <i>cūrṇa</i>	1-2gm	Honey	7 days
<i>Śuṅṭhī</i> (<i>Zingiber officinale</i> Rose.) <i>cūrṇa</i>	1-2 gm	Honey	7 days
<i>Puṣkaramūla</i> (<i>Inula racemosa</i> Hook.f.) <i>cūrṇa</i>	1-3 gm	Water	7 days
<i>Tulasī</i> (<i>Ocimum sanctum</i> Linn.) <i>svarasa</i>	10 ml	Honey	7 days
<i>Ārdraka</i> (<i>Zingiber officinale</i> Rose.) <i>svarasa</i>	10 ml	Honey	7 days
<i>Vāsā</i> (<i>Adhatoda vasica</i> Nees.) <i>svarasa</i>	10 ml	Honey	15 days

COMPOUND FORMULATIONS

Drug	Dosage (per dose)	MOA ^s / Vehicle	Duration*
<i>Śṛṅgyādi cūrṇa</i>	1-2gm	Honey	15 days
<i>Sitopalādi cūrṇa</i>	2.5 gm	<i>Ghṛta</i> / Honey	15 days
<i>Tālisādi cūrṇa</i>	2.5 gm	Honey	15 days
<i>Trikaṭu cūrṇa</i>	500 mg - 1 gm	Honey/ Warm water	15 days
<i>Gojihvadi kvātha cūrṇa</i>	10-20 gm	Water	15 days



<i>Daśamūla kaṭutraya kaṣāya</i>	15-30 ml	Honey	15 days
<i>Elādi vaṭī</i>	1.5gm	Honey	15 days
<i>Maricyādi vaṭī</i>	1.5gm	Chewable	15 days
<i>Kasturyādi guṭikā</i>	125 mg	<i>Jīraka kvātha</i>	15 days
<i>Lavaṅgādi vaṭī</i>	500mg - 1 gm	Warm water	15 days
<i>Gorocanādi vaṭī</i>	125 mg	<i>Ārdraka svarasa</i>	15 days
<i>Vāsāvaleha</i>	6 gm	Milk/ Water	15 days
<i>Cyavanaprāśa</i>	12 gm	Water/ Milk	15 days
<i>Kaṇṭakārī avaleha</i>	6 gm	Milk/ Water	15 days
<i>Vyāghrīharītakī</i>	6 gm	Milk/ Water	15 days
<i>Kanakāsava</i>	5 - 10 ml	Water	15 days
<i>Indukānta ghṛta</i>	10 gm	Warm water/ Milk	15 days
<i>Śṛṅga bhasma</i>	125 - 250 mg	<i>ghṛta</i> / Honey	15 days
<i>Ṭaṅkaṇa bhasma</i>	125 - 250 mg	Honey/ Water	15 days
<i>Causaṭa praharī pippalī</i>	125 - 250 mg	Honey	15 days

The following *Rasāyana* medicines (rejuvenators) may be used to strengthen respiratory system (these may be employed for about 30 days and repeated after 4-6 months)

<i>Cyavanaprāśa</i>	1 spoon (15 -25 gm)	Before breakfast and at bedtime with milk boiled with 1gm <i>śuṅṭhī</i> / <i>haridrā cūrṇa</i> .
<i>Agastya harītakī Rasāyana</i>	1 spoon (15 -25 gm)	Before breakfast and at bedtime with milk boiled with 1gm <i>śuṅṭhī cūrṇa</i> / <i>haridrā cūrṇa</i> .
<i>Drākṣāvaleha</i>	1 spoon (15 -25 gm)	Before breakfast and bedtime with Milk boiled with 1gm <i>śuṅṭhī cūrṇa</i> .
<i>Indukānta ghṛta</i>	5 - 10 gm	With milk after food

§ MOA - Mode of administration

*Initially 2 times in a day after meal for 15 days followed by condition of patient and physician's direction



NOTE: Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

Kaṇṭakārī (*Solanum xanthocarpum*)³³, *Śirīṣa* (*Albegia lebbeck*)³⁴, *Tvak* (*Cinnamomum zeylanicum*) *kvātha*, *Kaṭukī* (*Picrorhiza kurroa*)³⁵, *Vibhītakī* (*Terminalia belerica*) *phala cūrna*³⁶ have shown improvement in the asthmatic patients.

c. Yogic practices- The following *yogic* practices are beneficial in Bronchial asthma; however, these should be performed only under the guidance of qualified *Yoga therapist*. Duration should be decided by the *Yoga therapist*.

1. *Kuñjala* with lukewarm water, *Vastra dhauti*
2. *Sūrya namaskāra*, *Sarvāṅgāsana*, *Gomukhāsana* and *Śavāsana*
3. *Kapālabhāti*, *Bhastrikā*, *Sūryabheda prāṇāyāma*
4. Breathing exercises (hand stretch breathing, hand in and out breathing, tiger breathing)

Counselling - Advice the patient to

1. Sip a glass of hot water or tea during attack
2. Practice breathing exercises (*prāṇāyāma*) regularly
3. Drink plenty of fluids
4. Use lukewarm water in place of cold water
5. Take light food in the night
6. Take freshly cooked diet articles preferably
7. Avoid excessive exertion/ emotional upset
8. Avoid allergic food
9. Avoid to reside in humid, damp, dusty and smoky atmosphere
10. Avoid tobacco and consumption of liquor
11. Avoid cool drinks, ice creams and refrigerated food items
12. Avoid cold items immediately after taking hot items



Indications for referral

1. Patients with severe attacks of asthma and not responding to therapy
2. Patient with acute respiratory distress/ failure
3. Status asthmaticus

COSTING DETAILS

Approx. costing of Bronchial asthma (Tamaka śvāsa)

S.No.	Medicine	Requirement	Unit	Rate in Rs.	Cost in Rs.
1.	<i>Haridrā cūrṇa</i>	30-60	gm	0.3	9-18
2.	<i>Pippalī cūrṇa</i>	30-60	gm	0.6	18-36
3.	<i>Śuṅṭhī cūrṇa</i>	30-60	gm	0.5	15-30
4.	<i>Puṣkaramūla cūrṇa</i>	30	gm	1.0	30
5.	<i>Tulasī svarasa</i>	300	ml	0.50	150
6.	<i>Ārdraka svarasa</i>	300	ml	1.00	300
7.	<i>Śṛṅgyādi cūrṇa</i>	30-60	gm	1.75	52-104
8.	<i>Sitopalādi cūrṇa</i>	75	gm	1.12	84
9.	<i>Tālīsādi cūrṇa</i>	75	gm	0.58	45
10.	<i>Trikaṭu cūrṇa</i>	60-120	gm	2.3	138-276
11.	<i>Gojihvādi kvātha cūrṇa</i>	300-600	gm	0.5	150-300
12.	<i>Daśamūla kaṭutraya kaṣāya</i>	450-900	ml	0.32	145-290
13.	<i>Elādi vaṭī</i>	45	gm	1.9	86
14.	<i>Maricyādi vaṭī</i>	45	gm	1.8	81
15.	<i>Kasturyādi guṭikā</i>	3.75	gm	10.8	40.5
16.	<i>Lavaṅgādi vaṭī</i>	45	gm	1.4	63
17.	<i>Gorocana vaṭī</i>	3.75	gm	21.6	81
18.	<i>Kaṅṭakārī ghṛta</i>	450-900.	ml	0.345	156-311



19.	<i>Vāsāvāleha</i>	180	gm	0.33	60
20.	<i>Cyavanprāśa</i>	360	gm	0.25	90
21.	<i>Kaṇṭakārī avāleha</i>	180	gm	0.36	65
22.	<i>Vyāghrīharītakī</i>	180	gm	0.36	65
23.	<i>Agastya harītakī rasāyana</i>	300-600	gm	0.30	90-180
24.	<i>Drākṣāvāleha</i>	300-600	gm	0.24	72-144
25.	<i>Kanakāsava</i>	375-750	ml	0.14	53-106
26.	<i>Śṛṅginga bhasma</i>	3.75-7.5	gm	2	7.5-15
27.	<i>Ṭaṅkaṇa bhasma</i>	3.75-7.5	gm	2	7.5-15
28.	<i>Causaṭa praharī pippalī</i>	3.75-7.5	gm	1.4	5.25-11

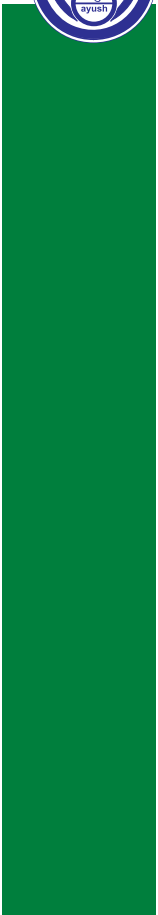
Approx. costing of *Pañcakarma* procedure in Bronchial asthma **

S.No.	<i>Pañcakarma</i> procedure	Days	Rate in Rs./ day	Cost in Rs.
1.	<i>Snehana</i> externally	1-2	200	200-400
2.	<i>Ekāṅga sveda</i>	1-2	100	100-200
3.	<i>Virecana Package</i> (including preparatory and post therapeutic procedures)	11	1000	1000





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2.7 GASTRO-INTESTINAL DISEASES

2.7.1 Constipation (*Vibandha*)

Introduction

Constipation is a general term used by patients to indicate fewer bowel movements, hard stools, painful defaecation and feeling of bloating, abdominal discomfort or incomplete elimination³⁷. It is a very common gastro-intestinal disorder experienced by most people at some time during their life time. Numerous conditions can lead to constipation by disrupting the normal process of absorption, stool formation and propelling of feces within the large intestine. Constipation is very similar to the disease condition *Vibandha* described in *Ayurveda*.

Constipation may be just due to a poor diet with insufficient fiber, poor fluid intake or a side effect of certain medication. Sometimes it may be due to any mechanical obstruction or a serious problem such as colon cancer.

Elderly people are more likely to suffer from constipation due to changes in diet, medication and/ or decreased mobility and intestinal motility. The exact figure on the prevalence of constipation is not known. Around 2% of the population suffers recurrent and constant constipation and is more common in women than in men. The overall prevalence of self reported constipation is 24 to 37%. In the institutionalized elderly, up to 50% self-report constipation and up to 74% use laxatives daily³⁸.

Aetiology

Constipation occurs when the large intestine absorbs too much water from the stool result into dry and hard stools. It may also be due to inadequate contraction of bowel walls to expel the stool and waste product. It occurs due to

1. Poor diet and liquid intake (low fiber diet, less quantity etc.)



2. Immobility and lack of exercise
3. Ageing, stress and travel
4. Ignoring the urge to defecate
5. Inadequate fluid intake
6. Medications (antacids, anti-histamines, anti-psychotic drugs, aspirin, beta blockers, anti-hypertensive drugs, iron and calcium supplements, diuretics, calcium channel blockers etc.)
7. Secondary to another disease (hypothyroidism, anal fissure, chronic renal failure, colon or rectal cancer, hypercalcaemia)

Risk factors:

1. Older age
2. Female gender
3. Less exercise/ physical activity
4. Low calorie intake

Clinical features

The following symptoms may be associated with constipation

1. Passage of hard stools
2. Abdominal pain/ discomfort or bloating
3. Straining during passage of stools
4. Headache
5. Malaise
6. Feeling of incomplete evacuation

Complications

Although constipation is rarely serious, but in chronic stage it may lead to

1. Bowel obstruction
2. Hemorrhoids



3. Rectal prolapse
4. Hernia
5. Spastic colitis
6. Laxative abuse - A large number of people use laxatives (self-medication) for constipation. This is not a good practice, especially if these are used regularly for longer duration. Chronic laxative use can alter the normal physiological functions of the intestines.
7. Excessive straining may have deleterious effects on the cerebral, coronary, and peripheral arterial circulation resulting in syncope, cardiac ischemia, and transient ischemic attacks.

Diagnosis³⁹

Criteria for diagnosing chronic functional constipation

- a. Presence of two or more of the following symptoms, for at least 12 weeks in the preceding year
 1. Straining with > 25% of bowel movements
 2. Sense of incomplete evacuation with > 25% of bowel movements
 3. Hard or pellet stools with > 25% of bowel movements
 4. Manual evaluation maneuvers with > 25% of bowel movements
 5. Feeling of anorectal blockage with > 25% of bowel movements
 6. Number of bowel movements two or less per week
- b. Absence of loose stools and insufficient criteria for irritable bowel syndrome

Investigations

1. Stool examination
2. Barium enema
3. Lower G.I. Endoscopy
4. Ultra-sonography (whole abdomen)
5. Complete haemogram
6. Sigmoidoscopy



Management approaches

a. Prevention

1. Consumption of *godhūma* (wheat), *mudga* (green gram), old rice, *rasona* (garlic), seasonal fruits, high fiber diet, *hiṅgu* (asafoetida), *drākṣa* (grapes), *āmalakī* (*Phyllanthus emblica* gartn), *harītakī* (*Terminelia chebula* Retz.), *pippalī* (long pepper), *śuṅṭhi* (dry ginger), green leafy vegetables and lukewarm water
2. Consumption of light and easily digestible high fiber diet
3. Drink plenty of fluids and water (minimum 2-3 lt. per day)
4. Drink a glass of warm water, early in the morning (This helps in gastro-colic reflex and results into bowel evacuation)
5. Practice regular exercise
6. Follow a healthy dietetic plan that emphasise fruits, green leafy and other vegetables and fibre rich diet
7. Avoid irregular food habits, heavy, unwholesome, excess oily and spicy food items, bakery and preserved items
8. Avoid suppression of natural urges, excess tea, coffee, smoking
9. Avoid using self medication

b. Medical management

Line of treatment (Ca. Ci. 28/ 90)

1. ***Nidāna parivarjana* (avoidance of aetiological factors)** - Incompatible diet, irregular food habits, low fiber diet, stress, and inadequate fluid intake should be avoided.
2. ***Samśodhana cikitsā*** (Bio-cleansing therapies) followed by ***Śamana cikitsā*** (Palliative therapy) should be advocated.
 - i. *Snehapāna* (internal oleation) with *Sukumāra ghr̥ta* 50 ml with 2-3 gm *saindhava lavaṇa* daily for 3-7 days before *pañcakarma* (bio- cleansing procedure)
 - ii. *Sarvāṅga sveda* for 1 day
 - iii. *Virecana* (therapeutic purgation) with*
 - Drākṣā* (*Vitis vinifera*) - 10 gm
 - Āragvadha* (*Cassia fistula*) -10 gm



Harītakī (*Terminalia chebula*) - 10 gm

Kuṭakī (*Picrorhiza curroa*) - 5 gm along with 1 teaspoon full *Eraṇḍa* (*Ricinus communis*) *taila*

or

Eraṇḍa taila 10 - 20 ml with half glass of milk at night

iv. *Vasti*

- *Anuvāsana vasti* with *Daśamūla taila/ Pippalyādi taila* 50ml and *Nirūha vasti* with *Daśamūla kvātha* 240 ml, honey 120 ml, *Pippalyādi taila* 120 ml, *saindhava lavaṇa* 5 gm etc. alternately for 8 days (*Yoga vasti krama*)

v. *Phalavarti* (medicated suppositories)

Virechana and *Vasti* should be decided by physician according to the condition of the patient whether *Śodhana* therapy (bio-cleansing therapies) is beneficial or not.

* (Above said formulations and dosage are common in practice but dose should be adjusted by the physician according to patient's condition)

3. Drug therapy

If life style modifications fail to relieve the constipation, then only pharmacological therapy usually with laxatives carminatives and *pācana* drugs should be started.

SINGLE DRUGS

Drug	Dosage (per dose)	MOA ^s / Vehicle	Duration*
<i>Aśvagola</i> (<i>Plantago ovata</i> Forsk.) (<i>Isabgol</i>) <i>cūrṇa</i>	2-5 gm	Warm water/ milk at bed time	S.O.S.
<i>Sonāmukhī</i> (<i>Cassia aungustifolia</i> Vahl.) <i>cūrṇa</i>	1-2 gm	Lukewarm water at bed time	S.O.S.
<i>Harītakī</i> (<i>Terminalia chebula</i> Retz) <i>cūrṇa</i>	3 gm	Lukewarm water at bed time	S.O.S.

COMPOUND FORMULATIONS

Drug	Dosage (per dose)	MOA ^s / Vehicle	Duration*
<i>Hiṅgvaṣṭaka cūrṇa</i>	1.5-3 gm.	<i>Ghūta/ Luke</i> warm water	3 days



<i>Triphalā cūrṇa</i>	2-3 gm	Luke warm water	3 days
<i>Lavaṇabhāskara cūrṇa</i>	1-2.5 gm	Butter Milk	3 days
<i>Avipattikara cūrṇa</i>	5 gm	Water/ Milk	3 days
<i>Pañcasakāra cūrṇa</i>	1.5-3 gm	only at bed time with Water	3 days
<i>Gandharvahastādi kaṣāya</i>	15 ml	Water	7 - 10 days
<i>Citrakādi vaṭī</i>	1.5 gm	Water	7 days
<i>Kaisora guggulu</i>	1.5 gm	Milk	7 days
<i>Eraṇḍa pāka</i>	3-6 gm	Luke warm water	3 days
<i>Kalyāṇaguḍa</i>	3-6 gm	Luke warm water	3 days
<i>Kumāryāsava</i>	12-24 ml	Water	7 days
<i>Abhayāriṣṭa</i>	12-24 ml	Water	7 days
<i>Eraṇḍa Taila</i>	10-20 ml	Lukewarm water only at bed time	S.O.S.
<i>Hiṅgutriguṇa taila</i>	10-20 ml	Lukewarm water	7 days
<i>Daśamūla taila</i>	for <i>nuvāsana vasti</i>	-	5days
<i>Daśamūla kvātha</i>	for <i>nirūha vasti</i>	-	3 days
<i>Sukumāra ghrṭa</i>	for <i>snehapāna</i>	-	3 - 7days

§ MOA - Mode of administration

* Initially 2 times in a day after meal for 15 days followed by condition of patient and physician's direction

NOTE: Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

c. Yogic Practices- The following *yogic* practices are beneficial in constipation; however, these should be performed only under the guidance of qualified *Yoga therapist*. Duration should be decided by the *Yoga therapist*.

1. *Kūrmāsana, Vagrāsana, Kaṭicakrāsana, Sarvāṅgāsana, Śāvāsana, Pavanamuktāsana, Maṇḍūkāsana, Vajrāsana, Merudaṇḍa sañcālanāsana* etc.



2. *Yogamudrā, Śaṅkha prakṣāḷana, Nāḍī śodhana*
3. *Sūrya anuloma viloma*, deep relaxation technique

Counselling - Advice the patient to

1. Make habit of regular bowel habits
2. Walk for about 30 minutes daily
3. Take of warm water or milk in early morning
4. Eat an adequate breakfast
5. Take plenty of fluids
6. Use of rich fiber diet like beans, brown rice, whole cereals, entire fruits, citrus fruits, legumes in diet
7. Don't suppress the urge to defecate
8. Sit on the toilet for 10 minutes at the same time every day to induce regularly bowel movements

Indications for referral

- a. Acute intestinal obstruction
- b. Rectal prolapse
- c. Undiagnosed bleeding per annum and not responding to medication

COSTING DETAILS

Approx. costing of Constipation management

S.No.	Medicine	Requirement	Unit	Rate in Rs.	Cost in Rs.
1.	<i>Aśvagola cūrṇa</i>	2-5	gm	2.0	4-10
2.	<i>Sonāmukhī cūrṇa</i>	1-2	gm	0.9	1-2
3.	<i>Harītakī cūrṇa</i>	10	gm	0.28	3.0
4.	<i>Hiṅvaṣṭaka cūrṇa</i>	10-20	gm	0.82	9-17
5.	<i>Triphalā cūrṇa</i>	15-20	gm	0.31	5-7



6.	<i>Lavaṇabhāskara cūrṇa</i>	20	gm	0.42	9.0
7.	<i>Avipattikara cūrṇa</i>	30	gm	0.4	12
8.	<i>Pancasakāra cūrṇa</i>	10-20	gm	0.46	5-10
9.	<i>Gandharvahastādi kaṣāya</i>	210-450	ml	0.5	105-210
10.	<i>Citrakādi vaṭī</i>	50	gm	1.20	60
11.	<i>Kaiśora guggulu</i>	50	gm	2.2	11
12.	<i>Eraṇḍa pāka</i>	100	gm	0.16	16
13.	<i>Kumāryāsava</i>	100	ml	0.075	7.5
14.	<i>Eraṇḍa Taila</i>	50	ml	0.48	24
15.	<i>Pippalyādi taila</i>	650	ml	0.7	455
16.	<i>Hiṅgutriguṇa taila</i>	140-280	ml	0.61	86-172
17.	<i>Sukumāra ghr̥ta</i>	210-350	ml	0.63	133-221
18.	<i>Daśamūla taila</i>	250	ml	0.60	150
19.	<i>Daśamūla kvātha</i>	200	gm	1.9	380

Approx. costing of *Pañcakarma* procedure in Constipation **

S.No.	<i>Pañcakarma</i> procedure	Days	Rate in Rs./ day	Cost in Rs.
1.	<i>Sarvāṅga sveda</i>	1	150	150
2.	<i>Virecana</i> Package (including preparatory and post therapeutic procedures)	-	-	1000
3.	<i>Yoga vasti</i> (including preparatory and post therapeutic procedures)	8	-	1250

2.7.2 Indigestion (*Ajīrṇa*)

Introduction

An abnormality in digesting food or lack of proper digestion is termed as Indigestion (dyspepsia). Indigestion refers to number of gastro-intestinal complaints, which can include

gas (belching or flatulence) and upset stomach. Ageing is accompanied by several changes in the gastro-intestinal system and older adults frequently present with gastro-intestinal problems. Physiological changes of ageing may be difficult to differentiate from disease.

According to *Ayurveda*, those who are not following dietary guidelines and consume food without self control become victims of *Ajīrṇa* (Indigestion). This leads to various diseases.

Aetiology

1. Excessive drinking of water after meal
2. Incompatible and unwholesome diet (*Samaśana*)
3. Irregular food habits (*Viśamāśana*)
4. Suppression of natural urges of *nidrā* (sleep), *vāta* (flatus) and *purīṣa* (stool)
5. Improper sleeping habits
6. Emotional disturbances
7. Loss of teeth due to ageing
8. Decreased saliva production
9. Over eating (*Adhyaśana*)

Patho-physiology

In elderly people, ingested food doesn't digest properly due to

1. Diminished secretion of digestive enzymes
2. Impaired chewing due to loss of teeth
3. Decrease in saliva production due to ageing may also contribute to severity of acid reflux
4. Slowing of gastric emptying, which may produce abdominal distention, increase meal induced fullness

Clinical features

1. Pain or burning sensation in the upper abdomen
2. Feeling of undue satiety after eating
3. Nausea, heartburn, bloating and belching



4. Regurgitation, vomiting (occasionally)
5. Heaviness in the body
6. Headache and body ache
7. Thirstiness
8. Loss of taste etc.

The severity of these symptoms is often associated with eating.

Investigations

Following Investigations may be helpful to know whether indigestion is physiological as a process of ageing or secondary to any disease condition

1. Liver function test (LFT)
2. Ultrasonography (USG-Abdomen)
3. Upper G.I. Endoscopy
4. Barium meal follow through

Management approaches

a. Prevention

1. Consumption of *godhūma* (wheat), *mudga* (green gram), old rice, *rasona* (garlic), seasonal fruits, diet of high fiber content, *hiṅgu* (asafoetida), *drākṣa* (grapes), *āmalakī* (*Phyllanthus emblica* Gartn), *pippalī* (long pepper), *śuṅṭhī* (dry ginger), green leafy vegetables and luke warm water
2. Consume light and easily digestible food and chew food properly
3. Take *triphalā cūrṇa* 3 gm with lukewarm water at the bed time
4. Practice of *vajrāsana* after meal regularly
5. Avoid irregular food habits, heavy, unwholesome, oily and spicy food items, bakery and preserved items
6. Avoid overeating, suppression of natural urges, excess tea, coffee, smoking
7. Avoid irregular sleep, worries, anxiety, depression



b. Medical management

Line of treatment (A.H.Su.8/27)

1. **Nidāna parivarjana (avoidance of aetiological factors)** - Incompatible diet, irregular food habits, drinking of excess water immediately after meal should be avoided
2. *Sarvāṅga svedana* for 1 day
3. *Dīpana* (increasing the digestive fire/ process) with *Trikaṭu cūrṇa*
4. *Pācana* (digestion of toxic metabolites) with *Citrakādi vaṭī*, *Laśunādi vaṭī* etc.
5. *Samśodhana cikitsā* (bio-cleansing therapies) followed by *Śamana cikitsā* (Palliative therapy) should be advocated

i. *Virechana* (therapeutic purgation) with*

<i>Drākṣa</i> (<i>Vitis vinifera</i>)	-	10 gm
<i>Āragvadha</i> (<i>Cassia fistula</i>)	-	10 gm
<i>Harītakī</i> (<i>Terminalia chebula</i> Linn.)	-	10 gm
<i>Kuṭakī</i> (<i>Picrorhiza kurroa</i>)	-	5 gm along with 1 teaspoon full <i>Eraṇḍa</i> (<i>Ricinus communis</i>) <i>taila</i>

or

Eraṇḍa taila 10-20 ml with half glass of milk at night

It should be decided by physician according to the condition of the patient whether *Śodhana* therapy (bio-cleansing therapies) is to be advocated or not.

* (Above said formulations are common in practice but dose should be adjusted by the physician according to patient's condition).

6. Drug therapy

SINGLE DRUGS

Drug	Dosage (per dose)	MOA ^s / Vehicle	Duration*
<i>Śuṅṭhī</i> (<i>Zingiber officinale</i> Rose.) <i>cūrṇa</i>	1 gm	Warm water	7 days
<i>Ajamoda</i> (<i>Apium graveolens</i> Linn.) <i>cūrṇa</i>	3 gm	Lukewarm water	7 days
<i>Pippalī</i> (<i>Piper longum</i> Linn.) <i>cūrṇa</i>	2-3 gm	Lukewarm water	7 days



COMPOUND FORMULATIONS

Drug	Dosage (per dose)	MOA ^s / Vehicle	Duration*
<i>Hiṅgvaṣṭaka cūrṇa</i>	1.5-3 gm.	<i>Ghṛta</i> / Luke warm water	7 - 10 days
<i>Lavaṇabhāskara cūrṇa</i>	1-2.5 gm	Butter Milk	7 - 10 days
<i>Gandharvahastādi kaṣāya</i>	15 ml	Water	7 - 10 days
<i>Ajamodārka</i>	12 - 24 ml	Water	7 - 10 days
<i>Pudīnārka</i>	12 - 25 ml	Water	7 - 10 days
<i>Śaṅkha vaṭī</i>	250 - 500 mg	Honey/ warm water/ Butter milk	7 - 10 days
<i>Citrakādi vaṭī</i>	1.5 mg	Warm water/ Butter milk	7 - 10 days
<i>Hiṅgvādi vaṭī</i>	1.5 gm	Warm water	7 - 10 days
<i>Laśunādi vaṭī</i>	1.5 gm	Warm water	7 - 10 days
<i>Agnitundīvaṭī</i>	125 - 250 mg	Water	7 - 10 days
<i>Saṅjīvanī vaṭī</i>	125 mg	<i>Ārdraka Svarasa</i> / Warm water	7 - 10 days
<i>Indukānta ghṛta</i>	10 gm	Warm water/Milk	7 - 10 days
<i>Pippalyādi ghṛta</i>	10 gm	Warm water/Milk	7 - 10 days
<i>Pippalyāsava</i>	12 - 24 ml	Water	7 - 10 days
<i>Kumāryāsava</i>	12 - 24 ml	Water	7 - 10 days
<i>Drākṣāriṣṭa</i>	12 - 24 ml	Water	7 - 10 days
<i>Jīrakādyariṣṭa</i>	12 - 24 ml	Water	7 - 10 days

^sMOA - Mode of administration

* Initially 2 times in a day after meal followed by condition of patient and physician's direction

NOTE: Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to



patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

c. Yogic practices - The following *yogic* practices are beneficial in Indigestion; however, these should be performed only under the guidance of qualified Yoga therapist. Duration should be decided by the Yoga therapist.

1. *Sūryanamaskāra, Kaṭicakrāsana, Bhujāṅgāsana, Dhanurāsana, Vajrāsana, Pavanamuktāsana* etc.
2. *Prāṇāyāma (Sūrya anuloma viloma, Bhastrikā)*
3. *Agnisāra kriyā, Bhujāṅginī mudrā*
4. *Kuñjala, Daṇḍa dhauti, Vastra dhauti* etc.

Counselling - Advice the patient to

1. Ensure the digestion of previously consumed food before having next meal
2. Eat properly in a pleasant, quite atmosphere without watching T.V., reading, talking, etc.
3. Take food at a regular time
4. Take dinner 2-3 hours before sleep
5. Walk regularly after dinner
6. Include fiber food in diet
7. Avoid the habit of skipping breakfast
8. Avoid spicy, oily and heavy food articles
9. Avoid tea or coffee before sleep
10. Avoid the habit of drinking too much water after meal
11. Avoid junk food like pizza, burger, samosa, kachori etc.

Indications for referral

1. Patients who are suffering from indigestion secondary to another disease may be referred
2. Having carcinoma of esophagus or other alimentary tract



COSTING DETAILS

Approx. costing of Indigestion Management

S.No.	Medicine	Requirement	Unit	Rate in Rs.	Cost in Rs.
1.	<i>Śuṅṭhī cūrṇa</i>	15	gm	0.6	9
2.	<i>Ajamoda cūrṇa</i>	15	gm	0.5	7.5
3.	<i>Pippalī cūrṇa</i>	15	gm	0.5	7.5
4.	<i>Hingvaṣṭaka cūrṇa</i>	20-60	gm	0.28	5.6 - 18
5.	<i>Lavaṇabhāskara cūrṇa</i>	50-60	gm	0.31	16 - 19
6.	<i>Gandharvahastādi kaṣāya</i>	210-300	ml	0.5	105-150
7.	<i>Ajamodārka</i>	200-500	ml	0.13	26 - 65
8.	<i>Pudīnārka</i>	200-500	ml	0.50	100 - 250
9.	<i>Śaiṅkha vaṭī</i>	3.5-10	gm	1.90	7 - 19
10.	<i>Citrakādi vaṭī</i>	21-30	gm	1.20	26 - 36
11.	<i>Hingvādi vaṭī</i>	21-30	gm	2.00	42 - 60
12.	<i>Laśunādi vaṭī</i>	21-30	gm	1.60	33 - 48
13.	<i>Agnitundīvaṭī</i>	1.75-3.5	gm	2.20	4 - 8
14.	<i>Sañjīvanī vaṭī</i>	1.75-3.0	gm	1.60	3 - 5
15.	<i>Indukānta ghr̥ta</i>	70-100	gm	0.45	32-45
16.	<i>Pippalyādi ghr̥ta</i>	70-100	gm	0.34	24-34
17.	<i>Pippalyāsava</i>	200-500	ml	0.75	16-39
18.	<i>Kumāryāsava</i>	200-500	ml	1.54	31 - 77
19.	<i>Drākṣārīṣṭa</i>	200-500	ml	0.12	24 - 60
20.	<i>Jīrakādyarīṣṭa</i>	200-500	ml	1.43	29 - 72



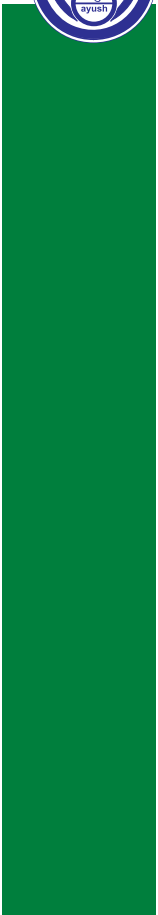
Approx. costing of *Pañcakarma* procedure in Indigestion **

S.No.	<i>Pañcakarma</i> procedure	Days	Rate in Rs./ day	Cost in Rs.
1.	<i>Sarvāṅga sveda</i>	1	150	150
2.	<i>Vamana</i> (including preparatory and post therapeutic procedures)	-	-	1000
3.	<i>Virecana</i> (including preparatory and post therapeutic procedures)	-	-	1000





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2.8 MUSCULO-SKELETAL DISEASES

2.8.1 Osteoporosis (*Asthi sauṣirya*)

Introduction

With increasing numbers of the elderly people in India, Osteoporosis is fast emerging as a public health problem of massive proportions. It is often under-diagnosed and responsible for substantial morbidity and mortality. It is a systemic skeletal disease characterized by low bone mass and micro architectural deterioration of bone tissue, with a consequent increase in bone fragility and susceptibility to fracture⁴⁰. It is also called 'Brittle bone disease'. The spine hips and wrists are common areas of bone fractures from osteoporosis.

Osteoporosis is most common in women after menopause. Fragility fractures have doubled in the last decade. 40% of all women over 50 yrs. will suffer on osteoporotic fracture. The number of the hip fractures will rise from about 1.7 million in 1990 to 6.3 million by 2050⁴¹.

Osteoporosis comes under '*Dhātu kṣaya*' in *Ayurveda*. Osteoporosis can be correlated with *asthi majjā dhātu kṣaya*. The symptoms described in *asthi majjā kṣaya* closely resemble osteoporosis i.e. *asthi sauṣirya* (weak and porous bones) *bhrama* (vertigo), *timira darśana* (darkness in front of eyes) *asthi tōda* (cutting pain in bones) and *asthi śūnyatā* (numbness in bone) etc.

Aetiology: The cause of osteoporosis is not known. However the factors those contribute include

1. Low calcium intake
2. Early menopause
3. Sedentary life style
4. Inadequate exercise



5. Familial history of the disease
6. Endocrine disorders (Hyperthyroidism, Hypogonadism, Hyper-parathyroidism and Diabetes mellitus)
7. Prolonged use of steroids
8. Immobility for a prolonged duration

Pathogenesis

Bone remodeling occurs at discrete sites within the skeleton and proceeds in an orderly fashion, with bone resorption always being followed by bone formation. In older individuals the rate of resorption exceeds the rate of formation resulting in 'too little bone mass' or osteoporosis. The bone mass progressively decreases but the bone is morphologically normal. In the first 5 years after menopause, bone density declines by about 2% annually and then declines to 1% loss every year.

Risk factors

Non modifiable

1. Gender - Women are at greater risk than men
2. Age - Advance age; female above 45 and males above 55 years
3. Body size - Small and thin people
4. Family history
5. Low oestrogen and testosterone levels

Modifiable:

1. Excess alcohol consumption
2. Vit. D deficiency
3. Low Body Mass Index (BMI)
4. Malnutrition
5. Higher Cadmium exposure
6. Use of soft drinks



Clinical features

Osteoporosis itself has no specific symptoms, in fact the first manifestation of the illness may be

1. Hip, spine or wrist fractures
2. External rotation and shortening of the involved leg
3. Delayed fracture healing process
4. Vertebral collapses
5. Kyphosis and painless vertebral fractures

Complications

Fractures of bone in hip, spine, wrist joints and ribs are the most common complications of osteoporosis.

Investigations

1. X-ray - Hip and wrist
2. Bone densitometry by
 - Photon absorptiometry
 - Dual energy X-ray absorptiometry (DXA)
3. Ultrasound scan
4. Quantitative CT scan
5. Serum Calcium, Alkaline phosphatase, Phosphate
6. Assesment of vitamin D and the bone markers (markers for the bone formations and of bone resorption)

Diagnosis⁴²

WHO has established the following diagnostic guidelines (Bone densitometry) using these T-scores -

- | | | | | |
|-------------|------------------------|-------|---|------------|
| a. T- score | \geq | - 1.0 | - | Normal |
| b. T-score | $< - 1.0$ to $> - 2.5$ | | - | Osteopenia |



c. T-score	\leq	- 2.5	-	Osteoporosis
d. T-score	\leq	- 2.5 and Presence of at least one fragility fracture	-	Severe osteoporosis

Management approaches

a. Prevention

1. Proper nutrition
2. Uses of *māṣa* (black gram), *tila* (sesame seeds), milk, milk products, *kadalī* (banana), pear, apple and other dietary articles rich in calcium
3. Practice physical exercise like walking, swimming, *yogāsana* and meditation
4. Life style modifications like reduction in weight, regular, slow and gentle exercises
5. Adequate rest
6. Regular Abhyaṅga (Gentle massage) of joints with medicated oils (twice a week)
7. Exposure to sunlight
8. Prevent injuries to joints
9. Avoid pungent and astringent or salty food
10. Avoid suppression of natural urges, excess tea, coffee, smoking and alcohol
11. Avoid excessive exertion

b. Medical management

Line of treatment

1. ***Nidāna parivarjana* (avoidance of aetiological factors)** - Avoid the causative factors to prevent complications of the disease. Avoid self medication with steroids, sedentary life style and consume wholesome diet
2. ***Samśodhana cikitsā*** - (Bio-cleansing therapies) followed by ***Śamana cikitsā*** (Palliative therapy) should be advocated. But it should be decided by physician according to the condition of the patient whether ***Śodhana*** therapy (Bio-cleansing therapies) is beneficial or not



- i. *Snehana* - externally: Gentle massage with medicated oils such as
 - *Mahānārāyaṇa taila*
 - *Kṣīra balā taila*
 - *Mahāmāṣa taila*
 - *Balā taila* etc.
- ii. *Snehapāna* (internal oleation) with *Guggulutikta ghṛta/ Pañcatiktaka ghṛta* 50 ml with 2-3 gm *saindhava lavaṇa* daily for 3-7 days before *pañcakarma* (bio-cleansing procedure).
- iii. *Svedana*
 - *Ṣaṣṭiaka śāli piṇḍa svēda* (made from *Ṣaṣṭiaka śāli*, *Balāmūla*, *Aśvagandhā mūla* and milk) for 15 days
 - *Upanāha sveda*
 - *Sneha dhārā* (*kāyaseka* - *pizhichil*) with *Dhānvantara taila* for 14 days
- iv. *Vasti* - *Pañcatikta kṣīra vasti* for 7 days

<i>Pañcatikta kṣīra kvātha</i>	-	240 ml
<i>Honey</i>	-	120 ml
<i>Madhuyasṭhyādi taila</i>	-	120 ml
<i>Guggulutikta ghūta</i>	-	120 ml
<i>Saindhava lavaṇa</i>	-	15 gm

The Dosage (per dose) should be decided by physician according to severity of the disease and condition of the patient.

3. Drug Therapy

The goals of treatment in Osteoporosis are to increase the strength of bones and improve and maintain the joint functions.

SINGLE DRUGS

Drug	Dosage (per dose)	MOA ^s / Vehicle	Duration*
<i>Aśvagandhā</i> (<i>Withania somnifera</i> Dunal) <i>cūrṇa</i>	3-6 gm	Water/milk	30 days



<i>Śatāvarī</i> (<i>Asparagus racemosus</i> Willd.) <i>cūrṇa</i>	2-4 gm	Milk	30 days
<i>Āmalakī</i> (<i>Phyllanthus emblica</i> Gartn) <i>cūrṇa</i>	2-4 gm	Water	30 days
<i>Asthī śṛṅkhalā</i> (<i>Cissus quadrangularis</i> Linn.) <i>cūrṇa</i>	1-2 gm	Warm milk	30 days

COMPOUND FORMULATIONS

Drug	Dosage (per dose)	MOA [§] / Vehicle	Duration*
<i>Pañcatikta kṣīra kvātha</i>	10-20 ml	Water/milk	30 days
<i>Guggulu tikta ghṛta</i>	10 gm	Warm water	30 days
<i>Pañcatikta ghṛta guggulu</i>	3-6 gm	Warm water	30 days
<i>Lākṣādi guggulu</i>	1-1.5 gm	Warm water	30 days
<i>Yogarāja guggulu</i>	1-1.5 gm	Warm water	30 days
<i>Trayodaśāṅga guggulu</i>	1-1.5 gm	Warm water	30 days
<i>Pravāla piṣṭī</i>	125-250 mg	Water/milk	30 days
<i>Muktā piṣṭī</i>	250-500 mg	Water/milk	30 days
<i>Godantī bhasma</i>	250-500 mg	Water/milk	30 days
<i>Mahāmāṣa taila</i>	for external use	-	30 days
<i>Mahānārāyaṇa taila</i>	for external use	-	30 days
<i>Balāśvagandhādi taila</i>	for external use	-	30 days
<i>Dhānvantara taila</i>	for external use	-	30 days
<i>Kṣīrabalā taila</i>	for external use	-	30 days

[§]MOA - Mode of administration

* Initially 2 times in a day after meal followed by condition of patient and physician's direction

NOTE: Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.



c. Yogic practices - The following *yogic* practices are beneficial in Osteoporosis; however, these should be performed only under the guidance of qualified Yoga therapist. Duration should be decided by the Yoga therapist.

1. *Śavāsana*
2. Deep relaxation technique, breathing exercises (Hand in and out, hand stretch, *śaśāṅkāsana* breathing, *trikoṅāsana* breathing, tiger breathing)
3. *Nādī anusandhāna* , *Nādī śodhana*
4. *Prāṇāyāma*

Counselling - Advice the patient to

1. Take nutritious diet rich in calcium and vitamin D
2. Practice weight bearing exercises (walking, climbing stairs, dancing etc.)
3. Spend a brief time under early morning sun light every day
4. Increase dairy products (milk, curd, butter cheese etc.) in diet
5. Take calcium supplements
6. Avoid over exertion
7. Avoid falls and trauma
8. Reduce/ stop smoking and alcohol intake

Indications for referral:

1. Any bone fractures

COSTING DETAILS

Approx. costing of Osteoporosis management

S.No.	Medicine	Requirement	Unit	Rate in Rs.	Cost in Rs.
1.	<i>Aśvagandhā cūrṇa</i>	180-360	gm	0.48	87-174
2.	<i>Śatāvārī cūrṇa</i>	120-240	gm	0.5	60-120
3.	<i>Āmalakī cūrṇa</i>	120-240	gm	0.25	30-60



4.	<i>Asthi śṛṅkhalā cūrṇa</i>	60-120	gm	0.2	12-24
5.	<i>Lākṣādi guggulu</i>	180	gm	1.33	240
6.	<i>Guggulutikta ghṛta</i>	1500	gm	0.61	920
7.	<i>Indukānta ghṛta</i>	250-350	gm	0.45	120
8.	<i>Pañcatikta ghṛta guggulu</i>	180-360	gm	0.95	171-342
9.	<i>Yogarāja guggulu</i>	60-90	gm	1.30	78-117
10.	<i>Trayodaśāṅga guggulu</i>	60-90	gm	1.35	80-120
11.	<i>Pravāla piṣṭī</i>	7.5-15	gm	4	30-60
12.	<i>Muktā piṣṭī</i>	15-30	gm	1.4	21-42
13.	<i>Godantī bhasma</i>	15-30	gm	1.9	28.5-57
14.	<i>Mahāmāṣa taila</i>	200	ml	1.28	256
15.	<i>Mahānārāyaṇa taila</i>	200	ml	1.75	350
16.	<i>Balāśvagandhādi taila</i>	200	ml	0.285	57
17.	<i>Dhānvantara taila</i>	200	ml	0.41	82
18.	<i>Kṣīrabalā taila</i>	200	ml	0.68	136

Approx. costing of Pañcakarma procedure in Osteoporosis **

S.No.	Pañcakarma procedure	Days	Rate in Rs./ day	Cost in Rs.
1.	<i>Snehana</i> (externally)	15	200	3000
2.	<i>Ṣaṣṭika śāli piṇḍa sveda</i>	15	350	5250
3.	<i>Nirūha Vasti (Kṣīra vasti)</i>	7	250	1750
4.	<i>Sneha dhārā (Pizhichil)</i>	14	350	4900

2.8.2 Osteoarthritis (*Sandhi vāta*)

Introduction

Musculoskeletal disorders predominate in the older adults and are a major reason for chronic disability and health care utilization in the geriatric age group. Osteoarthritis (OA) is a

degenerative disease of synovial joints commonly associated with minor inflammatory features due to primary cartilage disorder. OA is characterized by a slowly progressive deterioration of a joint in which there is a localized loss of cartilage, subchondral bone thickening (sclerosis), osteophyte formation and synovial thickening⁴³. Osteoarthritis commonly affects in the weight bearing joints. It is the most common articular disease in the elderly, with a steep rise in incidence after age 50 in men and age 45 in women. Symptomatic knee osteoarthritis is more common in women than in men. Also polyarticular involvement appears more common in females⁴⁴.

In a radiographic survey of women less than 45 years old only 2% had osteoarthritis. In the ages of 45-60 year the prevalence was 30% and for those older than 65 years is 68%⁴⁵. Similarly a condition described in *Ayurveda*, in which the vitiated *vāta* afflicts the joints, leads to a painful swelling and ultimately destruction of the joints is called *Sandhivāta*, which more closely resembles the disease entity, Osteoarthritis. Trauma, *āma dōṣa*, excessive fasting, riding or standing aggravates *vāta dōṣa* which leads to *sandhi vāta*.

Aetiology

Most of the time, the cause of osteoarthritis is unknown. It is mainly related to ageing but metabolic, genetic, chemical and mechanical factors can also contribute in the genesis of osteoarthritis.

OA can be primary or secondary.

1. Primary osteoarthritis occurs without any injury or obvious cause.
2. Secondary osteoarthritis is osteoarthritis due to injury/ another disease or condition.

Pathogenesis

Osteoarthritis is a derangement of balance between cartilage matrix degradation and repair. Primary Osteoarthritis is mostly related to ageing. With ageing, the water content of the cartilage increases and lubricant and the protein makeup of cartilage degenerates. Repeattive use of the joints over the years irritates and inflames the cartilage causing joint pain and swelling. Eventually cartilage begins to degenerate by flaking or forming tiny crevasses. In advanced cases, there is a total loss of the cartilage/ cushion between the bones of the joints. Loss of cartilage cushion causes friction between the bones, leading to pain and limitation of joint mobility. Inflammation of the cartilage can also stimulate new bone outgrowths (spurs) to form around the joint. Osteoarthritis occasionally can be found in multiple members of the same family, implying a heredity (genetic) basis for this condition.



Risk factors

1. Genetic factors
2. Age
3. Obesity
4. Occupation related mechanical stress
5. Repetitive stress
6. Joint damage (trauma, sepsis)
7. Bone/ Joint related congenital defects
8. Crystal accumulation in articular cartilage
9. Prior inflammatory joint disorder
10. Metabolic/ endocrine disorders

Clinical features

1. Pain in the affected joints (knee joints are commonly affected)
2. Swelling, warmth and crackling of the affected joint
3. Stiffness of joint after long periods of inactivity
4. Nocturnal pain and rest pain (in advance stage)
5. Cracking of the joint with motion
6. Abnormal movement and muscular spasm
7. Joint pain increase in rainy weather
8. Deformity of the affected joints

Though the radiological findings suggest osteoarthritic changes, some people may be asymptomatic.

Complications

1. Gait disturbance, significant disability and deformities
2. Joint pains and stiffness of joints
3. Muscle inactivity (quadriceps weakness in knee osteoarthritis)



Investigations

1. Complete haemogram, ESR
2. X-Ray of affected joints
3. Serum uric acid
4. Serum calcium/ Phosphate
5. Synovial fluid analysis

Management approaches

a. Prevention

1. Uses of *māṣa*, (black gram), *palāṇḍu* (onion), *rasōna* (garlic), *tila* (sesamum) *śuṅṭhī/ ādraka* (ginger), *mūlaka* (radish), ladies finger, *kūṣmāṇḍa* (pumpkin), *mudga* (green gram) and fruits like *dāḍima* (pomegranate), *āmra* (mango), *drākṣā* (grape) etc. in diet.
2. Perform adequate physiotherapy for strengthening the muscles of knee joint+
3. Mild gentle massage with medicated oils
4. Prevent joint injuries
5. Adequate rest to joints
6. Regular, slow and gentle exercises
7. Maintenance of posture and flexibility of the joints
8. Take balanced diet
9. Reduction in weight
10. Avoid prolonged walking, standing, kneeling and squatting and crossed leg sitting
11. Avoid pungent and astringent or salty food and *yava* (barley)
12. Avoid exposure to too cold atmosphere and consumption of cold water and chilled soft drinks
13. Avoid excessive exertion, awaking up to late night and day sleep
14. Avoid suppression of natural urges



b. Medical management

Line of treatment (C. Ci. 28/93)

1. **Nidana parivarjana** (avoidance of aetiological factors) - The causative factors like prolonged standing, over exertion and injury to joints, prolonged use of steroid and sedentary life style should be avoided. Endocrine disorders should be corrected timely.
2. **Samśodhana cikitsā** - (Bio-cleansing therapies) followed by *Śamana cikitsā* (Palliative therapy) should be advocated. But it should be decided by physician according to the condition of the patient whether *Śodhana* therapy (Bio-cleansing therapies) is beneficial or not
 - i. *Lepa* (local application) with *Jatāmamṣyādi/ Gṛhadhūmādi lepa* for 7 days
 - ii. *Snehana* (external): massage for 15 days with medicated oils such as
 - *Mahānārāyaṇa taila*
 - *Daśamūla taila*
 - *Mahāmāṣa taila*
 - *Viṣagarbha taila*
 - iii. *Snehapāna* (internal oleation) with *Guggulutikta ghr̥ta/ Pañcatikta ghūta* 50 ml with 2-3 gm *saindhava lavaṇa* daily for 3-7 days
 - iv. *Svedana* (medicated fomentation)
 - *Ekāṅga* or *Sarvāṅga sveda* (hot fomentation) with decoction of *Nirguṇḍī, Daśamūla, Eraṇḍa, Balā mūla*, etc. for 15 days.

or

 - *Patra piṇḍa sveda* (made from leaves of *Nirguṇḍī, Dhaturā, Ciñcā, Eraṇḍa*, etc.) for 15days
 - *Ṣaṣṭiaka śāli piṇḍa sveda* (made from *Ṣaṣṭiaka śāli, Balāmūla, Aśvagandhā mūla* and milk) for 15 days
 - *Snehadrava dhārā* (pizhichil) for 14 days
 - *Upanāha* (poltice) with *Gṛhadhūmādi cūrṇa* (in case of severe pain)
 - *Rukṣa sveda* with *kulattha cūrṇa* for 5-7 days followed by *abhyaṅga*
 - v. **Vasti** - *Pañcatikta kṣīra vasti* for 7 days



<i>Pañcatikta kṣīra kvātha</i>	-	240 ml
<i>Honey</i>	-	120 ml
<i>Madhuyaṣṭhyādi taila</i>	-	120 ml
<i>Guggulutikta ghr̥ta</i>	-	120 ml
<i>Saindhava lavaṇa</i>	-	15 gm

The dosage (per dose) should be decided by physician according to severity of the disease and condition of the patient.

3. Drug therapy

The goals of treatment in osteoarthritis (OA) are to reduce the joint pain and inflammation. While improving and maintaining the joint functions, increase the strength of the joints and reduce the disabling effects of the disease.

SINGLE DRUGS

Drug	Dosage (per dose)	MOA ^s / Vehicle	Duration*
<i>Śuṅṭhī</i> (<i>Zingiber officinale</i> Rose.) <i>cūrṇa</i>	1 - 3 gm	Warm milk	30 days
<i>Eraṇḍa</i> (<i>Ricinus communis</i> Linn.) <i>mūla kvātha</i>	10 - 30 ml	Water	30 days
<i>Nirguṇḍī</i> (<i>Vitex negundo</i> Linn.) <i>kvātha</i>	10 - 30 ml	Water	30 days

COMPOUND FORMULATIONS

Drug	Dosage (per dose)	MOA ^s / Vehicle	Duration*
<i>Mahārāsnādi kvātha</i>	12 - 24 ml	With <i>Śuṅṭhī cūrṇa</i> (1-2gm)	30 days
<i>Rāsnairāṇḍādi kvātha cūrṇa</i>	12 - 24 gm	Water	30 days
<i>Daśamūla kvātha</i>	12 - 24 ml	Water	30 days
<i>Rāsnādi Kvātha</i>	12 - 24 ml	Water	30 days
<i>Mahā Yogarāja guggulu</i>	500 mg-1 gm	Luke warm water	30 days
<i>Yogarāja guggulu</i>	1-1.5 gm	Luke warm water	30 days



<i>Guggulutikta ghṛta</i>	10 gm	Warm water	30 days
<i>Pañcatikta ghṛta guggulu</i>	3-6 gm	Warm water	30 days
<i>Mahānārāyaṇa taila</i>	for external use	-	30 days
<i>Viṣagarbha taila</i>	for external use	-	30 days
<i>Nārāyaṇa taila</i>	for external use	-	30 days
<i>Mahāmāṣa taila</i>	for external use	-	30 days
<i>Daśāṅga lepa</i>	for external use	-	7 days

[§]MOA - Mode of administration

* Initially 2 times in a day after meal followed by condition of patient and physician's direction.

NOTE: Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

Śallakī (*Boswellia serrata*)⁴⁶ and *Guggulu* (*Commiphora mukul*)⁴⁷ have shown improvement in the patients of osteoarthritis.

c. Yogic practices- The following *yogic* practices are beneficial in OA; however, these should be performed only under the guidance of qualified *Yoga therapist*. Duration should be decided by the *Yoga* practicenor.

1. *Makarāsana*, *Pavanamuktāsana*, *Dhanurāsana*, *Kaṭicakrāsana*, *Vakrāsana*, *Bhujaṅgāsana*, *Śavāsana*, *Tāḍāsana*, *Utkaṭāsana*, *Sūkṣma vyāyāma* (loosening exercise) etc.
2. *Prāṇāyāma*, *Yoga nidrā*

Counselling - Advice the patient to

1. Maintain a normal body weight as per height
2. Practice regular weight bearing exercises and *yoga* as per the expert advise
3. Maintain a right posture
4. Eat freshly cooked food items
5. Take diet rich in antioxidants
6. Practice exercises for knees - Quadriceps exercise (ask the patient to lie on bed and



raise the legs slowly with knees in extended position gradually; some weight may be put on ankles and same exercise to be repeated)

7. Practice exercise for spine - Lie in prone position. Put both hands along the side. Raise the neck above without support and maintain this position for some time. Repeat this exercise many times a day
8. Don't stand continuously for a longer time
9. Avoid over exertion / lifting heavy weight

Indications for referral

1. Bone/ joint deformity/ inability to move the joints
2. Osteoarthritis associated with complication
3. Unbearable pain not responding to medication
4. Very advanced OA conditions where surgery is the only solution

COSTING DETAILS

Approx. costing of Osteoarthritis management

S.No.	Medicine	Requirement	Unit	Rate in Rs.	Cost in Rs.
1.	<i>Śuṅṭhī cūrṇa</i>	60-120	gm	0.5	30-60
2.	<i>Eraṇḍa mūla kvātha</i>	600-1800	ml	0.2	120-360
3.	<i>Nirguṇḍī kvātha</i>	1800	ml	0.2	360
4.	<i>Mahārāsnādi kvātha</i>	750-1500	ml	0.132	98.3-196
5.	<i>Rāsnairāṇḍādi kvātha cūrṇa</i>	750-1500	gm	0.76	570-1140
6.	<i>Daśamūla kvātha</i>	750-1500	ml	0.147	110-220
7.	<i>Daśamūla kvātha cūrṇa</i>	750	gm	0.18	135
8.	<i>Rāsnādi Kvātha</i>	750-1500	ml	0.475	357-713
9.	<i>Mahā yogarāja guggulu</i>	30-60	gm	5	150-300
10.	<i>Yogarāja guggulu</i>	60-90	gm	1.30	78-118



11.	<i>Guggulutikta ghṛta</i>	1000	gm	0.61	610
12.	<i>Pañcatikta ghṛta guggulu</i>	180-360	gm	0.95	171-342
13.	<i>Mahānārāyaṇa taila</i>	200	ml	1.75	350
14.	<i>Viṣagarbha taila</i>	200	ml	0.67	134
15.	<i>Nārāyaṇa taila</i>	1000	ml	0.51	510
16.	<i>Mahāmāṣa taila</i>	200	ml	1.28	256
17.	<i>Daśāṅga lepa</i>	100	gm	0.60	60

Approx. costing of *Pañcakarma* procedure in Osteoarthritis **

S.No.	<i>Pañcakarma</i> procedure	Days	Rate in Rs./ day	Cost in Rs.
1.	<i>Snehana</i> (externally)	15	200	3000
2.	<i>Ekāṅga sveda</i>	15	100	1500
3.	<i>Sarvāṅga sveda</i>	15	150	2250
4.	<i>Patra piṇḍa sveda</i>	15	200	3000
5.	<i>Ṣaṣṭiaka śāli piṇḍa sveda</i>	15	350	5250
6.	<i>Snehadrava dhārā</i> (<i>kayaseka</i> - <i>pizhichil</i>)	14	350	4900
7.	<i>Yoga Vasti</i>	8	-	1250
8.	<i>Kāla Vasti</i>	16	-	2500
9.	<i>Karma Vasti</i>	30	-	5000



2.9 GENITO-URINARY DISEASES

2.9.1 Benign Prostatic Hypertrophy (*Aṣṭhīlā*)

Introduction

A condition in which a non-cancerous growth of the prostate gland makes urination frequent, difficult and uncomfortable is called benign prostatic hypertrophy (BPH). BPH rarely causes symptoms before age 40, but more than half of men in their sixties and 75% by age of 80 have some symptoms of BPH. It is a common part of ageing. Prevalence rates are 2-7% for men aged 45-49, increasing to 24% by the age of 80 years⁴⁸.

If left untreated, BPH can be a progressive disease. Incomplete voiding may result in urinary tract infections in these patients.

Descriptions of BPH are closely resembles with the clinical features of *Aṣṭhīlā*. It is one of the 13 types of *Mūtrāghāta* (obstructive uropathies) described in *Ayurveda*. *Aṣṭhīlā* is a mobile and elevated swelling, which obstructs the passage of urine and faeces. Generally *vāta prakōpa āhāra* (like dry, cold and light food in insufficient quantities) and *vihāra* (like starvation, over exertion and suppression of urine) aggravate *vāta dōṣa* which leads to *Aṣṭhīlā* (*Pauruṣa granthi vūddhī* - Prostate gland enlargement)

Aetiology

The exact aetiology of BPH is unknown; however, ageing process is an important causative factor for BPH. In addition, prostatic growth is directly related to presence of Dihydrotestosterone (DHT) also. Initially, prostate growth takes place at puberty and again around fifth decade of life, which continues for the rest of man's life. This process involves a heterogenous and glanular hyperplasia of the prostate.



Clinical features

The most common symptoms of BPH are

1. Frequent urination, especially at night
2. Urgency of urination
3. Hesitancy and intermittency
4. Leaking or dribbling of urine
5. Interrupted weak stream
6. Bladder pain/ dysuria
7. Urine incontinence
8. Prolonged emptying
9. Urine retention (in severe BPH)
10. Hematuria

Complications

1. Urinary tract infections
2. Urinary stones
3. Blood in the urine
4. Hydronephrosis
5. Urinary retention

Investigations/Examination

1. Digital rectal Examination
2. Urine analysis
3. Ultrasound : Kidney, Ureter, Bladder
4. Cystoscopy
5. Serum Prostate Specific Antigen (PSA) Blood test
6. Prostate Biopsy
7. Uroflowmetry



Management approaches

a. Prevention of complications of BPH

1. Usage of wheat, old rice, *mudga* (green gram) juice, *kulattha* (horse gram), *yava* (barley) water, *rasona* (garlic), *haridrā* (turmeric), *ārdra* (ginger), *paṭola* (snake gourd), *śīgru* (drum stick), coconut, cucumber, watermelon, coriander, cumin seed, sugarcane, grapes, butter milk etc.
2. Consume of adequate liquids
3. Avoid pea, black gram, spinach, *jāmun*, mustard, sesame and excess hot and spicy food

b. Medical management

Line of treatment

1. ***Samśōdhana Cikitsā*** - (Bio-cleansing therapies) /other therapeutic procedures followed by *Śamana cikitsā* (Palliative therapy) should be advocated. But it should be decided by physician according to the condition of the patient whether *Śōdhana* therapy (Bio-cleansing therapies) is beneficial or not.
 - i. *Avapīḍaka snehapāna* with *Vastyāmayāntaka ghṛta*, single dose of 200 - 300ml
 - ii. *Avagāha sveda* (Sitz bath) for 15 days with warm water or decoctions like
 - *Pañca valkala kvātha*
 - *Triphalā kvātha*
 - *Daśamūla kvātha*
 - iii. *Vasti*
 - *Uttara vasti* with *Varuṇādi ghṛta*/ *Śatāvaryādi ghṛta* 30-50 ml for 3 days (Each *Uttara vasti* is given with a gap of three days).
 - *Mātrā vasti* with *Varuṇādi ghṛta*/ *Śatāvaryādi ghṛta* 30-50 ml for 14 days

The dosage (per dose) should be decided by physician according to severity of the disease and condition of the patient.

2. Drug therapy



SINGLE DRUGS

Drug	Dosage (per dose)	MOA ^s / Vehicle	Duration*
<i>Gokṣura</i> (<i>Tribulus terrestris</i> Linn.) <i>cūrṇa</i>	3-6gm	Water	15 days
<i>Paṣāṇabheda</i> (<i>Bergenia ligulata</i> (Wall.) Engl.) <i>cūrṇa</i>	1 -3 gm	Water	15 days
<i>Harītakī</i> (<i>Terminalia chebula</i> Retz) <i>cūrṇa</i>	3 gm	Lukewarm water at bed time	15 days
<i>Varuṇa</i> (<i>Crataeva nurvola</i> Buch. and Ham.) <i>kvātha</i>	10-20 ml	Water	15 days
<i>Punarnavā</i> (<i>Boerhavia diffusa</i> Linn.) <i>kvātha</i>	10-20 ml	Water	15 days

COMPOUND FORMULATIONS

Drug	Dosage (per dose)	MOA ^s / Vehicle	Duration*
<i>Tṛṇapañcamūla kvātha</i>	10-50 gm	Water	15 days
<i>Bṛhatyādi kaṣāya</i>	15-30ml	Water	15 days
<i>Gokṣurādi guggulu</i>	1-1.5 gm	Luke warm water/ <i>Mustaka kvātha</i> (decoction made from <i>Cyperus rotundus</i>)	15 days
<i>Kāñcanāra guggulu</i>	1-1.5gm	Luke warm water	15 days
<i>Chandraprabhā vaṭī</i>	1-1.5 gm	Water	15 days
<i>Śveta parpaṭī</i>	750-1250 mg	Water/ <i>Nārikela jala</i> (Coconut water)	15 days
<i>Dhānvantara ghr̥ta</i>	15 ml	Warm water	15 days
<i>Varuṇādi ghr̥ta</i>	15-30 ml	for <i>uttar Vasti</i>	3 days
<i>Śatāvaryādi ghr̥ta</i>	15-30 ml	for <i>uttar Vasti</i>	3 days
<i>Candanāsava</i>	10-20 ml	Water	15 days
<i>Punarnavāsava</i>	10-20 ml	Water	15 days



§MOA - Mode of administration

* Initially 2 times in a day after meal for 15 days followed by condition of patient and physician's direction.

NOTE: Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

c. Yogic Practices - The following *yogic* practices are beneficial in BPH; however, these should be performed only under the guidance of qualified *Yoga therapist*. Duration should be decided by the *Yoga therapist*.

1. *Vajrāsana, Siddhāsana, Gomukhāsana, Pādāṅguṣṭhāsana, Guptāsana, Paścimottānāsana, Sarvāṅgāsana, Pavanamuktāsana* etc.
2. *Aśvini mudrā, Mūlabandha, Nāḍī śodhana, Śītalī prāṇāyāma*

Counselling - Advice the patient to

1. Urinate when ever the urge and at regular intervals
2. Take plenty of fluids, but in divided quantities at regular intervals
3. Try to evacuate bladder completely
4. Practice kegel exercise: simply tighten and relax the pubo-coccygeus muscles for 3 seconds about 20-30 times a day for strengthening the pelvic floor
5. Practice *yoga* to reduce stress
6. Restrict high caloric and high fat diet
7. Avoid drinking large amounts of fluid at one time and especially at night
8. Avoid alcohol and coffee, especially after dinner.
9. Avoid drinking water within 2 hours before going to bed
10. Try to avoid decongestants and antihistamines, which can worsen BPH symptoms

Indications for referral

1. Incontinence of urine
2. Recurrent urinary infection
3. Recurrent blood in the urine
4. Urinary retention



COSTING DETAILS

Approx. costing of BPH management

S.No.	Medicine	Requirement	Unit	Rate in Rs.	Cost in Rs.
1.	<i>Gōkṣura cūrṇa</i>	90-180	gm	0.3	27-54
2.	<i>Pāṣāṇabhēda cūrṇa</i>	90-180	gm	0.7	63-126
3.	<i>Harītakī cūrṇa</i>	90	gm	0.27	24.3
4.	<i>Varuṇa kvātha</i>	300-600	ml	0.3	90-180
5.	<i>Punarnavā kvātha</i>	300-600	ml	0.3	90-180
6.	<i>Tṛaṇapañcamūla kvātha</i>	100-150	gm	0.28	28-42
7.	<i>Bṛhatyādi kaṣāya</i>	300-600	ml	0.23	69-138
8.	<i>Gokṣurādi guggulu</i>	30-60	gm	1.25	38-72
9.	<i>Kāñcanāra guggulu</i>	30-60	gm	1.2	36-72
10.	<i>Candraprabhā vaṭī</i>	30-60	gm	2	60-120
11.	<i>Śveta parpaṭī</i>	22.5-37.5	gm	3	68-104
12.	<i>Dhānvantara ghṛta</i>	450	ml	0.45	210
13.	<i>Varuṇādi ghṛta</i>	45-90	ml	0.41	19-38
14.	<i>Vastyāmayānthaka ghṛta</i>	200-300	ml	0.625	125-188
15.	<i>Śatāvaryādi ghṛta</i>	45-90	ml	0.625	28.5-57
16.	<i>Candanāsava</i>	300-600	ml	0.118	36-71
17.	<i>Punarnavāsava</i>	300-600	ml	0.127	38-76

Approx. costing of *Pañcakarma* procedure in BPH **

S.No.	<i>Pañcakarma</i> procedure	Days	Rate in Rs./ day	Cost in Rs.
1.	<i>Avagāha sveda</i> (Sitz bath)	15	100	1500
2.	<i>Uttara vasti</i>	3	100	300
3.	<i>Mātrā vasti</i>	7	100	700



2.10 SURGICAL PROBLEMS

2.10.1 Fistula in ano (*Bhagandara*)

Introduction

Fistula is an abnormal passage, leading from one internal cavity to another or to the surface; it is either lined with mucosal membrane or may be lined with epithelium. Fistula in ano is a track, lined by granulation tissue that connects deeply in the anal canal or rectum and superficially on the skin around the anus.

It is closely resemble with disease entity *Bhagandara* described in *Ayurveda*. The word *Bhagandara* is made up of two words *Bhaga* (perineum) and *Dāraṇa* (tearing pain), which mean tearing pain in perineum region. It starts originally from a boil, called as *Bhagandra pidikā*, when not treated properly bursts and forms a track (fistula in ano) called *Bhagandara*. *Ācārya Suśruta*, the father of ancient surgery has included *Bhagandara* under the *aṣṭamahāgāda*. Since, the modern surgery is not able to give satisfactory result due to its various post operative complications and excess recurrence rate, *kṣāra sūtra* therapy mentioned in *Ayurveda* has drawn a global attention because of its efficacy, less complication, high success rate and very less chances of recurrence. It is globally accepted that *kṣāra sūtra* application in fistula track is safe and ambulatory mode of management.

Types of Fistulae

Various types of fistulae include

1. **Low level fistulae:** it is open into the anal canal below the anorectal ring
2. **High level fistulae:** it is open into the anal canal at or above the anorectal ring



Aetiology

1. Inadequate drainage or bursting of perineal abscess
2. Trauma to the perineal area
3. Infection of apocrine sweat glands around the anal margin
4. Secondary to disease such as inflammatory bowel disease (ulcerative colitis)
5. Chronic fissure in ano

Pathology

Fistula in ano usually results from an anorectal abscess which bursts spontaneously or by opening inadequately.

Clinical features

The following symptoms may be associated with Fistula in ano

1. Persistent or recurrent sero-purulent discharge from an abnormal opening adjacent to the anus
2. Swelling adjacent to the anus
3. Pain and discomfort in anal region while defecation
4. H/O passing flatus (rarely faeces) through abnormal (fistula) opening

Investigations/ Examination

1. Digital Examination
2. Probing
3. Proctoscopy
4. Fistulogram
5. Pus culture and sensitivity



Management approaches

a. Prevention

1. Daily consumption of *śāka* (green leafy vegetables), *takra* (buttermilk), *drākṣa* (grape), guava, *dāḍima* (pomegranate) and easily digestible dietary articles
2. Take care of regular bowel habits
3. Practice regular exercises such as walking, running, and swimming
4. Immediate consultation for perineal region pain / abscess
5. Maintain perianal hygiene
6. Eating plenty of fibre diet and sufficient fluid intake
7. Avoid hot, heavy, spicy and salty, incompatible dietary articles, highly processed and non vegetarian food
8. Avoid suppression of natural urges and sitting for longer duration

b. Medical management

Line of treatment

1. ***Nidāna parivarjana* (avoidance of aetiological factors)** - Trauma to perineal area should be avoided and perineal abscess, infection and inflammatory bowel disease should be corrected timely and modify life style to prevent repeated constipation.
2. ***Samśōdhana cikitsā*** (bio-cleansing therapies) followed by ***Śamana cikitsā*** (palliative therapy) should be advocated.
 - i. *Avagāha sveda* (Sitz bath) for 15 days with warm water or decoctions like
 - *Pañca valkala kvātha*
 - *Triphalā kvātha*
 - *Daśamūla kvātha*
 - ii. *Vasti*
 - *Mātrā vasti* with *Pippalyādi taila* 50 ml daily for 15 days
 - *Anuvāsana vasti* (with *Kāsisādi taila/ Jātyādi taila* 50ml) and *Nirūha vasti* (with *Pañcavalkala kvātha/ Daśamūla kvātha* 480ml, *mañjiṣṭhādi taila* 240 ml, honey 240 ml, *saindhava lavaṇa* 15 gm and *kalka*) alternately for 8 days (*yoga vasti karma*)



3. Drug therapy

SINGLE DRUGS

Drug	Dosage (per dose)	MOA ^s / Vehicle	Duration*
<i>Sūraṇa</i> (<i>Amorphophalus campanulatus</i> Blume ex Decne.) <i>cūrṇa</i>	1 gm	Warm water	15 days
<i>Ajamoda</i> (<i>Apium graveolens</i> Linn.) <i>cūrṇa</i>	1 gm	Lukewarm water	15 days
<i>Harītakī</i> (<i>Terminelia chebula</i> Retz.) <i>cūrṇa</i>	3 gm	Lukewarm water at bed time	15 days
<i>Tālamūlī</i> (<i>Curculigo orchioides</i> Gaertn.) <i>cūrṇa</i>	3-6 gm	milk	15 days

COMPOUND FORMULATIONS

Drug	Dosage (per dose)	MOA ^s / Vehicle	Duration*
<i>Triphalā cūrṇa</i>	3-6 gm.	Luke warm water	15 days
<i>Hiṅguvacādi cūrṇa</i>	1-2.5 gm	Luke warm water	15 days
<i>Guggulu pañca pala cūrṇa</i>	5 gm	Honey	15 days
<i>Avipattikara cūrṇa</i>	5gm	Water/ Milk	15 days
<i>Śivākṣāra pācana cūrṇa</i>	1-2.5 gm	Water/ at bed time	15 days
<i>Cirabilvādi kaṣāya</i>	15-30ml	Water	Water
<i>Citrakādi vaṭī</i>	1.5 gm	Warm water/ Butter milk	15 days
<i>Kāṅkāyana vaṭī</i>	250-500 mg	<i>ghṛta</i> /milk/ water	15 days
<i>Triphalā guggulu</i>	1-1.5 gm	Warm water	15 days
<i>Saptaviṃśati guggulu</i>	1-1.5 gm	Warm water	15 days
<i>Pañcatikta ghṛta guggulu</i>	3-6 gm	Warm water	15 days
<i>Bāhuśālā guḍa</i>	3-6 gm	Milk	15 days
<i>Kuṭajāriṣṭa</i>	12 - 24 ml	Water	15 days



<i>Abhayāriṣṭa</i>	12 - 24 ml	Water	15 days
<i>Mṛdvikāriṣṭa</i>	12 - 24 ml	Water	15 days
<i>Madhusnuhī rasāyana</i>	6-12gm	Water/Milk	15 days
<i>Vyādhiharana rasāyana</i>	125-250 mg	Water	15 days
<i>Nityānanda rasa</i>	125 - 250 mg	Water	15 days
<i>Jātyādi taila</i>	for external use	-	15 days
<i>Guggulutikta ghṛta</i>	10 gm	Warm water	15 days
<i>Kāsīsādi taila</i>	for external use	-	15 days
<i>Pippalyādi ghṛta</i>	for <i>mātrā vasti</i>	-	15 days
<i>Pañcavalkala kvātha</i>	for <i>avagāha sveda</i>	-	15 days
<i>Triphalā kvātha</i>	for <i>avagāha sveda</i>	-	15 days

[§]MOA - Mode of administration

* Initially 2 times in a day after meal for 15 days followed by condition of patient and physician's direction.

NOTE: Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

*Kṣāra sūtra*⁴⁹ and *Tīkṣṇa kṣāra sūtra*⁵⁰ therapy have shown improvement in the patient of fistula.

4. Surgical treatment

***Kṣāra sūtra* therapy** - If medical management is not responding or condition is chronic, then *Bhagandara* is to be treated by applying *kṣāra sūtra*

Advantages of *kṣāra sūtra* therapy over conventional fistulectomy are

1. Simple minimal invasive method
2. Does not require hospitalization
3. No complication when performed by the experts
4. Need of anesthesia and antibiotics are negligible when compared to conventional surgery



c. Yogic practices - The following *yogic* practices are beneficial in Fistula in ano; however, these should be performed only under the guidance of qualified *Yoga therapist*. Duration should be decided by the *Yoga therapist*.

1. *Śaṅkha prakśālana* once in a month.
2. *Gaṇeśa kriyā, Aśvinī mudrā, Mūlabandha, Nāḍī śodhana, Śītalī prāṇāyāma*
3. *Vajrāsana, Siddhāsana, Gomukhāsana, Pādāṅguṣṭhāsana, Guptāsana Paścimottānāsana, Sarvāṅgāsana, Pavanamuktāsana etc*

Counselling - Advice the patient to

1. Practice good personal hygiene, keep the anal area clean
2. Exercise the buttock muscles
3. Consume high fibre food
4. Take light food at night
5. Avoid constipation
6. Avoid junk food

Indications for referral

1. Multiple fistulae with severe associated complications
2. Chronic infections
3. Tubercular origin

COSTING DETAILS

Approx. costing of Fistula-in-ano management

S.No.	Medicine	Requirement	Unit	Rate in Rs.	Cost in Rs.
1.	<i>Sūraṇa cūrṇa</i>	30	gm	0.75	23
2.	<i>Ajamodā cūrṇa</i>	30	gm	0.50	15
3.	<i>Harītakī cūrṇa</i>	90	gm	0.27	25
4.	<i>Tālamūlī cūrṇa</i>	90-180	gm	0.25	23-46



5.	<i>Triphalā cūrṇa</i>	90-180	gm	0.38	34-68
6.	<i>Hiṅguvacādi cūrṇa</i>	30-75	gm	0.48	15-38
7.	<i>Guggulu pañca pala cūrṇa</i>	150	gm	0.50	75
8.	<i>Avipattikara cūrṇa</i>	150	gm	0.40	60
9.	<i>Śivākṣāra pācana cūrṇa</i>	30-75	gm	0.36	11-27
10.	<i>Cirabilvādi kaṣāya</i>	450-600	ml	0.41	185-246
11.	<i>Citrakādi vaṭī</i>	45	gm	1.20	54
12.	<i>Kāṅkāyana vaṭī</i>	7.5-15	gm	0.84	7-14
13.	<i>Triphalā guggulu</i>	30-45	gm	1.35	41-62
14.	<i>Saptaviṃśati guggulu</i>	30-45	gm	1.35	41-62
15.	<i>Pañcatikta ghṛta guggulu</i>	180-360	gm	0.95	172-344
16.	<i>Bāhuśāla guḍa</i>	90-180	gm	0.20	18-36
17.	<i>Guggulutiktaka ghūta</i>	300	gm	0.61	184
18.	<i>Kuṭajāriṣṭa</i>	375-750	ml	0.25	94-188
19.	<i>Abhayāriṣṭa</i>	375-750	ml	0.23	87-174
20.	<i>Mṛdvīkāriṣṭa</i>	375-750	ml	0.11	42-84
21.	<i>Madhusnuhīrasāyana</i>	180-360	gm	0.42	76-152
22.	<i>Vyādhiharana rasāyana</i>	3.75-7.5	gm	20.00	75-150
23.	<i>Nityānanda rasa</i>	3.75-7.5	gm	3.60	14-28
24.	<i>Jātyādi taila</i>	100	ml	0.52	52
25.	<i>Kāsīsādi taila</i>	100	ml	0.76	76
26.	<i>Pippalyādi ghṛta</i>	750	ml	0.35	265
27.	<i>Pañcavalkala kvātha</i>	500	gm	0.16	180
28.	<i>Triphalā kvātha</i>	750	ml	0.20	150



Approx. costing of *Pañcakarma* procedure in Fistula-in-ano **

S.No.	<i>Pañcakarma</i> procedure	Days	Rate in Rs./ day	Cost in Rs.
1.	<i>Avagāha sveda</i> (Sitz bath)	15	100	1500
2.	<i>Yoga vasti karma</i> (Package)	8	-	1250
3.	<i>Mātrā vasti</i>	15	100	1500

Approx. costing of *Kṣāra sūtra* procedure in Fistula-in-ano **

S.No.	<i>Pañcakarma</i> procedure	Days	Rate in Rs./ day	Cost in Rs.
1.	<i>Kṣāra sūtra</i> application in <i>Bhagandara</i> (Fistula in ano) (initial)	1	400	400
2.	Follow up after <i>Kṣāra sūtra</i> application in <i>Bhagandara</i> (Fistula in ano)	5-6 visits	250/ visit	1250-1500

2.10.2 Hemorrhoids (*Arśa*)

Introduction

Hemorrhoids (Piles) are dilated or bulged veins of rectum and anal region, caused by increased pressure in the rectal veins. The anatomical term 'hemorrhoids' technically refers to cushions of tissue filled with blood vessel at the junction of the rectum and the anus.

Hemorrhoids can occur at any time but become more common with advancing age and found equally in men and women and their prevalence peaks between 45 and 65 years of age. It is estimated that 50% to 85% of the world population will be affected by hemorrhoids at some time in their life⁵¹.

Arśa is generally translated as hemorrhoids in modern terms. Fleishy sprout or growth in *guda* is the most characteristic feature of *arśa* mentioned in *Ayurveda* as *gudāñkura*. It is considered as one of the eight *mahāgada*.

Ayurveda has offered a variety of four fold treatment methods in the management of *Arśa* i.e. medicinal (*bheṣaja cikitsā*), Parasurgical - chemical cauterization (*kṣāra karma cikitsā*), thermal cauterization (*agnikarma cikitsā*) and surgical (*śastra cikitsā*) with clear indications of their applicability and limitations.



Types of Hemorrhoids

1. **External Hemorrhoids** -These occur outside of the anal verge (the distal end of the anal canal). They are sometimes painful and can be accompanied by swelling and irritation. Itching, although often thought to be a symptom from external hemorrhoids, is more commonly due to skin irritation.

External hemorrhoids are prone to thrombosis, if the vein ruptures and a blood clot develops, the hemorrhoid becomes thrombosed.

2. **Internal Hemorrhoids** - These occur inside the rectum. As the area lacks pain receptors, internal hemorrhoids are usually painless and most people are not aware that they have them. Internal Hemorrhoids however, may bleed.

Untreated internal hemorrhoids may lead to two severe forms, i.e. prolapsed and strangulated hemorrhoids.

Aetiology

The causes of hemorrhoids include

1. Family history
2. Habitually straining (due to constipation)
3. Less intake of water
4. Sedentary life style
5. Constipation (may also due to low fiber diet)
6. Portal hypertension
7. Diminished appetite
8. Tumors in the pelvis

Risk factors

1. Family history of varicose veins
2. Constipation
3. Obesity
4. Prolonged sitting



Pathogenesis

Certain anatomical factors may be related to the development of the hemorrhoids

1. In erect position a long column of blood passes via the inferior mesenteric vein to the splenic vein and is subject to the force of gravity.
2. Superior rectal vein lies in the lax sub mucosa is relatively unsupported and subject to fecal compression.

So, above said conditions give rise to pressure on the superior rectal vein into left, right anterior and right posterior division results in the formation of hemorrhoids.

Clinical features

The most common symptoms of hemorrhoids are

1. Constipation, obstruction to the flatus, incomplete evacuation of faeces
2. Itching and pain in rectal region
3. Soft lump felt at the anal opening
4. Bleeding per anum
5. Anaemia, if bleeding persists for longer period

Complications

Hemorrhoids if not managed properly may cause other complications such as

1. Anal fissures
2. Ulceration and fibrosis
3. Strangulation and thrombosis
4. Infection and suppuration
5. Anaemia

Investigations/ Examination

1. Digital Rectal Examination
2. Proctoscopy
3. Sigmoidoscopy



4. Colonoscopy
5. Haemogram, bleeding time and clotting time

Management approaches

a. Prevention

1. Daily consumption of *patra śāka* (green leafy vegetables), *takra* (buttermilk), *drākṣa* (grape), guava, *papaya* and easily digestible dietary articles
2. Use of *sūraṇa* (*Amorphophalus companulatus* Blume ex Decne.) in food
3. Maintain regular bowel habits
4. Practice exercises such as walking, running, swimming regularly
5. Consume adequate fluids
6. Practice Kegel exercises - simply tighten and relax the Pubococcygeus muscles for 3 seconds about 20-30 times a day for strengthening the pelvic floor
7. Use of *triphalā cūrṇa* 3 gm with lukewarm water daily at bed time for 5-7 days to prevent constipation in individuals having tendency of constipated bowels
8. Avoid excess hot, heavy, spicy and salty, incompatible dietary articles, highly processed and non vegetarian food
9. Avoid sitting for longer duration
10. Avoid straining while passing stools

b. Medical management

Line of treatment (*Cakradutta 5/1*)

1. ***Nidāna parivarjana* (avoidance of aetiological factors)** - Trauma to perineal area should be avoided and perineal abscess; infection and inflammatory bowel disease should be corrected timely and modify life style to prevent constipation.
2. ***Samśodhana cikitsā*** (Bio-cleansing therapies) followed by ***Śamana cikitsā*** (Palliative therapy) should be advocated.
 - i. *Avagāha sveda* (Sitz bath) for 15 days with warm water or decoctions like
 - *Pañcavalkala kvātha*
 - *Triphalā kvātha*



- *Daśamūla kvātha*

ii. *Vasti*

- *Anuvāsana vasti* (with *Kāsīsādi taila/ Pippalyādi taila* 50ml) and *Nirūha vasti* (with *Pañcavalkala kvātha/ Daśamūla kvātha* 480ml, *Kṣīrabalā taila* 240 ml, honey 240 ml, *saindhava lavaṇa* 15 gm and 30 gm *kalka*)
- *Picchā vasti* 350 - 500 ml for 8 days (if there is any bleeding)

3. Drug therapy

Pharmacological therapy usually with laxatives, carminatives and *pāchana* drugs should be employed.

SINGLE DRUGS

Drug	Dosage (per dose)	MOA ^s / Vehicle	Duration*
<i>Sūraṇa</i> (<i>Amorphophalus campanulatus</i> Blume ex Decne.) <i>cūrṇa</i>	1 gm	Warm water	15 days
<i>Ajamoda</i> (<i>Apium graveolens</i> Linn.) <i>cūrṇa</i>	1 gm	Lukewarm water	15 days
<i>Harītakī</i> (<i>Terminelia chebula</i> Retz.) <i>cūrṇa</i>	3 gm	Lukewarm water at bed time	15 days
<i>Tālamūlī</i> (<i>Curculigo orchioides</i> Gaertn.) <i>cūrṇa</i>	3-6 gm	Milk	15 days
<i>Sonāmukhī</i> (<i>Cassia aungustifolia</i> Vahl.) <i>cūrṇa</i>	2-4 gm	Water	7 days

COMPOUND FORMULATIONS

Drug	Dosage (per dose)	MOA ^s / Vehicle	Duration*
<i>Triphalā cūrṇa</i>	3 gm.	Luke warm water	15 days
<i>Hiṅguvacādi cūrṇa</i>	1-2.5 gm	Luke warm water	15 days
<i>Avipattikara cūrṇa</i>	5 gm	Water/ Milk	15 days
<i>Śivākṣāra pācana cūrṇa</i>	1-2.5 gm	Water/ at bed time	15 days
<i>Chinnabilāvādi kaṣāya</i>	15-30ml	Water	15 days



<i>Citrakādi vaṭī</i>	1.5gm	Warm water/ Butter milk	15 days
<i>Arśoghñī vaṭī</i>	250mg	Butter milk /water	15 days
<i>Kāñkāyana vaṭī</i>	250-500 mg	<i>Ghee</i> /milk/ water	15 days
<i>Triphalā guggulu</i>	1-1.5 gm	Warm water	15 days
<i>Saptaviṃśati guggulu</i>	1-1.5 gm	Warm water	15 days
<i>Bāhuśāla guḍa</i>	3-6gm	Milk	15 days
<i>Sūranāvaleha</i>	3-6 gm	Milk/water	15 days
<i>Kuṭajāriṣṭa</i>	12 - 24 ml	Water	15 days
<i>Abhayāriṣṭa</i>	12 - 24 ml	Water	15 days
<i>Mṛdvikāriṣṭa</i>	12-24 ml	Water	15 days
<i>Madhusnuhīrasāyana</i>	12 gm	Water/milk	15 days
<i>Arśakuṭhāra rasa</i>	125-250 mg	Warm water	15 days
<i>Nityānanda rasa</i>	125 - 250 mg	Water	15 days
<i>Śatadhauta ghr̥ta</i>	for external use	-	15 days
<i>JātyādiTaila</i>	for external use	-	15 days
<i>Kāsīsādi taila</i>	for external use	-	15 days
<i>Pippalyādi taila</i>	for external use	-	15 days
<i>Pañcavalkala kvātha</i>	for <i>Avagāha sveda</i>	-	15 days
<i>Triphalā kvātha</i>	for <i>Avagāha sveda</i>	-	15 days
<i>Daśamūla kvātha</i>	for <i>nirūha vasti</i>	-	-

[§]MOA - Mode of administration

* Initially 2 times in a day after meal for 15 days followed by condition of patient and physician's direction.

NOTE: Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.



Kravyāda rasa, Kāsīsādi taila vasti and Triphalā cūrṇa have shown improvement in the Hemorrhoids⁵².

4. Surgical treatment

***Kṣārasūtra* Therapy** - If medical management is not responding or in chronic conditions, *Kṣāra sūtra* therapy is to be employed.

Benefits of *Kṣāra sūtra* therapy

1. Simple minimal invasive method
2. Does not require hospitalization
3. No complication when performed by the experts
4. Need of anesthesia and antibiotics are negligible when compared to conventional surgery

c. *Yogic* practices - The following *yogic* practices are beneficial in Hemorrhoids; however, these should be performed only under the guidance of qualified *Yoga therapist*. Duration should be decided by the *Yoga therapist*.

1. *Śāṅkha prakṣālana* once a month.
2. *Gaṇeśa kriyā, Aśvinī mudrā, Mūlabandha, Nāḍī śodhana, Śītalī prāṇāyāma*
3. *Vajrāsana, Siddhāsana, Gomukhāsana, Pādāṅguṣṭhāsana, Guptāsana, Paścimottānāsana, Sarvāṅgāsana, Pavanamuktāsana* etc.
4. Deep relaxation technique

Counselling - Advice the patient to

1. Increase daily intake of dietary fibers
2. Drink at least 2-3 litres of water a day
3. Take light food at night, avoid junk food and too spicy food
4. Increase amount of daily physical activity
5. Consult with the doctor regarding the prolonged use of stool softeners and laxatives
6. Make the habit of regular bowel habits; respond to the urge to defecate and stay relaxed to avoid straining
7. Exercise the perineal muscles



8. Practice good personal hygiene and keep the anal region clean

Indications for referral

1. Strangulation of haemorrhoids, rectal prolapse
2. Profuse bleeding per rectum that is not responding to medication
3. Severe anaemia etc.

COSTING DETAILS

Approx. costing of Hemorrhoids management

S.No.	Medicine	Requirement	Unit	Rate in Rs.	Cost in Rs.
1.	<i>Sūraṇa cūrṇa</i>	30	gm	0.75	23
2.	<i>Ajamoda cūrṇa</i>	30	gm	0.5	15
3.	<i>Harītakī cūrṇa</i>	90	gm	0.27	25
4.	<i>Tālamūlī cūrṇa</i>	90-180	gm	0.25	23-46
5.	<i>Sanaya cūrṇa</i>	60-120	gm	0.9	54-108
6.	<i>Triphalā cūrṇa</i>	90	gm	0.32	29
7.	<i>Hinguvacādi cūrṇa</i>	30-45	gm	0.48	15-25
8.	<i>Avipattikara cūrṇa</i>	150	gm	0.4	60
9.	<i>Śivākṣāra pācana cūrṇa</i>	30-45	gm	0.36	11-16
10.	<i>Chinnabilāvādi kaṣāya</i>	450-600	ml	0.41	185-246
11.	<i>Citrakādi vaṭī</i>	45	gm	1.20	54
12.	<i>Arśoghni vaṭī</i>	7.5	gm	4.60	35
13.	<i>Kāṅkāyana vaṭī</i>	7.5-15	gm	0.84	7-14
14.	<i>Triphalā guggulu</i>	30-45	gm	1.35	41-63
15.	<i>Saptaviṃśati guggulu</i>	30-45	gm	1.35	41-63
16.	<i>Bāhuśāla guḍa</i>	90-180	gm	0.2	18-36
17.	<i>Sūraṇāvāleha</i>	90-180	gm	0.192	17-35
18.	<i>Kuṭajāriṣṭa</i>	375-750	ml	0.25	94-188



19.	<i>Abhayāriṣṭa</i>	375-750	ml	0.23	87-174
20.	<i>Mṛdvikāriṣṭa</i>	375-750	ml	0.112	42-84
21.	<i>Śatadhauta ghr̥ta</i>	50	gm	2	100
22.	<i>Madhusnuhīrasāyana</i>	375	gm	0.42	158
23.	<i>Arśakuṭhāra rasa</i>	3.75-7.5	gm	4.0	15-30
24.	<i>Nityānanda rasa</i>	3.75-7.5	gm	3.6	14-28
25.	<i>Jātyādi taila</i>	100	ml	0.52	52
26.	<i>Kāsīsādi taila</i>	250-350	ml	0.76	190-266
27.	<i>Pippalyādi taila</i>	250-350	ml	0.75	188-265
28.	<i>Pañcavalkala kvātha</i>	750	gm	0.16	120
29.	<i>Triphalā kvātha</i>	750	gm	0.2	150
30.	<i>Daśamūla kvātha</i>	1000	gm	0.5	500

Approx. costing of *Pañcakarma* procedure in Hemorrhoids **

S.No.	<i>Pañcakarma</i> procedure	Days	Rate in Rs./ day	Cost in Rs.
1.	<i>Avagāha sveda</i> (Sitz bath)	15	100	1500
2.	<i>Yoga vasti</i>	8	-	1250
3.	<i>Picchā vasti</i>	8	150	1200

Approx. costing of *Kṣāra sūtra* procedure in Hemorrhoids **

S.No.	<i>Pañcakarma</i> procedure	Days	Rate in Rs./ day	Cost in Rs.
1.	<i>Kṣārasūtra</i> application in <i>Arśa</i> (Hemorrhoids)	1	250	250



2.11 WOMAN SPECIFIC GERIATRIC DISEASES

2.11.1 Menopausal Syndrome

Introduction

Menopausal Syndrome includes symptoms associated with the physiological changes that take place in a woman's body as period of fertility ends. Menopause is a normal consequence of the ageing process and is a natural female hormone deficient state that occurs at the age of 45-55 years. In this stage ovaries gradually become less active and reduce their production of sex hormone (estrogen and progesterone). As a result, menses cease permanently.

Women are usually considered to be menopausal if she has not had a menstrual period for one year without any underlying cause. Some women experience mild problems or none at all but some women have severe symptoms in this period. It has become an inevitable phenomenon in a women's life and many years are spent in the postmenopausal phase. Similarly in *Ayurveda*, *āchāryas* depicted that menses starts at the age of 12 year and stops at the age of 50 and the whole process is a natural phase of life.

Aetiology

1. Reduced production of estrogen and progesterone
2. Less active ovaries

Pathogenesis

It is a natural and normal phenomenon of ageing. Reduced production of sex hormones due to less active ovaries lead to menopause.



Clinical features

1. Irregular periods with scanty or excessive bleeding
2. Hot flushes
3. Night sweats
4. Vaginal dryness and itching
5. Mood swings
6. Joint pain
7. oedema
8. Sleeplessness
9. lassitude
10. Excessive hair fall
11. Anaemia
12. weakness
13. Stress incontinence
14. Loss of sexual desire
15. Wrinkling of skin etc.

Complications

1. Cardiovascular problems
2. Fractures due to osteoporosis

Investigations/ Examination

1. Haemogram
2. PAP smear
3. Serum FSH levels
4. Serum estradiol levels
5. Serum L.H. levels



6. Ultrasound abdomen
7. Bone mineral densitometry
8. Mammogram

Management approaches

a. Prevention

1. Consumption of *godhūma* (wheat), old rice, *mudga* (green gram), soyā, fresh seasonal fruits, ghee, nuts, milk etc.
2. Regular medicated oil massage and exposure to mild sun light
3. Practice personal and social good conduct
4. Maintain healthy body weight
5. Regular exercises, *yoga* and meditation
6. Control of blood pressure and cholesterol levels
7. Use of calcium supplements and diet rich in calcium and antioxidants
8. Use of *rasāyana* drugs
9. Avoid heavy and unwholesome food, excess pungent, salty and sour food items, mustard oil, etc.+
10. Avoid excessive physical exertion

b. Medical management

Line of treatment

1. ***Samśodhana cikitsā*** (bio-cleansing therapies) / other therapeutic procedures followed by ***Śamana cikitsā*** (palliative therapy) should be advocated.
 - i. *Snehana*: Gentle massage with medicated oils such as :
 - *Mahānārāyaṇa taila*
 - *Kṣīrabalā taila*
 - *Mahāmāṣa taila*
 - *Balā taila*



- ii. Internal *Snehana* (internal oleation) with medicated *ghṛta* (*Sukumāra ghṛta*/*Dāḍimādi ghṛta* etc) 50 ml with 2-3 gm *saindhava lavaṇa* daily for 3-7 days before *pañcakarma* (bio-cleansing procedure)
- iii. *Śirodhārā* with *Yaṣṭimadhu kaṣāya* and milk 45 minutes daily for 15 days
- iv. *Takra dhārā* 45 minutes daily for 15 days
- v. *Mātrā vasti* with *Dhānvantara taila* / *Sukumāra ghṛta* 50 ml daily for 15 days

2. Drug therapy

SINGLE DRUGS

Drug	Dosage (per dose)	MOA ^s / Vehicle	Duration*
For debility			
<i>Śatāvarī</i> (<i>Asparagus racemosus</i> Willd.) <i>cūrṇa</i>	1 -3gm	Water/ milk	15 days
<i>Āmalakī</i> (<i>Phyllanthus emblica</i> Gartn.) <i>cūrṇa</i>	1 -3 gm	Water	15 days
<i>Madhuyaṣṭhi</i> (<i>Glycyrrhiza glabra</i> Linn.) <i>cūrṇa</i>	1-3 gm	Water	15 days
<i>Aśvagandhā</i> (<i>Withania somnifera</i> Dunal) <i>cūrṇa</i>	3gm	Milk	15 days
For fragile bones			
<i>Asthisṛṅkhalā</i> (<i>Cissus quadrangularis</i> Linn.) <i>cūrṇa</i>	1-3 gm	Water	15 days
<i>Kukkuṭāṇḍa tvak bhasma</i>	250 mg	Milk / water	15 days

COMPOUND FORMULATIONS

Drug	Dosage (per dose)	MOA ^s / Vehicle	Duration*
For excessive bleeding			
<i>Puṣyānuga cūrṇa</i>	1-3 gm	Rice water	15 days
<i>Candraprabhā vaṭī</i>	1.5 gm	Water	15 days
<i>Lodhrāsava</i>	10-20 ml	Water	15 days
<i>Aśokāriṣṭa</i>	10-20 ml	Water	15 days



<i>Sukumāra ghṛta</i>	10gm	Warm milk/ Warm water	15 days
<i>Dāḍimādi ghṛta</i>	30-50 ml	Warm water	3 - 7 days
For hot flushes / night sweats/ burning sensation			
<i>Pravāla piṣṭī</i>	250-500mg	Water	15 days
<i>Muktā piṣṭī</i>	250-500 mg	Water/ milk	15 days
<i>Candanāsava</i>	10-20 ml	Water	15 days
<i>Uśīrāsava</i>	10-20 ml	Water	15 days
<i>Kāmadudhā rasa</i>	125-250 mg	Water	15 days
<i>Dhānvantara taila</i>	for <i>mātrā vasti</i>	-	15 days
For debility/ anaemia			
<i>Aśvagandhāriṣṭa</i>	10-20 ml	Water	15 days
<i>Śatāvarī guḍa</i>	6 gm	Milk	15 days
<i>Lohāsava</i>	10-20ml	Water	15 days
For insomnia/ mood swings			
<i>Mānasa mitra vaṭaka</i>	125 mg	Milk	15days
<i>Brāhmī vaṭī</i>	125-250 mg	Milk	15 days
<i>Brāhma rasāyana</i>	10gm thrice daily	Milk	15 days
For fragile bones			
<i>Lākṣādi taila</i>	for <i>mātrā vasti</i>	-	15 days
<i>Dhānvantara taila</i>	for <i>mātrā vasti</i>	-	15 days

[§]MOA - Mode of administration

* Initially 2 times in a day after meal for 15 days followed by condition of patient and physician's direction.

NOTE: Out of the drugs mentioned above any one of the drug or in the combination may be prescribed by the physician. The duration of the treatment may vary from patient to patient. Physician should decide the dosage (per dose) and duration of the therapy based on the clinical findings and response to therapy.

c. Yogic Practices - The following *yogic* practices are beneficial in menopausal syndrome; however, these should be performed only under the guidance of qualified



Yoga therapist. Duration should be decided by the *Yoga therapist.*

1. *Sūryanamaskāra, Tāḍāsana, Kaṭīcakrāsana, Vajrāsana, Uṣṭrāsana, Sarvāṅgāsana, Setubandhāsana, Baddhakonāsaṇa, Pavanamuktāsana, Upaviṣṭakoṇāsana, Merudaṇḍa sañcālanāsana*
2. *Bhrāmarī, Nāḍīśodhana, Śītalī prānāyāma*
3. *Mūlabandha* with *Aśvinī mudrā*
4. Deep relaxation technique/ *Yoga nidrā/ Nāḍī anusandhāna*

Counselling - Advice the patient to

1. Develop positive approach towards menopause
2. Take calcium rich diet
3. Practice *yoga* and meditation for stress management
4. Check cholesterol levels periodically
5. Limit tea / coffee consumption
6. Avoid sedentary life style
7. Avoid smoking and consumption of alcohol

In addition, adequate counselling regarding cleanliness of genital organs, sexual behaviour and for regular medical check up should be given.

Indications for referral

1. Heavy bleeding which is not responding to medication
2. Menopausal syndrome associated with fracture
3. Menopausal syndrome associated with other serious systemic illness



COSTING DETAILS

Approx. Costing of Menopausal Syndrome management

S.No.	Medicine	Requirement	Unit	Rate in Rs.	Cost in Rs.
1.	<i>Śatāvārī cūrṇa</i>	30-90	gm	0.50	15-45
2.	<i>Āmalakī cūrṇa</i>	30-90	gm	0.25	8-23
3.	<i>Madhuyasṭhi cūrṇa</i>	30-90	gm	1.00	30-90
4.	<i>Aśvagandhā cūrṇa</i>	90	gm	0.48	43
5.	<i>Asthisṛṅkhalā cūrṇa</i>	30-90	gm	0.20	6-18
6.	<i>Kukkuṭāṅḍatvak bhasma</i>	7.5	gm	7.20	54
7.	<i>Puṣyānuga cūrṇa</i>	30-90	gm	4.16	125-375
8.	<i>Pravāla piṣṭī</i>	7.5-15	gm	4.00	30-50
9.	<i>Muktā piṣṭī</i>	7.5-15	gm	1.40	11-22
10.	<i>Brāhmī vaṭī</i>	3.75-7.5	gm	4.40	17-34
11.	<i>Candraprabhā vaṭī</i>	45	gm	2.00	90
12.	<i>Śatāvārī guḍa</i>	180	gm	0.56	101
13.	<i>Sukumāra ghr̥ta</i>	300	gm	0.63	190
14.	<i>Dāḍimādi ghr̥ta</i>	210-350	ml	0.42	89-147
15.	<i>Dhānvantara taila</i>	750	ml	0.55	413
16.	<i>Candanāsava</i>	300-600	ml	0.12	36-72
17.	<i>Aśokāriṣṭa</i>	300-600	ml	0.13	39-78
18.	<i>Aśvagandhāriṣṭa</i>	300-600	ml	0.15	45-90
19.	<i>Uśīrāsava</i>	300-600	ml	0.12	36-72
20.	<i>Lodhrāsava</i>	300-600	ml	0.22	66-132
21.	<i>Lohāsava</i>	300-600	ml	0.12	36-72
22.	<i>Lākṣādī taila</i>	750	ml	0.32	240
23.	<i>Kāmadudhā rasa</i>	3.75-7.5	gm	4.00	15-30
24.	<i>Mānasa mitra vaṭaka</i>	3.75	gm	5.73	22
25.	<i>Brāhma rasāyana</i>	450	gm	0.197	89



Approx. costing of *Pañcakarma* procedure in Menopausal Syndrome **

S.No.	<i>Pañcakarma</i> procedure	Days	Rate in Rs./ day	Cost in Rs.
1.	<i>Snehana</i> (externally)	15	200	3000
2.	<i>Śirodhārā</i> (milk)	15	150	2250
3.	<i>Takra dhārā</i>	15	150	2250
4.	<i>Mātrā vasti</i>	15	100	1500



2.12 MISCELLANEOUS ISSUES IN THE ELDERLY

1. CANCER

Cancer is one of the five common causes of death in elderly Indian. With increase in the incidence and prevalence of cancer of all types physicians are more likely to encounter older patients with cancer⁵³.

Awareness about the symptoms and signs among home care givers, family physicians and other health professionals will facilitate early diagnosis of these cancers. Palliative care is an integral to satisfactory medical support.

Ageing process is known to be the single greatest risk factor for the development of cancer. Currently, in the developed countries more than 50-60% of all cancers occur beyond 65 years of age. In India, 1 in 5 cancers are now detected in persons beyond 60 years of age. Demographic changes in developing countries like India will increase the aged population, from less than 10% of the population at present to 20% or more by the year 2020. Such a double-fold rise will result in increased cancer burden amongst the elderly persons. It has been observed that a rapid increase in incidence of certain specific cancers occur in the aged persons. Majority of the solid cancers (of lung, head and neck, gastro-intestinal tract, genitor-urinary system, breast, prostate and central nervous system) show a tendency for cancer development after the 5th and 6th decades of life. Similarly, advancing age increases the risk for some hematologic malignancies. In the developed countries; the common neoplasms afflicting the elderly population are those of lung, prostate, breast, colon and rectum, uterus, lymphomas and pancreas. The developing countries like India show certain differences and the common cancers of the elderly are: lung, stomach, cervix, head and neck, breast, esophagus, liver, colon and rectum and lymphomas. Those with high rate of death in the geriatric age groups in India are head and neck, lung, cervix and esophagus malignancies. The cancers of the head and neck region and uterine cervix are the two most prevalent cancers in India. These two sites are easily accessible for physical and diagnostic examinations⁵⁴.



Common Presenting Symptoms and Signs

Symptoms of cancer are not necessarily exclusive and may quite often be similar in nature to many other non-cancerous conditions. Thus, it is necessary to have a high index of suspicion while evaluating all elderly patients for the cancer diagnosis. In general, whenever there is non-healing ulcer that bleeds on touch, stony hard swelling, unexplained weight loss, fatigue, anaemia etc., it should be investigated for cancer. Some of the dominating organ specific signs and symptoms can be enumerated as follows:

Head and Neck: Non-healing ulcer, tumour, pain in oral cavity and throat, difficulty in swallowing, change in voice, swelling in the neck.

Lung: Chronic cough, blood in sputum (hemoptysis) respiratory distress, chest pain, recurrent pulmonary infection, enlarged lymph glands.

Upper GIT (esophagus, stomach): Dysphagia, anorexia and weight loss, hematemesis, vomiting, aspiration pneumonia.

Lower GIT (colo-rectal, and anal): Alteration in bowel habits (constipation/ diarrhoea), bleeding or discharge per rectum, tenesmus, palpable mass in abdomen, intestinal obstruction.

Genitourinary: Hematuria and weight loss.

Cervix: Bleeding/ discharge per vaginam, post coital bleeding, low backache/pain in abdomen.

Uterus: Irregular bleeding, discharge per vaginum, pain in hypogastrum region

Ovary: Pain and bloating sensation or palpable mass in abdomen, cachexia, edema of the legs or vulva

Prostate: Increased frequency and urgency, dysuria, dribbling of urine, decreased flow of stream, constipation.

Bladder: Painless hematuria, pain abdomen, urinary retention.

Breast: Palpable lump, bleeding/ discharge from nipple, lump in the axilla.

Hematologic (lymphoma/ leukemia): Pallor, generalized weakness, fever, weight loss, recurrent chest and urinary infections, petechial haemorrhage, bleeding from nose and gum, joint pain, painless palpable lymph nodes, organomegaly (hepato-splenomegaly).

Central Nervous system: Headache, vomiting, seizures, diminution of vision, motor/sensory deficit, urinary/ bowel incontinence, altered sensorium.



Diagnostic Methods

- i) **General physical examination** - This includes complete physical examination, assessment of nutritional status and psycho-social assessment.
- ii) **Diagnostic tests**
 - (a) Endoscopy (laryngoscopy, bronchoscopy laparoscopy, colposcopy etc.)
 - (b) Radiological tests like plain X-ray, ultrasound, CT scan
 - (c) Hematologic and biochemical tests
 - (d) Special tests if needed (e.g. bone scan, bone marrow study; in women - PAP smear and mammography)
 - (e) Cytology (fine needle aspiration cytology, peripheral blood smear)
 - (f) Biopsy - incisional, excisional

Treatment decisions

- i) Surgery
- ii) Radiotherapy
- iii) Chemotherapy
- iv) Palliative care

Treatment decisions are based upon the following factors

1. General physical status and associated comorbid conditions
2. Stage of the cancer
3. Patient's willingness and compliance

At the present, most of the early cancers are curable in more than 70-90% of the cases. For head and neck, breast, cervix, GIT, prostate cancers, surgery and/ or radiation therapy are advocated as a single modality. With this kind of cancer treatment, the patient's quality of life may not be adversely affected by the treatment. In early stage hematologic malignancies, chemotherapeutic practices provide long term cure and survival in more than 70-80% of the patients, but rarely radiotherapy is utilized for these malignancies. For the advanced stage solid tumours, combined modalities of surgery and radiotherapy are preferred. For some of these tumors, chemotherapy is also recommended as an adjuvant therapy.



Both radio-therapeutic as well as chemotherapeutic modes of treatment are effective in malignancies of cardiac, renal as well as CNS origin. The morbidity and mortality can be reduced by use of less toxic drugs in providing good quality of life.

Prevention of Cancer

- Quit smoking
- Stop use of tobacco in any form
- Avoid alcohol consumption
- Avoid exposure to toxic chemicals, UV rays, radiation etc.
- Practice of yoga and meditation
- Consumption of food groups against cancer risk: International Agency for Research on Cancer (IARC) has suggested to increase or maintain following fruits and vegetables intake to improve nutrition for reducing the burden of cancer and other chronic diseases, such as; broccoli, cabbage, cauliflower, sprouts, turnip, radish, ginger, turmeric, mustard, blackberries, raspberries, strawberries, grapes, banana, carrot, peanuts, fruits rich in vitamin C, E and folic acid, milk and dairy products and green and black tea⁵⁵.
- Life style changes - like healthy eating habits, exercise and practice of *yoga* and meditation

Palliative care in Cancer:

Palliative care in cancer comprises of active care of pain, distressing symptoms (i.e. tiredness, anorexia, feeling of sick, nausea, taste change, sore throat, bowel problems etc.) and other psychological issues (i.e. depression, anxiety, sleep disturbance etc.) and also improving the quality of life (QOL) of an incurable cancer patient. *Ayurvedic* drugs can be used as adjuvants or as supportive therapy. The following *Ayurvedic* formulations may be beneficial to prevent/ minimize adverse effects due to the intensity of chemotherapy/ radiotherapy and/ or to improve the quality of life of cancer patients.

- | | |
|-------------------------------------|-----------------------------|
| 1. <i>Āmalakī rāsāyana</i> | 2. <i>Triphalā rasāyana</i> |
| 3. <i>Brāhma rāsāyana</i> | 4. <i>Cyavanaprāśa</i> |
| 5. <i>Agastya harītakī rasāyana</i> | 6. <i>Drākṣāvaleha</i> |
| 7. <i>Aśvagandhā cūrṇa</i> | 8. <i>Śatāvarī cūrṇa</i> |



- | | |
|-----------------------|-----------------------|
| 9. Avipattikara cūrṇa | 10. Kāñcanāra guggulu |
| 11. Kaiśora guggulu | 12. Triphalā guggulu |
| 13. Śilājatvādī vaṭī | 14. Punarnavā maṇḍūra |
| 15. Śaṅkha vaṭī | 16. Daśamūla kvātha |

Recent studies have shown the beneficial effects of following herbs in cancer.

1. Śarapuñkhā (*Tephrosia purpurea* (Linn.) Pers) in oral carcinoma⁵⁶
2. *Rasona* (Garlic - *Allium sativum* Linn.), *Methikā* (Fenugreek - *Trigonella foenum graecum* Linn.) for reducing tumor cell growth
 - a. *Soyā* (*Glycine max* (L.) Merr.) to decrease risk of breast, prostate and colon cancer
 - b. *Kāravellaka* (Bitterguard - *Momoridica charantia* Linn.) for inducing apoptosis in Colon cancer cells⁵⁷.

2. UTERINE PROLAPSE AND URINE STRESS INCONTINENCE

Genital prolapse is commonly seen in elderly women. In addition, urinary symptoms especially urine stress incontinence is one of the most prevalent conditions in elderly women.

Uterine Prolapse

Descent of cervix into the vagina or outside the introitus along the axis of vaginal lumen is called uterine prolapse. Uterine prolapse is usually associated with variable degrees of vaginal prolapse.

Degree of uterine prolapse

1. **First degree** - Slight descent of uterus, cervix remaining within the vagina below the level of ischial spines.
2. **Second degree** - Cervix protrudes outside the introitus when she is standing or stretching.
3. **Third degree** - Entire uterus prolapse outside introitus with whole vagina or whole of anterior vagina wall and homepart of posterior vaginal wall is everted.



Etiology

1. Estrogen deficiency leads to alteration in collagen in the ligaments and endopelvic fascia - reduces their supportive strength
2. Ageing produces atrophy of tissues and hypotonia of muscles
3. Injuries during child birth
4. Multiple pregnancies
5. Increased intra-abdominal pressure due to chronic cough, constipation, obesity, ascities, intra-abdominal tumors

Clinical features

1. Mass protruding from vagina
2. Feeling of mass in the vagina
3. Pelvic discomfort
4. Low backache on prolonged standing
5. Purulent, blood strained discharge
6. Frequency of micturation
7. Stress incontinence
8. Vaginal flatus

Management

In complete prolapse, surgery is the last option but early stage (in first degree uterine prolapse) can be managed through *Ayurvedic* medical management.

Prevention

1. Use of *rasona* (*Allium sativum* Linn.), *pippalī* (*Piper longum* Linn.), *harītakī* (*Terminalia chebula* Linn.), *āmalakī* (*Phyllanthus emblica* Gartn.), *yava* (*Hordeum vulgare* Linn.), *madhu* (honey), *māṃsa rasa* (meat soup), milk, *ghṛta*, *āsava*, *ariṣṭa* etc.
2. Child birth trauma should be avoided; it occurs should be managed properly
3. Prolonged second stage of labour is avoided by timely episiotomy or forceps delivery



4. Post natal exercises are to be done to strengthen pelvic floor
5. Squatting and straining are to be avoided

Drug therapy

1. *Snehana* and *svedana*
2. *Vasti*: *Anuvāsana vasti* with 50 ml *Sukumara taila*/ *Bala taila* / *Śirīṣa taila* for 7 days and *Palāśādi niṛūha vasti* as *Kālavasti krama*
3. Application of *Picu* soaked in *Mūṣika taila*
4. *Puṣyānuga cūrṇa* 3 gm twice daily for 30 days
5. *Phala ghr̥ta* / *Triphalādi ghr̥ta* 10 gm twice daily for 30 days
6. *Nyagrodhādi kaṣāya* 15-30 ml twice daily for 30 days
7. *Mahārāsānādi kvātha* 15-30 ml twice daily for 30 days

Stress incontinence

Stress incontinence is a condition where urine leaks with rise in intra-abdominal pressure in the absence of detrusor activity. Exact incidence of this problem is not known but it is reported to be 25-30% in the elderly women attending gynaecological out patient department⁵⁸.

Aetiology

1. Vaginal injury during child birth
2. Ageing leads to loss of muscle tone
3. Estrogen deficiency leads to alteration in collagen in the ligaments
4. Intra abdominal pressure increasing factors like obesity, chronic cough, constipation and heavy weight lifting etc.

Medical management

Prevention

1. Use of *kadalī* (*Musa paradisiaca* Linn.), *āmalakī* (*Phyllanthus emblica* Gartn), *māṣa* (*Phaseolus mungo* Linn.), *kūṣmāṇḍa* (*Benincasa hispida* (Thunb.) cogn.), *kharjūra*



(*Phoenix sylvestris* Roxb.), *vidārīkanda* (*Pueraria tuberosum* DC.) etc.

2. Weight reduction (in obese)
3. Pelvic floor exercise
4. Institutional delivery or by trained health care provider

Drugs

1. *Āmalakī svarasa* 10 ml with honey and sugar twice daily for 15 days
2. *Nāgakeśara cūrṇa* 2-3 gm with butter milk twice daily for 15 days
3. *Vaṅgeśvara rasa* 250mg with *Triphalā kvātha*



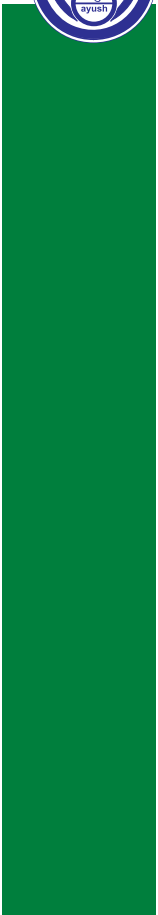
SECTION 3

OTHER ISSUES





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3.1 SOCIAL AND SPIRITUAL ISSUES IN THE ELDERLY

A. Social issues in the elderly

Various issues influence the status of health in elderly and also physician's ability to deliver timely and optimum health care services.

Marital status, financial status, work history, education, responsibilities, living atmosphere and arrangements are the prime issues to be considered while addressing the issues of elderly.

Elderly patients living with their family members may face fewer problems when compared to others who are living alone. Because physical, economical and social health care services are provided by the family members. Due to changing phenomenon in India like nuclear family system and urban migration of the people, the rural elderly people are the most sufferers due to absence of family support. Physical limitations and lack of interest in having meal is commonly seen in elderly people. Some elderly person living alone, even do not prepare and eat proper meal that may result into malnutrition problems.

Loss of key support like death of spouse/ siblings, retirement, relocation and financial deterioration etc. may take place during old age. These changes may cause multiple problems with regard to physical, social, mental wellbeing.

In addition, physical abuse, psychological abuse, neglect, financial abuse etc. are common on elderly patients, which further add to the agony.

B. Spiritual issues in the elderly

In the elderly patients, religion and spirituality plays an important role. Belief on god, hopeful and positive attitude about the life and illness influence the health. Active involvement in religious activities helps the patient in active life style and socialising, which in-turn minimize the problems arising from isolation and chronic diseases. Interaction with



people will also increase the awareness and hence there will be possibility for early detection of the diseases and better treatment compliance. Religious and spiritual persons tend to recover from diseases more quickly. Elderly persons attending religious activities remain motivated to stop addictions like smoking, alcohol, which help in better health and social status.

The common spiritual interventions are praying, reading religious books, visiting auspicious places, attending religious rituals, meditation, etc. This will increase the socialization, reduce isolation and promote the feeling of belongingness.



3.2 REHABILITATION IN ELDERLY

Rehabilitation means development of a person to the fullest potential consistence with his or her impairment and environmental limitations. The main goals of rehabilitation are to prevent complications of bed rest and promote self dependence. Unnecessary bed rest and immobility lead to negative psycho-physiological changes i.e.

1. Reduction of the muscle strength, endurance, joint mobility and functional reverse of musculoskeletal system
2. Deminition of the functional capacity of cardiovascular system
3. Thrombotic complication
4. Intellectual deficit and emotional disturbances
5. Peripheral neuropathy
6. Weakness etc.

THE REHABILITATION TEAM MEMBERS AND THEIR ROLES*

TEAM MEMBERS	ROLES
Physician	Evaluates the medical and functional deficits, designs a plan for treatment based on the potential for rehabilitation
<i>Pañcakarma</i> specialist	designs plan for <i>pañcakarma</i> therapy for certain conditions
<i>Yoga therapist</i>	Provides <i>yoga</i> counselling and training
Patient and caregiver	participates in goal setting, plans for treatment and carries out instructions given by team members
Physiotherapist	assesses the strength, range of motion, balance and co-ordination, evaluates the need for mobility aids, performs



	exercise training, applies treatment modalities (e.g. heat, cold, electrical stimulation)
Occupational therapist	evaluates activities of daily living, cognition, safety and assistive devices (e.g. splints, wheel chairs) and provides the needful suggestions
Speech therapist	evaluates speech, language and swallowing abilities; helps to improve communication skills and swallowing adaptation mechanisms
Rehabilitation nurse	attends to the patient's needs, ensures that patients practice skills acquired during therapy, ensures proper bed position and skin care
Social worker	provides counselling (coping with disability, finance, equipment and/ or need for placement) and facilitates patient's discharge
Audiologist	performs audiometric studies, evaluates needs for hearing aids
Dietitian	evaluates nutrition needs and advises dietary regimen

*Source: T.S. Dharmarajan, Clinical Geriatrics, Page No140 (slightly modified)

Benefits of early rehabilitation intervention

1. May prevent deconditioning
2. Maximize function
3. Improve quality of life

The following conditions need rehabilitation in elderly patients

1. Arthritis
2. Stroke
3. Parkinson's disease
4. Fractures
5. Depression
6. Memory deficit



7. Amputation

Co-morbid conditions such as urinary tract infection, confusion and depression, visual impairment, loss of balance may interfere with rehabilitation activities. The following interventions may reduce the risks and are integral part of rehabilitation.

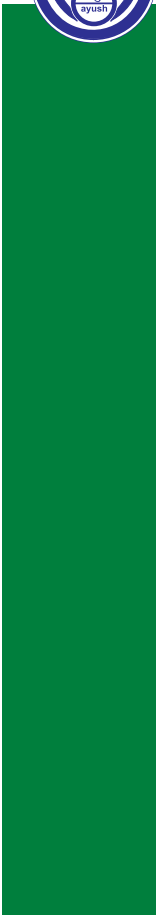
1. Avoiding prolonged immobilization, chronic use of indwelling catheters and unnecessary medications
2. Control over diabetes
3. Audiometric evaluations and adaptation techniques for vision and hearing

In addition, the successful application of *pañcakarma* procedures like *snehana* (oleation), *svedana* (fomentation) etc., *yoga* practices and active exercises to enhance orthostatic stability, daily endurance exercise to maintain aerobic capacity or specific resistance exercise to maintain musculoskeletal integrity constitute effective rehabilitation management of patients.





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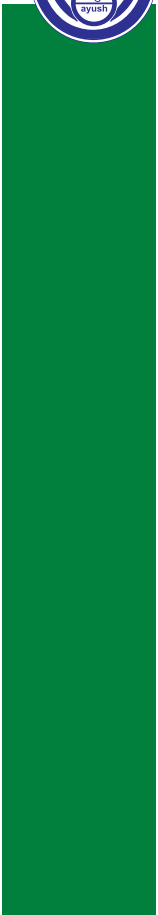


ANNEXURES





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ANNEXURE I

INDICATIONS AND CONTRAINDICATIONS OF PAÑCAKARMA

(SOURCE: GUIDELINES ON BASIC TRAINING AND SAFETY IN PANCHAKARMA, 2008)

Indications and contraindication for *Snehana*

Indications	Contraindications
1. Persons who are fit for <i>pañcakarma</i> procedures) (<i>śodhanārha</i>)	1. Thirst (<i>tr̥ṣṇā</i>)
2. Rough/ dry (<i>rūkṣa</i>) constitution	2. Pregnancy (<i>garbhinī</i>)
3. Diseases due to vitiation of <i>vāta</i>	3. Aversion to food (<i>annadveṣa</i>)
4. Persons, who does regular exercise e.g. athletes, wrestlers etc. (<i>vyāyāmaśīla</i>)	4. Persons undergoing the process of nasal administration of medicaments (<i>nasya</i>) and therapeutic enema (<i>vasti</i>)
5. Intellectuals, executives (<i>cintaka</i>)	5. Vitiation/ increase of <i>kapha</i> & fat tissue (<i>meda</i>)
6. As essential preparatory procedure for other <i>śodhana</i> therapies	6. State of indigestion & toxic metabolites (<i>āmadoṣa</i>)
7. <i>Vātaroga</i> like Hemiplegia, paralysis, (<i>pakṣāghāta</i>), sciatica (<i>gr̥dhūsī</i>), backache (<i>kaṭiśūla</i>), facial palsy (<i>ardita</i>), gout (<i>vātaś oṇita</i>), brachial neuralgia (<i>avabāhuka</i>),	7. Poor digestion (<i>nitya mandāgni</i>)



8. Oligospermia (<i>kṣīṇaretas</i>)	8. Vomiting (<i>chardī</i>)
9. Incipient cataract (<i>timira</i>)	9. Ascities, hepato spleno-megaly, cirrhosis of liver, acute abdomen, etc. (<i>udararoga</i>)
10. Abdominal lump (<i>gulma</i>)	10. Diarrhoea (<i>atisāra</i>)
11. Acid peptic disorders (<i>pariṇāma śūla</i>)	11. Chronic chemical poison (<i>garaviṣa</i>)
12. Diseases of female genital tract (<i>yonivyāpat</i>)	12. Early stages of fever (<i>nava jvara</i>)
13. Emaciated (<i>kṛśa</i>)	
14. Marasmus (<i>bālaśoṣa</i>)	
15. Frontal headache (<i>sūryāvarta</i>)	
16. Sleeplessness (<i>anidrā</i>)	
17. Alcoholic intoxication (<i>madātyaya</i>)	
18. Chronic constipation (<i>jīrṇa vibandha</i>).	

Indications and contraindication for *Svedana*

Indications	Contraindications
1. Diseases due to <i>vāta</i> , <i>kapha</i>	1. Pregnant (<i>garbhīṇī</i>)
2. Rhinitis (<i>pratiśyāya</i>)	2. Anger (<i>krodha</i>)
3. Cough (<i>kāsa</i>) / <i>Hikkā</i> (hiccough)	3. Thirst (<i>trṣṇā</i>)
4. Breathlessness/ asthma (<i>śvāsa roga</i>)	4. Hunger (<i>kṣudhita</i>)
5. Heaviness in body (<i>aṅga gaurava</i>)	5. Grief (<i>śoka</i>)
6. Karna śūla (earache), pain in neck region (<i>manyāśūla</i>), headache <i>śiraḥśūla</i>)	6. Weak (<i>durbala</i>)
7. Hoarseness of voice (<i>svara bheda</i>)	7. Diseases due to <i>pitta</i> (<i>pittavikāra</i>) [If required mild sudation can be done]
8. Chocking sensation in throat (<i>galagraha</i>)	8. Haemorrhagic disorders (<i>raktapitta</i>)



9. <i>Vāta roga</i> like facial palsy (<i>ardita</i>), Monoplegia (<i>ekāṅga vāta</i>), generalized paresis (<i>sarvāṅga vāta</i>), Paralysis (<i>pakṣāghāta</i>), Bending of body/ Kyphosis/ Lordosis/ Scoliosis (<i>vināmaka</i>), Distension of abdomen (<i>ānāha</i>), constipation (<i>vibandha</i>), rigidity in lumbosacral region (<i>kaṭigrāha</i>)	9. Diarrhoea (<i>atisāra</i>)
10. Defective reproductive elements (<i>śukrāghāta</i>)	10. Diabetes mellitus (<i>madhumeha</i>)
11. Yawning (<i>jṛmbhā</i>), bodyache (<i>aṅgamarda</i>)	11. Proctitis, rectal prolapse (<i>vidagdha bhraṣṭa bradhnānām -pakvaguda, gudabhramśa</i>)
12. Rigidity in flanks, back, abdomen, lock jaw (<i>pārśva/ pṛiṣṭha/ kaṭi/ kukṣi/ hanu graha</i>)	12. Diseases due to Poisons/ alcohol (<i>viṣa madya vikāra</i>)
13. Dysuria (<i>mūtrakṛcchra</i>)	13. Extremely Obese (<i>atisthūla</i>)
14. Enlargement of scrotum (<i>muṣkavṛddhi</i>)	14. Uropathy due to Pitta (<i>pitta meha</i>)
15. Pain in foot, leg, knee and thigh regions (<i>pādārti / jaṅghārti / jānvārti / uru-arti</i>)	15. Jaundice (<i>kāmalā</i>)
16. Rigidity in foot, leg, knee and thigh regions (<i>pāda, jaṅghā, jānu, uru graha</i>)	16. Ascites, hepato spleno-megaly, cirrhosis of liver, acute abdomen etc. (<i>Udararoga</i>)
17. Inflammation (<i>śoṭha</i>), Sciatica (<i>gṛdhrasī</i>)	17. Injury to the lungs (<i>Urahkṣata</i>)
18. Pain with cramps in ankle, knee, wrist, hip joints (<i>khallī roga</i>)	18. Gout (<i>vātarakta</i>)
19. State of indigestion & toxic metabolites (<i>āma doṣa</i>)	19. Gastroenteritis/ cholera (<i>visūcikā</i>)
20. Paralysis agitans/ tremors (<i>kampavāta</i>)	20. Diminished strength/ immunity (<i>kṣīṇa Oja</i>)



21. Sprain of ankle (<i>vāta kaṇṭaka</i>)	21. Incipient cataract (<i>timira</i>)
22. Contraction (<i>saṅkoca</i>), pain (<i>śula</i>)	22. Systemic lupus erythematosus
23. Rigidity (<i>stambha</i>), Heaviness (<i>gaurava</i>), Numbness (<i>supti</i>) Ankylosing spondylitis	23. Multiple Sclerosis, etc.
24. Muscular dystrophy (<i>māṃsagata vāta</i>)	
25. Stiffening of thighs (<i>urustambha</i>)	
26. Abdominal lump (<i>gulma roga</i>).	

Note: Protect the sensitive parts like eyes, heart and scrotal region by covering with cool items like flowers, leaves etc. If sudation (*svedana*) is required, mild sudation can be done in the scrotal and cardiac regions

Indications and contraindications for *Vamana karma*

Indications	Contraindications
1. Chronic rhinitis/ sinusitis (<i>pīnasa</i>)	1. Extremely obese (<i>atisthūla</i>)
2. Diseases of skin (<i>kuṣṭha</i>)	2. Cachexia (<i>atikṛśa</i>), Weak (<i>durbala</i>)
3. Early stages of fever (<i>nava jvara</i>)	3. Child (<i>bāla</i>), Elderly (<i>vṛddha</i>)
4. Tuberculosis (<i>rājayakṣmā</i>)	4. Fatigue due to strain (<i>śrānta</i>)
5. Cough (<i>kāsa</i>)	5. Thirst (<i>pipāsita</i>), Hunger (<i>kṣudhita</i>)
6. Breathlessness/ asthma (<i>śvāsa</i>)	6. Exhausted by physical work (<i>karmahat</i>)
7. Chocking sensation in throat (<i>gala graha</i>)	7. Exhausted by weight lifting (<i>bhārahata</i>)
8. Goiter (<i>galagaṇḍa</i>)	8. Exhausted by walking (<i>adhvaha</i>)
9. Filariasis (<i>ślīpada</i>)	9. Person under fasting (<i>upavāsita</i>)
10. 20 types of Urinary problems (<i>meha</i>)	10. Exertion (<i>śrama</i>)
11. Impaired digestive capacity (<i>mandāgni</i>)	11. Pregnant (<i>garbhīṇī</i>)
12. Indigestion due to incompatible food (<i>viruddhājīrṇa</i>)	12. Delicate/ sensitive (<i>sukumāra</i>)



13. Intestinal hypotony (<i>alāsaka</i>)	13. After decoction enema (<i>āsthāpana vasti</i>)
14. Distaste/ Aversion to food (<i>arocaka</i>)	14. Weakness due to injury (<i>kṣatakṣīṇa</i>)
15. Ingestion of natural and artificial poison (<i>viṣagara pīta</i>)	15. Intestinal obstruction (<i>sanniruddha koṣṭha</i>)
16. Indigestion (<i>avipāka</i>)	16. Haematemesis, haemoptysis, epistaxis, bleeding from ears etc. (<i>urdhvgat rakta pitta</i>), Vomiting (<i>chardī</i>)
17. Anaemia (<i>Pāṇḍu</i>)	17. Tendency of opposite direction of impulses (<i>udāvarta</i>)
18. Bleeding per rectum/ urogenital orifices (<i>Adhogata rakta pitta</i>)	18. Urinary obstruction (<i>mūtrāghāta</i>)
19. Haemorrhoides (<i>durnāma</i>)	19. Diseases of spleen (<i>plīha roga</i>)
20. Nausea (<i>hr̥llāsa</i>)	20. Abdominal lump (<i>gulma</i>)
21. Chronic lymph-adenopathy/ scrofula (<i>apacī</i>)	21. Ascities, hepato spleno-megaly, cirrhosis of liver, acute abdomen, etc. (<i>udararoga</i>)
22. Epilepsy (<i>apasmāra</i>)	22. Prostatic hypertrophy (<i>aṣṭhīlā</i>)
23. Psychosis (<i>unmāda</i>)	23. Loss of voice (<i>svaropaghāta</i>)
24. Oedema (<i>Śōpha</i>)	24. Incipient cataract (<i>timira</i>)
25. Stomatitis (<i>mukhapāka</i>)	25. Headache, temporal pain, earache, pain in the eyes (<i>śiraśūla, śaṅkha sūla, karṇa sūla, akṣisūla</i>)
26. Vitiation of breast milk (<i>stanyaduṣṭī</i>)	26. Hypertension & Portal Hypertension
27. Diseases due to <i>kapha</i>	27. Glaucoma (<i>adhimantha</i>)
28. Urticaria (<i>śītapitta, udarda</i>)	28. Helminthiasis/ worm infestation (<i>kṛmikoṣṭha</i>)
29. Angioneurotic edema (<i>koṣṭha</i>)	29. Giddiness (<i>bhrama</i>)



30. Cyst (<i>granthi</i>)	30. Pain in flanks (<i>pārsvaruk</i>)
31. Erysipelas (<i>visarpa</i>)	
32. Water brash (<i>praseka</i>)	
33. Obesity (<i>medoroga</i>)	
34. Heart disease (<i>hṛdroga</i>)	
35. Abscess (<i>vidradhī</i>)	
36. Foetid smell in the nostrils (<i>pūtināsa</i>)	
37. Inflammation of throat/ Pharyngitis (<i>kantha pāka</i>)	
38. Discharge from ears (<i>karṇaśrāva</i>)	
39. Ranula (<i>adhijihvikā</i>)	
40. Uvulitis (<i>galaśundikā</i>)	
41. Tumor/ Growth /Mass (<i>arbuda</i>)	

Indications and contraindications for *Virecana karma*

Indications	Contraindications
1. Chronic fever (<i>Jīrṇa Jvara</i>)	1. Weak sensory/ motor functions (<i>durbalendriya</i>)
2. Diseases of skin (<i>kuṣṭha</i>)	2. After decoction enema (<i>nirūha vasti</i>)
3. 20 types of urinary problems (<i>meha</i>)	3. Excessively unctuous (<i>atisnigdha</i>)
4. Haematemesis, haemoptysis, epistaxis, bleeding from ears etc. (<i>urdhvagat raktapitta</i>)	4. Excessively rough (<i>asnigdha</i>)
5. Fistula in ano (<i>bhagandara</i>)	5. Cachexia (<i>atikṛśa</i>)
6. Haemorrhoides (<i>arśa</i>)	6. Weak (<i>durbala</i>)
7. Inguinal abscess (<i>bradhna</i>)	7. Child (<i>bāla</i>)



8. Splenic disorders (<i>plīhāroga</i>)	8. Elderly (<i>vṛddha</i>)
9. Abdominal lump (<i>gulma</i>)	9. Fatigue due to strain (<i>śrānta</i>)
10. Tumor/ growth /mass (<i>arbuda</i>)	10. Thirst (<i>pipāsita</i>)
11. Goiter (<i>galagaṇḍa</i>)	11. Hunger (<i>kṣudhita</i>)
12. Cyst (<i>granthī</i>)	12. Exhausted due to weight lifting (<i>bhārahat</i>)
13. Intestinal hypotony (<i>alāsaka</i>)	13. Fasting (<i>upavāsīt</i>)
14. Urinary obstruction (<i>mūtrāghāta</i>)	14. Exertion (<i>śrama</i>)
15. Helminthiasis / worm infestation (<i>kṛmikoṣṭha</i>)	15. Pregnant (<i>garbhiṇī</i>)
16. Erysipelas (<i>visarpa</i>)	16. Excessively rough (<i>atirūkṣa</i>)
17. Anaemia (<i>Pāṇḍu</i>)	17. Sensitive/ delicate (<i>sukumāra</i>)
18. Pain in the flanks (<i>pārśvaśūla</i>)	18. Deficient digestive fire (<i>alpāgni</i>)
19. Tendency of opposite direction of impulses (<i>udāvarta</i>)	19. Constipated bowels (<i>dāruṇa koṣṭha</i>)
20. Burning pain in eyes (<i>netradāha</i>)	20. Extremely Obese (<i>atisthūla</i>)
21. Burning pain in mouth (<i>āsyadāha</i>)	21. Fearful (<i>bhayabhīta</i>)
22. Brown colour patches (<i>vyāṅga</i>)	22. Recently parturient women (<i>nava prasūtā</i>)
23. Melasma (<i>nīlikā</i>)	23. Exhausted by physical work (<i>karmahat</i>)
24. Distaste (<i>aruci</i>)	24. Soft perineum (<i>subhaga</i>)
25. Lacrimation, nasal secretions, excess salivation (<i>netrasrāva nasāsrāva, āsyāsrāva</i>)	25. Wounded ano-rectal region (<i>kṣata guda</i>)
26. Chronic obstructive jaundice/ Cirrhosis of liver (<i>Halīmaka</i>)	26. Atonic rectum (<i>muktanāla</i>)
27. Breathlessness/ asthma (<i>śvāsa</i>)	27. Bleeding per rectum/ urogenital orifices (<i>adhogat rakta pitta</i>)
28. Cough (<i>kāsa</i>)	28. Weakness due to injury (<i>kṣataḥṣīṇa</i>)



29. Jaundice (<i>kāmalā</i>), gout (<i>vātarakta</i>)	29. Extremely Obese (<i>atisthūla</i>)
30. Chronic lymph-adenopathy/ scrofula (<i>apacī</i>)	30. Drug abuse, Alcoholism (<i>madātyaya</i>)
31. Epilepsy (<i>apasmāra</i>), psychosis (<i>unmāda</i>)	31. Indigestion (<i>ajīrṇa</i>)
32. Defects of female genital tract (<i>yoni doṣa</i>)	32. Flatulence (<i>ādhmāna</i>)
33. Defects in semen (<i>reto doṣa</i>)	33. Person suffering from foreign body (<i>śalyārdit</i>)
34. Incipient cataract (<i>timira</i>)	34. Early stages of fever (<i>nava jvara</i>)
35. Distaste/ aversion to food (<i>arocaka</i>)	35. Hypotension
36. Indigestion (<i>avipāka</i>), vomiting (<i>chardī</i>)	36. Heart disease (<i>hṛdroga</i>)
37. Eruptions (<i>visphota</i>)	37. Acute rhinitis (<i>navapraṭiśyāya</i>)
38. Ascites, hepato spleno-megaly, cirrhosis of liver, acute abdomen etc. (<i>udararoga</i>)	38. Tuberculosis (<i>rājayakṣmā</i>)
39. Oedema (<i>svayathu</i>)	39. Diarrhoea (<i>atisāra</i>)
40. Diseases due to <i>pitta</i>	
41. Paralysis/ hemiplegia/ paresis etc. (<i>pakṣāghāta</i>)	
42. Pain in lower abdomen (<i>pakvāśaya śūla</i>)	
43. Stiffness in waist region (<i>kaṭigraha</i>)	
44. Mild chemical poison (<i>garaviṣa</i>)	
45. Abscess (<i>vidradhi</i>), immature cataract (<i>kāca</i>)	
46. Nausea (<i>hṛllāsa</i>), headache (<i>śiraḥśūla</i>)	
47. Burning pain in head (<i>śirodāha</i>)	
48. Constipation (<i>vibandha</i>), abscess (<i>vidradhi</i>)	



49. Non healing ulcers (<i>duṣṭavraṇa</i>)	
50. Inflammation of eyes (<i>akṣipāka</i>)	
51. Conjunctivitis (<i>abhiṣyanda</i>)	
52. Distension of abdomen (<i>ānāha</i>)	

Indications and contraindications for *Anuvāsana vasti*

Indications	Contraindications
1. Patient, who needs decoction enema (<i>āsthāpana vasti</i>)	1. Excessively unctuous (<i>atisnigdha</i>)
2. Generalized paresis, localised paresis, Paraplegia (<i>sarvāṅga roga, ekāṅga roga, ardhāṅga roga</i>)	2. Person who consumed fatty substances/ water (<i>pīta sneha/ pītodaka</i>)
3. Diseases of lower abdomen (<i>kukṣiroga</i>)	3. Excited state of humour (<i>utkliṣṭadoṣa</i>)
4. Deficiency in strength, complexion, muscle tissue (<i>Bala, varṇa, māṃsa kṣaya</i>)	4. Deficient digestive fire (<i>alpāgni</i>)
5. Defects of semen (<i>reta doṣa</i>)	5. Exhausted due to traveling (<i>yanaklānta</i>), Weak (<i>ati durbala</i>)
6. Numbness in the body (<i>aṅgasupti</i>)	6. Suffering from hungry, thirst, fatigue (<i>kṣut, tṛṣṇā, śrama ārta</i>)
7. Tendency of opposite direction of impulses (<i>udāvarta</i>), Flatulence (<i>ādhmāna</i>)	7. Person undergone emesis (<i>vamita</i>)
8. Chronic stage of diarrhoea (<i>pakvātisāra</i>)	8. Person undergone purgation (<i>virikta</i>)
9. Pain in smaller joints (<i>parvabheda</i>)	9. Person recently undergone nasal medication (<i>kṛtanasya karma</i>)
10. Burning pain (<i>abhitāpa</i>)	10. Anger (<i>krodha</i>), Fearful (<i>bhīta</i>)
11. Abdominal lump (<i>gulma</i>), pain (<i>śūla</i>)	11. Empty stomach (<i>abhukta bhakta</i>)



12. Fistula in ano (<i>bhagandara</i>)	12. Early stage of fever/ acute fever (<i>navajvara</i>)
13. Psychosis (<i>unmāda</i>)	13. Constipated bowel habits (<i>gurukoṣṭha</i>)
14. Inguinal abscess (<i>bradhna</i>)	14. Contraindicated conditions/ persons for decoction enema (<i>āsthāpana vasti</i>)
15. Headache (<i>śiraḥśūla</i>), earache (<i>karṇa śūla</i>)	15. Anaemia (<i>pāṇḍu</i>), Jaundice (<i>kāmalā</i>)
16. Stiffness in flanks, back and lumbosacral region (<i>pārśva / pṛṣṭha / kaṭi graha</i>)	16. 20 types of urinary problems (<i>meha</i>)
17. Tremors (<i>vepana</i>), convulsions (<i>ākṣepaka</i>)	17. Haemorrhoides (<i>arśa</i>)
18. Low weight persons (<i>atilāghava</i>)	18. Rhinitis (<i>pratiśyāya</i>)
19. Scanty menstruation (<i>rajaḥ kṣaya</i>)	19. Distaste/ Aversion to food (<i>arocaka</i>)
20. Irregular digestion (<i>viṣamāgni</i>)	20. Impaired digestive capacity (<i>mandāgni</i>)
21. Pain in lower limbs, vagina, shoulder, fingers, breast, teeth, nails, small joints, bones (<i>sphik, jānu, jaṅghā, uru, gulpha, pārśni, prapāda, yoni, bāhu, aṅguli, stana, danta, nakha, parva, asthi śūla</i>)	21. Diseases of Spleen (<i>plīhā roga</i>)
22. Cachexia (<i>śoṣa</i>), rigidity (<i>stambha</i>)	22. Ascites, hepato spleno-megaly, cirrhosis of liver, acute abdomen etc. (<i>udararoga</i>)
23. Pain in anal region (<i>guda śūla</i>), hernia (<i>vṛddhi</i>)	23. Stiffening of thighs (<i>urustambha</i>)
24. 80 types of diseases due to <i>vāta</i>	24. Diarrhoea (<i>atisāra</i>)
25. Chronic rhinitis (<i>jīrṇa pratiśyāya</i>)	25. Poisoning (<i>viṣa</i>)
26. Sciatica (<i>gr̥dhrasī</i>), renal calculus (<i>aśmarī</i>)	26. Acute catarrhal conjunctivitis (<i>pittābhiṣyanda</i>)



27. Dysmenorrhoea (<i>kaṣṭārtava</i>)	27. Allergic conjunctivitis (<i>Kaphābhiṣyanda</i>)
28. Dryness in the body (<i>rukṣa śarīra</i>)	28. Filariasis (<i>ślīpada</i>), Goitre (<i>galagaṇḍa</i>)
29. Strong digestive capacity (<i>tīkṣnāgni</i>)	29. Chronic lymph-adenopathy/ Scrofula (<i>apacī</i>)
30. Diseases purely due to <i>vāta</i>	30. Helminthiasis/ intestinal worm infestation (<i>kṛmikoṣṭha</i>), obese (<i>sthaulya</i>)
31. Diseases originated due to depleted tissues in the body (<i>dhātukṣaya janya roga</i>)	31. Chronic rhinitis/ sinusitis (<i>Pīnasa</i>)

Indications and contraindications for *Asthāpana vasti*

Indications	Contraindications
1. Generalized paresis, localised paresis, Paraplegia (<i>sarvāṅga roga, ekāṅga roga, ardhāṅga roga</i>)	1. Excessively unctuous (<i>atisnigdha</i>)
2. Disorders of abdomen (<i>kuṣīroga</i>)	2. Person who consumed fatty substances/ water (<i>pīta sneha/ pītodaka</i>)
3. Obstruction to flatus, faeces, urine, semen (<i>vāta, varca, mūtra, śukra saṅga</i>)	3. Excited state of humours (<i>utkliṣṭadoṣa</i>)
4. Deficiency in strength, complexion, muscle tissue (<i>Bala, varṇa, māṃsa kṣaya</i>)	4. Deficient digestive fire (<i>alpāgni</i>)
5. Defect in semen (<i>reta doṣa</i>)	5. Exhausted due to travelling (<i>yanaklānta</i>)
6. Flatulence (<i>ādhmāna</i>)	6. Weak (<i>ati durbala</i>)
7. Numbness in the body (<i>aṅgasupti</i>)	7. Children (<i>bāla</i>), elderly persons (<i>vṛddha</i>)



8. Helminthiasis/ intestinal worm infestation (<i>kṛmikoṣṭha</i>)	8. Suffering from hungry, thirst, fatigue (<i>kṣut, tṛṭ, śrama ārta</i>)
9. Tendency of opposite direction of impulses (<i>udāvarta</i>)	9. Cachexia (<i>atikṛśa</i>)
10. Chronic stage of Diarrhoea (<i>pakvātisāra</i>)	10. Person undergone emesis (<i>vamita</i>)
11. Pain in smaller joints (<i>parvabheda</i>)	11. Person undergone purgation (<i>virikta</i>)
12. Burning pain (<i>abhitāpa</i>)	12. Person recently undergone nasal medication (<i>kṛtanasya karma</i>)
13. Diseases of spleen (<i>plīhā doṣa</i>)	13. Anger (<i>krodha</i>), grief (<i>śoka</i>), fearful (<i>bhīta</i>)
14. Abdominal lump (<i>gulma</i>), Pain (<i>śūla</i>)	14. Obese (<i>shaulya</i>), Indigestion (<i>ajīrṇa</i>)
15. Heart disease (<i>hṛ-*droga</i>)	15. Nauseating (<i>prasakta chardi</i>)
16. Fistula in ano (<i>bhagandara</i>)	16. Excess salivation (<i>niṣṭhīva</i>)
17. Psychosis (<i>unmāda</i>)	17. Breathlessness/ Asthma (<i>śvāsa</i>)
18. Chronic fever (<i>jīrṇa Jvara</i>)	18. Cough (<i>kāsa</i>), Hiccups (<i>hikkā</i>)
19. Inguinal abscess (<i>bradhna</i>)	19. Impacted anal orifice/ intestinal obstruction (<i>baddha gudodara</i>)
20. Headache (<i>śiraḥśūla</i>), ear ache (<i>karṇaśūla</i>)	20. Intestinal perforation (<i>chidrodara</i>)
21. Stiffness in cardiac region, flanks, back and lumbosacral region (<i>hṛdaya /pārśva pṛṣṭha / kaṭi graha</i>)	21. Ascites (<i>dakodara</i>), Flatulence (<i>ādhmāna</i>)
22. Tremors (<i>vepana</i>),convulsions (<i>ākṣepaka</i>)	22. Intestinal hypotony (<i>alasaka</i>)
23. Heaviness in body (<i>aṅga gaurava</i>)	23. Gastro-enteritis/ Cholera (<i>visūcikā</i>)
24. Low weight persons (<i>atīlāghava</i>) \	24. State of indigestion & toxic metabolites (<i>āmadoṣa</i>)
25. Scanty menstruation (<i>rajaḥ kṣaya</i>)	25. Premature delivery/ Abortion (<i>āmaprajātā</i>)



26. Irregular digestion (<i>viṣamāgni</i>)	26. Initial stage of Diarrhoea (<i>āmā tisāra</i>)
27. Pain in lower limbs, vagina, shoulder, fingers, breast, teeth, nails, small joints, bones (<i>sphik, jānu, jaṅghā, uru, gulpha, pārṣṇi, prapāda, yoni, bāhu, aṅguli, stana, danta, nakha, parva, asthi śūla</i>)	27. Diabetes mellitus (<i>madhumeha</i>)
28. Cachexia (<i>śoṣa</i>), rigidity (<i>stambha</i>)	28. Diseases of skin (<i>kuṣṭha</i>)
29. Increased intestinal sounds (<i>āntrakuñjana</i>)	29. Proctitis (<i>śūnapāyu</i>)
30. Pain in anal region (<i>guda śūla</i>)	30. Acute abdomen (appendicitis, intestinal obstruction etc.)
31. 80 types of diseases due to <i>vāta</i>	31. Unconscious state (<i>mūrcchita</i>)
32. Hernia (<i>vṛddhi</i>), sciatica (<i>gṛdhrasī</i>)	32. Anaemia (<i>pāṇḍu</i>)
33. Renal calculus (<i>aśmarī</i>), Rhinitis (<i>pratiśyāya</i>)	33. Distaste/ aversion to food (<i>arocaka</i>)
34. Incipient cataract (<i>timira</i>), Glaucoma (<i>adhimantha</i>)	34. Psychosis (<i>unmāda</i>)
35. Paralysis/ Hemiplegia/ Paresis etc. (<i>pakṣāghāta</i>)	35. Weakness due to injury (<i>Kṣatakṣīṇa</i>)
36. Soft Chancre (<i>upadaṃśa</i>)	
37. Gout (<i>vātarakta</i>), haemorrhoides (<i>arśa</i>)	
38. Scanty breast milk (<i>stanyakṣaya</i>)	
39. Lock jaw, stiffness in neck region (<i>hanugraha, manyāgraha</i>)	
40. Dysmenorrhoea (<i>kaṣṭārtava</i>)	
41. Obstructed labour (<i>mūḍhagarbha</i>)	
42. Dysuria (<i>mūtrakṛcchra</i>)	



Indications and contraindications for *Nasya*

Indications	Contraindications
1. Stiffness in the head, teeth and neck region (<i>śiro, danta, manyā stambha</i>), chocking sensation in throat (<i>gala graha</i>)	1. After taking food (<i>bhuktabhakta</i>)
2. Lock jaw (<i>hanugraha</i>), chronic rhinitis/ sinusitis (<i>pīnasa</i>)	2. After consuming unctuous items, alcohol, water etc. (<i>sneha, madya, toya pīta</i>)
3. Uvulitis (<i>galaśuṇḍikā</i>), Adenoids (<i>galaśāluka</i>)	3. Person, who performed head bath or who wish to do bath/ head bath (<i>snāta śira</i> or <i>snātu kāmā</i>)
4. Disorders of cornea (<i>netragata śukraroga</i>)	4. Person, who is hungry, thirst (<i>kṣudhā, tṛṣṇā</i>), cloudy weather (<i>durdina</i>)
5. Incipient cataract (<i>timira</i>), diseases of eye lids (<i>vartma roga</i>)	5. Early/ acute stages of fever (<i>navajvara</i>)
6. Sleeplessness (<i>anidrā</i>), goiter (<i>galagaṇḍa</i>)	6. Exertion due to grief (<i>śokābhitapta</i>)
7. Brown colour patches (<i>vyaṅga</i>), ranula (<i>upajihvikā</i>)	7. Person undergone therapeutic purgation/ oily enema (<i>virikta/ anuvāsita</i>), Indigestion (<i>ajīrṇa</i>)
8. Hemicrania/ migraine (<i>ardhāvabhedaka</i>)	8. Women in Puerperial period (<i>sūtikā</i>)
9. Disorder of neck & shoulder (<i>grīvā & skandha roga</i>)	9. State of unconciousness (<i>mūrcchita</i>)
10. Shoulder/ scular pain (<i>aṃśa sūla</i>)	10. Injured by the weapons (<i>śastra hata</i>)
11. Diseases of mouth (<i>mukha roga</i>)	11. Acute rhinitis (<i>nava Pratiśyāya</i>)
12. Earache, headache, pain in nose, eyes, teeth (<i>karṇasūla, Śirahsūla, nasa sūla, akṣi sūla, danta sūla</i>)	12. Pregnant (<i>garbhiṇī</i>)



13. Facial palsy (<i>ardita</i>), hysteric convulsions (<i>Apatantraka</i>)	While performing <i>nasya karma</i> , patient should not do the following <ol style="list-style-type: none"> 1. Shaking/ moving of head (<i>śira prakampanna</i>) 2. Getting angry 3. Talking 4. Sneezing 5. Laughing
14. Convulsive disorders (<i>apatānaka</i>)	
15. Odonitis due to exposed nerve endings (<i>danta harṣa</i>)	
16. Loose teeth (<i>dantacāla</i>), frontal headache (<i>sūryāvarta</i>)	
17. Streaks in eye (<i>rāji-netraroga</i>)	
18. Tumor/ Mass (<i>arbuda</i>) , Brachial neuralgia (<i>apabāhuka</i>)	
19. Hoarseness of voice (<i>svara bheda</i>)	
20. Difficulty in speech (<i>vākgraha</i>), stammering (<i>gadgadatva</i>)	
21. Paralysis/ hemiplegia/ paresis etc. (<i>pakṣāghāta</i>)	
22. Episodes of loss of consciousness (<i>mūrcchā</i>)	
23. Hair fall, alopecia, premature graying of hair, baldness etc. (<i>keśadoṣa</i> , <i>khālitya</i> , <i>pālitya</i> etc.)	
24. Epilepsy (<i>apasmāra</i>), Psychosis (<i>unmāda</i>)	

Indications and contraindication for *Uttara vasti*

Indications	Contraindications
1. Diseases of bladder (<i>vastivikāra</i>)	1. 20 types of urinary problems (<i>prameha</i>)
2. Prolapse of the uterus (<i>yonibhraṃśa</i>)	2. Genitourinary tract infections
3. Pain in genital region (<i>yonisūla</i>)	3. Venereal diseases
4. Defects of female genital tract (<i>yonivyāpat</i>)	<p>This procedure is not to be performed in the following conditions.</p> <ol style="list-style-type: none"> 1. Other than <i>ṛtukāla</i> (in females)



5. Menstrual disorders (<i>asṛgdara, rajodoṣa, rakta pradara</i>)	2. Weak (<i>ati durbala</i>)
6. Leucorrhoea (<i>śveta pradara</i>)	3. Suffering from hunger, thirst, exertion (<i>kṣut, tṛṣṇā, śrama āṛta</i>)
7. Vitiation/ Defects in reproductive elements (<i>śukra duṣṭī</i>)	4. Fearful (<i>bhīā</i>)
8. Urinary obstruction (<i>mūtrāghāta</i>)	5. Empty stomach (<i>abhukta</i>) *
9. Dribbling of urine (<i>mūtra bindu bindu srāva</i>)	Period of 12 days after 4 days of menstruation is considered as ṛtukāla.
10. Urinary calculus, gravel etc. (<i>aśmarī, śarkarā</i>)	
11. Pain in bladder, inguinal and urethral regions (<i>vasti, vañkṣaṇa, mehana śūla</i>)	
12. Female infertility (<i>bandhyatva</i>)	
13. Male infertility (<i>klaibya</i>)	



ANNEXURE II

MINI-MENTAL STATE EXAMINATION (Folstein et al., 1975)

ORIENTATION:

1. Can you tell me what year it is?, season?, date?, day?, month? Score 1 for each (Score-5)
2. Can you tell me where we are? what town (or village)? what street (or hospital)? what house, (or ward)? what state? what country? (Score-5)

REGISTRATION:

3. I would like you to remember three things for me. The three things are (name three objects, taking 1 second to say each). Then ask the patient all three, after you have said them give one point for each correct answer. (Score-3)

ATTENTION AND CALCULATION:

4. Serial sevens, give one point for each correct answer, stop after five answers. Alternative: spell WORLD backwards. (Score-5)

RECALL:

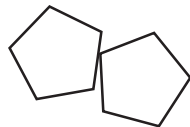
5. Ask for the names of the three objects learned in question 3 give one point for each correct answer. (Score-3)

LANGUAGE:

6. Point to a pencil and a watch, say can you tell me what that is called? (score-2)



7. Ask the patient to repeat 'No, ifs, ands, or buts'. (Score-1)
8. Ask the patient to follow a three-stage command; Please take this piece of paper in your right hand, fold it in half, and put it on the floor. (Score-3)
9. Ask the patient to read and follow the written command. (Close your eyes) (Score-1)
10. Ask the patient to write a sentence of his or her choice. (To score correct, the sentence must contain a subject and a verb. Spelling mistakes do not matter). (Score-1)
11. Draw the design below and ask the patient to copy it. (Draw it with side of 1.5cm at least to score correct, each pentagon must have 5 sides and the intersecting sides must form a quadrangle). (Score-1)



Total point 30

Cut off point for probable cognitive impairment is 24.



ANNEXURE III

INSTITUTES OFFERING GERIATRIC COURSES / SERVICES IN INDIA

1. Institute of Post Graduate Teaching & Research in Ayurveda

Gujarat Ayurved University
Administrative Bhavan,
Jamnagar- 361 008 (Gujrat)
Phone (O): 0288-2676854, Fax : 0288-2555585
Email: info@ayurveduniversity.com
Website: <http://www.ayurveduniversity.com>

2. National Institute of Ayurveda

Madhav Vilas Palace, Amer Road
Jaipur-302002 (Rajasthan)
Phone No:- 091-141-2635709,2635816, Fax: 91-141-2635709,
Website: <http://nia.nic.in>
Email: nia@raj.nic.in

3. Institute of Medical Sciences

Banaras Hindu University
Varanasi, India -221005 (Uttar Pradesh)
Phone 0542 - 2307500, 2367568,
Fax 91-542-2367568
Website: <http://www.bhu.ac.in/ims/index.html>

4. R. A. Podar Medical College (Ay)

Dr. Annie Besant Road, Worli
Mumbai - 400 018 (Maharashtra)
Telephone: 022 - 4936881/ 4934214
Hospital: 022 - 4931846/ 4933533
Website: www.ayurvedinstitute.com



- 5. Govt. Ayurveda College & Hospital**
Trivandrum, (Kerala)
Hospital Ph: 0471 - 2460823
College Ph: 0471 - 2474190
- 6. Arya Vaidya Sala,**
Kottakkal-676503, Malappuram Distt (Kerala)
Tel: 0483/2742216-19, 2742561-64, 2742571, 2744506-08
Fax: 0483-2742572
E-mail: koz_kottakkal@sancharnet.in
Website: www.aryavaidyasala.com
- 7. National Research Institute of Panchakarma**
Cheruthuruthy, Via Shoranur
Trichur Distt -679531 (Kerala)
Fax: 04884-262366, Phone: 04884-262543
M: 09446501746
E-mail: trc_criachy@sancharnet.in
- 8. KMM Academy of Health Sciences**
Kochi - 682038 (Kerala)
- 9. National Institute of Social defence**
West Block - 1, Wing - 7
Ground Floor, R. K. Puram
New Delhi.-110066
- 10. Madras Medical College (MD Geriatrics)**
Chennai - 600 003 (Tamilnadu)
Phone : 044 - 25363001 to 25363008
- 11. Indira Gandhi National Open University**
(P.G. Diploma in Geriatric Medicine (PGDGM)
Maidan Garhi, New Delhi
Phone: 29535924-32, 29535062-65, 29532964, 29534326, 29533767, 29533790,
29536980 (EPABX).
Website: <http://www.ignou.ac.in>
- 12. IMA AKN Sinha Institute (Post Graduate Certificate Course in Geriatrics)**
I.M.A. House, Indraprastha Marg
New Delhi-110 002.
Phone: 011 - 2337 0009, 2337 8819, 2337 8680, 2337 0492, 2337 8428
Fax: + 91-11-2337 9470, 2337 9178.



13. Seth Gordhandas Sunderdas Medical College (GSMC)

Acharya Donde Marg, Parel
Mumbai - 400 012 (Maharashtra)
Phone: 91-22-2413 6051
Fax: +91-22-2414 3435

14. Amrita Institute of Medical Sciences and Research Centre

Amrita Lane, Elamakkara Post,
Kochi - 682 026 (Kerala)
Phone: 0091 (0) 484 280 1234, 280 4321, 400 1234
Fax: +91 (0) 484 280 2020

15. Department of Community Medicine

Maulana Azad Medical College
New Delhi - 110002

16. All India Institute of Medical Sciences

Ansari Nagar
New Delhi

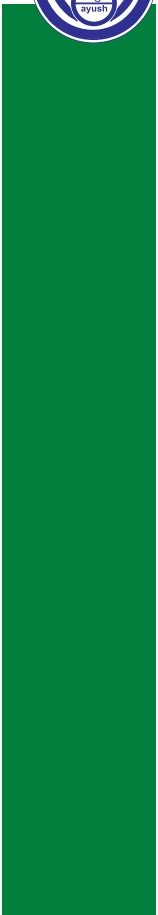
17. Division of Geriatrics

Institute of Medical Sciences
Banaras Hindu University
Varanasi (Uttar Pradesh)





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ANNEXURE IV

OLD AGE HOMES/ GERIATRIC CARING CENTRES IN INDIA

DELHI

1. **Elder's Home Society**
Flat No. 23 Shankar Market
Connaught Place
New Delhi -110001
2. **Help Age India**
C-14, Qutub Institutional Area
New Delhi -110016
Tel.: 011-26865675, 011-26867697
Fax: 011-26852916
Website: www.helpageindia.org
E-mail: helpage@nde.vsnl.net.in
3. **Nai Roshni**
D-7/7178, Vasant kunj
New Delhi -110070
4. **Old Age Home**
PWD Barracks, B-Block
(Near Gurudwara and Deshbandhu College, Kalkaji)
New Delhi -110 019
Phone: 011-26218940
5. **Home for Aged and Infirm persons**
Khadi Gramodyog Bhawan
(Near Musaddi Lal Higher Secondary School, Narela)
New Delhi -110040
Phone: 011-27784236



- 6. Godhuli Senior Citizens Home**
(Servants of People Society, Delhi Branch)
Plot-7, Sector-2, Dwarka
New Delhi -110 075
Phone: 011-25080568
Head office: Servants of the People Society
Lajpat Bhawan, Lajpat Nagar-IV
New Delhi -110024
Phone: 011-26427650
- 7. Old Age Home**
Harijan Colony, Tilak Nagar
New Delhi -110018
Phone: 011-28332323
- 8. Gharaunda**
Plot No. 482
Asola Fatehpur Beri
Near Mehraulli
New Delhi -110074
- 9. Nirmal Hriday**
(Mother Teresa's Missionaries of Charity)
1, Magazine Road
Majnu ka Tila
New Delhi - 110054
Phone: 011-23812180
- 10. Arya Mahila Ashram**
Near Arya Samaj Mandir
Durga Colony
New Rajendra Nagar
New Delhi -110060
Phone: 011-28741786, 28745091
- 11. Aastha, Senior Citizens Home**
(Air Force Association)
(for ex-servicemen of Air Force, Army, Navy)
62-64, Institutional Area
Tuglakabad, MB Road
Near Batra Hospital
New Delhi -110062
Phone: +91-11-26058866, 29958867



NOIDA

1. Manvayatan

Plot No. 2, Sector-37
Industrial Area
(Behind Community Center, Noida)
Uttar Pradesh - 201303
Phone: +91-120-2432195, 2432383

2. Anand Niketan Vridh Sewa Ashram

Jan Kalyan Trust
C-5, Sector-55
Noida-201305
Uttar Pradesh
Phone: +91-120-45382405, 4581475, 4583686

GURGAON

1. Chiranjiv Karan Bhoomi (Divya Chaya Trust)

C-1, Palam Vihar
Gurgaon
Haryana (INDIA)
Phone: +91-11-1024-4070090
E-mail: info@ckb.org.in

2. HOPE Senior Citizens Home Society

Post Box No. : 4, U-215
New Palam Vihar, Phase -I
Gurgaon -122017, Haryana (India)
Phone: +91-124-4071721, 2468383
E-mail: jfhope9@yahoo.co.io

MUMBAI

SENIOR CITIZENS HOMES

1. Asmita Senior Citizen Group

South Mumbai
Shri Harish Sutariya
501, Vaishali Apartment
Parekh Street
Mumbai - 400004



2. **Dignity Senior Citizen Counselling Centre**
B.M.C. School Building
Opp. Lamington Road
Grantroad (East)
Mumbai - 400 007

OLD AGE HOMES:

1. **Sir J. J. Dharmshala**
District Benevolent Society of Bombay
Duncan Road
Nagpada Junction
Mumbai - 400 008
2. **Pearl Centre**
Home for the aged
Tulsi Pipe Road
4th Floor, Dadar (West)
Mumbai - 400 0025
3. **Vridhashram**
Pearl Hospital, Khandala
Neral, Pearl Centre
Senapati Bapat Marg
Dadar (West)
Mumbai - 400 028
4. **Shantidaan**
Missionaries of Charities
Goraicreek
Borivali (West)
Mumbai - 400 092
5. **Vatsalaya Trust**
Vanprasthashram
Sector - 2, Plot - 11
Sanpada
Navi Mumbai - 400 705
6. **Sharan Vrudhashram**
Sector -9
Near Father Agnel Polytechnic Vashi
Navi Mumbai - 400 705



ANDHRA PRADESH

- 1. Association for the care of the Aged**
Jatkar Bhavan
1-8-526
Chikkadapally
Hyderabad - 500020
- 2. Chudamani Vrudha Ashram**
C/o Sivananda Rehabilitation Home
Kukatpally, P.O.
Hyderabad - 500872
- 4. Karuna Nilayam**
Mahila Seva Mandali
6/442, Khojjillipet
Machilipatnam - 521001

KARNATAKA

- 1. Aid the Aged**
1492, 17th A Main Road
II Phase, J.P. Nagar
Bangalore - 560078
- 2. The Bangalore Friend-In-Need Society**
3, Colonel Hill Road
Bangalore - 560051

KERALA

- 1. Bishop Gnanadason Memorial Anpu Nilayam**
Anpu Nilayam Building
L.M.S. Compound, Cheruvarakonam
Parassal - 695502
- 2. Homage**
33/564, A.R. Camp. Road
Marikkunna PO
Kozhikode - 673012



3. **Sevagram**
Pothy, Thalayolaparambu PO
Kottayam - 686605
4. **Sneha Bhavan, Kompady**
Manjadi PO
Thiruvalla - 689105
5. **Vishranthi Bhavan, St. Mary's Hospital**
PO: Chathanagottu Nada
Kavillumpara, Calicut-673 513

TAMILNADU

1. **Anbaham**
CSI Home for the aged
Beasant Avenue
Adyar
Chennai - 600020
2. **Naya Jyoti Charities Trust**
Kandaswamy Street
R.A. Puram
Chennai - 600028
3. **Sai Charan Senior Citizen's Home**
29, 27th Cross St. (M20/1)
Beasant Nagar
Chennai - 600090
4. **Santhi Sadan**
Madras Seva Sadan
7, Harrington Road
Chennai - 600031



ANNEXURE V

SOME REHABILITATION CENTRES IN INDIA

(Source: <http://www.empowerinfo.com/distrehabcent.html>)

DISTRICT REHABILITATION CENTRES

- District Rehabilitation Centre**
Capital Hospital Campus, VI
Bhubaneshwar - 751001 (Orissa)
Phone: 0674-407803
- District Rehabilitation Centre**
Kharagpur General Hospital
P.O. Kharagpur
District Midnapore
West Bengal - 721301
Phone: 03221-610
- District Rehabilitation Centre**
Lal Bagh
(Near Raja College Field)
Shahjahanpur Road
Sitapur (Uttar Pradesh)
Phone: 05862-3283
- District Rehabilitation Centre**
Opposite Nurse Hostel
Sardar Patel Hospital Campus
Bilaspur - 495001 (Haryana)
Phone: 07752-4893



5. **District Rehabilitation Centre**
1st Floor, Laundry Section
Civil Hospital
Bhiwani - 125021 (Haryana)
Phone: 01664-3075
6. **District Rehabilitation Centre**
Community Health Centre Campus
Jagdishpur (Sultanpur)
Uttar Pradesh - 227809
Phone: 0536-75033
7. **District Rehabilitation Centre**
G.S.T Road, Near Court
Chengalpattu - 603 001
Chennai (Tamilnadu)
8. **District Rehabilitation Centre**
Pulikeshi Road
Govt. School for Blind Children Premises
Thilak Nagar
Mysore - 570 021 (Karnataka)
Phone: 0821-27670
9. **District Rehabilitation Centre**
MBS Hospital Complex
Kota - 324 001 (Rajasthan)
Phone: 0744-20891
11. **District Rehabilitation Centre**
H. No: 29-28-39
Surya Bhawan, Desari Street
Suryaraopet
Vijayawada-520 002 (Andhrapradesh)
Phone: 0866 - 63209



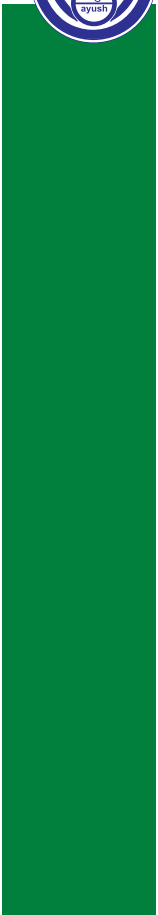
REGIONAL REHABILITATION TRAINING CENTRES

- 1. Regional Rehabilitation Training Centre (RRTC)**
C/o All India Institute of Physical Medicine and Rehabilitation
Haji Ali Park
Mahalaxmi
Mumbai - 400034 (Maharashtra)
Phone: 022 - 4435035
- 2. Regional Rehabilitation Training Centre (RRTC)**
C/o National Institute of Rehabilitation Training and Research
Olatpur, P.O. Bairoi
Cuttack - 754010 (Orissa)
- 3. Regional Rehabilitation Training Centre (RRTC)**
Limb Centre
Opposite Hathi Park
Lucknow - 226018 (Uttar Pradesh)
Phone: 0522-242047
- 4. Regional Rehabilitation Training Centre (RRTC)**
Government Institute of Rehabilitation Medicine
K.K. Nagar
Chennai - 600083 (Tamilnadu)
Phone: 044-4821793, 4821668





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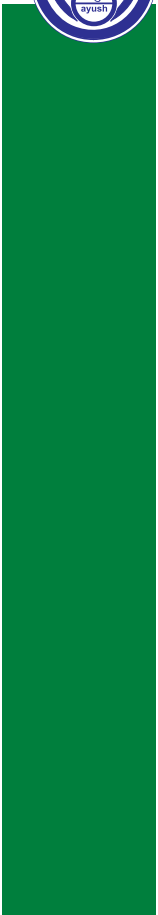


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CONSULTATIVE MEETING TO FINALIZE THE DOCUMENT ENTITLED

"AYURVEDIC MANAGEMENT OF SELECT GERIATRIC DISEASE CONDITIONS"

(TREATMENT PROTOCOLS - GUIDELINES AND COSTING OF SELECT GERIATRIC DISORDERS)

[WHO INDIA OFFICE SUPPORTED PROJECT SE IND KKB 001 RB 08 (STICKER NO. SE/08/092704)]

A consultative meeting was held to finalize the document entitled "Ayurvedic management of selected Geriatric disease conditions" (TREATMENT PROTOCOLS FOR SELECTED GERIATRIC DISORDERS) on 17th February 2009 at CCRAS Hqrs. New Delhi.

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