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Paediatrics in Ayurveda

# Paediatrics IN Ayurveda

Āyurvedic Cikitsā for Kṣirapā Kṣira Annadā & Annadā Śisu



Dr. Durgaprasad dash M.D. (AY), Ph.D.

DR. DURGAPRASAD DASH M.D. (AY), Ph.D.

# **PAEDIATRICS IN ĀYURVEDA**

*(Āyurvedic Cikitsā for Kṣirapā, Kṣīra annadā and Annadā Śiśu)*

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# CONTENTS

|   |      |
|---|------|
| Foreword  | iii  |
| Preface   | v    |
| Acknowledgements  | vii  |
| Indo Romanic Equivalent of Devanāgari Alphabets             | viii |
| Introduction  | 1    |
| <i>Kaumārabhṛitya</i>                                       | 5    |
| <i>Navajāta Śiśu Paricharya</i>                             | 9    |
| <i>Samskārās</i>  | 14   |
| <i>Bālagraha Vijñan</i>                                     | 17   |
| Preventive, Protective and Promotive Methods                | 20   |
| Nutritional Disorders in Children as per Āyurvedic classics | 23   |
| <i>Karṣya</i>   | 23   |
| <i>Phakka</i>   | 23   |
| <i>Parigarbhika</i>   | 24   |
| Quality of <i>āhār</i> and their effect                     | 25   |
| <i>Vedanā Parijñana</i> as per <i>Kaśyapa Samhitā</i>       | 26   |
| <i>Vyādhi Vijñan</i>  | 27   |
| <i>Prasav Kālina Vyādhi</i>                                 | 27   |
| <i>Visphōta</i>   | 29   |
| <i>Rājika</i>   | 29   |
| <i>Kamalā</i>   | 29   |
| <i>Kukuñaka</i>   | 30   |
| <i>Bālarōga Cikitsā</i>                                     | 30   |

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|  |    |
|--|----|
| <i>Swāsāvaha Samsthāna Rōga</i>  | 31 |
| <i>Kāśa Cikitsā</i>  | 31 |
| <i>Śwāsa</i>   | 35 |
| <i>Bālatisāra</i>  | 40 |
| <i>Kṣīralasaka</i>   | 40 |
| <i>Malavarodha</i>   | 44 |
| <i>Chhardi</i>   | 45 |
| <i>Charmarōga</i>  | 46 |
| <i>Krimirōga</i>   | 48 |
| <i>Jwara</i>   | 50 |
| <i>Udarasōōla</i> in Children  | 51 |
| <i>Dagdhavraṇa</i>   | 53 |
| <i>Dhoopana</i>  | 53 |
| Posology – In General  | 55 |
| Epilogue   | 56 |
| <br>Appendices   |    |
| Appendix IA: Drugs and dosage of Āyurvedic preparations                                    | 57 |
| Appendix IB: Explanations of terms used in processing of Ayurvedic Medicines               | 58 |
| Appendix IC: <i>Kāśantaka Cūrṇa</i> (An Āyurvedic Medicine for cough and cold)             | 60 |
| Appendix IIA: Note on the Ayurvedic drugs and their source plants as mentioned in the text | 62 |
| Appendix IIB: List of Medicinal Plants   | 64 |
| Photographs of some of the plants and plant parts between pages                            | 70 |
| Abbreviations  | 78 |
| Glossary of Sanskrit Terms   | 79 |
| Bibliography   | 91 |

## FOREWORD

T

his publication reflects the need that arose while working with tribal communities for reducing undernutrition in young children in Koraput District of Odisha. Mothers and caregivers noticed that weight gain in children through quantitative and qualitative improvement of the diet was offset by attacks of illnesses that affected the food intake of children. While exploring the preventive and curative solutions to the problems, mothers who were already using home remedies from locally available plants on an *ad hoc* basis, at times without success, expressed a desire to know more about proven and time - tested plant based remedies for use in some common childhood illnesses that could be handled at the household or community level.

The daily life of the tribal communities is entwined with nature. The rich biodiversity of the environment contains plants that are used by them for food, medicine, fuel and housing purposes. Hence preparing medicines from locally and easily available medicinal plants for common childhood illnesses was a logical step towards helping families in managing them. Further, in areas where health-care services are far off or access to services is restricted due to lack of adequate infrastructure and facilities, solutions to minor ailments are easier to handle at the household level.

Āyurveda, the Indian system of medicine that outlines a holistic prescription for healthy living through diet, lifestyle and treatment of illnesses through plant preparations, was the natural choice for this endeavour. The Biju Patnaik Medicinal Garden and Research Centre of the M. S. Swaminathan Research Foundation at Jeypore, Odisha, which has a mandate for promoting sustainable biodiversity conservation, had already enumerated several locally available medicinal plants. We are indebted to Dr Durgaprasad Dash, Āyurvedic Paediatrician Nayagarh, Odisha, for selecting the appropriate medicinal preparations mostly containing locally available plants to help us implement the project and for writing this book.

The book gives a brief introduction to Āyurveda, its essential principles, approaches and definition of childhood, and feeding and childcare practices according to Ayurveda. It describes the prevention and management of childhood illnesses using locally available medicinal plants, especially in Odisha. It is hoped that for

many of us who are familiar with concepts of health, nutrition and medicine only through the works of Western authors and professionals this book would provide an insight into such knowledge as existed since ancient times in our country. The Appendices provide an insight into the methods used in Ayurvedic preparations and dosages of medicines across age groups. A pictorial chart outlining a step by step method for the preparation of *Kasanthaka Curna*, an Ayurvedic medicine for cough and cold is given as an example. An index of the medicinal plants mentioned in the text is provided. Photographs of some of the less commonly known plants, along with the parts used, as available in crude drug markets, have also been provided along with an explanatory note. Since classic texts on *Ayurvedic* literature exists in Sanskrit and are beyond the reach of the common man, we hope this book would be useful to all non Ayurvedic personnel engaged in promoting biodiversity conservation and or improving the healthcare practices and nutritional status of the community through plant based remedies.

January 2014

**Dr. K. U. K. Nampoothiri**

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**Dr. Rama Narayanan**

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## PREFACE

T

his book is specially written for the benefit of all those who work with the tribals residing in the forest areas of Odisha and who are interested in preparing home remedies for the management of common ailments in children.

M. S. Swaminathan Research Foundation has played a key role in bringing out this book as this is an outcome of a project currently in execution in Odisha wherein they have incorporated Āyurvedic treatment as part of the project for the benefit of the tribals residing there. It's my pride and privilege to be a part of this project, and on behalf of the Foundation, engage with the tribal people discuss their health problems with their *Vaidya* known as *Dissari* and introduce the use of herbal drugs in the treatment of various ailments, especially in the management of childhood diseases. Under the direction of Dr Rama Narayanan, Ford Chair for Women and Food Security, MSSRF, Chennai, the project was implemented and its benefits have reached the rural tribals who do not have any recourse to understand or make use of classical information available in Āyurveda to address their health concerns.

Initially I was hesitant to take up this stupendous task. It is not easy to explain many principles and practices recommended in Āyurvedic classics to a modern person for various reasons. One important impediment lies in communicating to them in a language foreign to the writer as well as the reader. Many scientific or clinical terms in English that are in practice as equivalents of Sanskrit terms used in the Āyurvedic classics fall short of their purport and end up by being misconstrued and, as a sequel, fail to achieve the very purpose of communication and understanding for which they are being used. Quite often, the dismissal of Āyurvedic concepts as baseless and unscientific has been due to this and what is begun as a service to enliven our heritage results in failure. However, considering the fact that it is with an objective to create awareness among the rural people and for those who advocate Āyurveda for the treatment of common diseases of their children, I agreed to Dr Rama Narayanan's suggestion.

It was indeed the confidence that my one-time *guru* and mentor Dr C.H.S. Shastry, who was one of the earlier Advisors to the Government of India in Āyurveda in the Ministry of Health and Family Welfare, had in me that made him recommend my name for associating with the project and writing this book when he was contacted in

this matter. Ms. Savitha Satakopan, Member and Chair Person of The Pharmacognosy Sub Committee of the *Ayurvedic* Pharmacopeia Committee, Ministry of Health and Family Welfare, gave valuable help in identifying the plants and in providing their correct Latin names as recommended in the Ayurvedic Pharmacopoeia, Ministry of Health. I am very thankful to Mr. Nishikant Patilji, the Chairman Loknethe Rajaram Bapu Patil Ayurvedic Medical College, Islampur, Maharashtra for providing me support in time to complete this work.

It has been indeed a rare privilege to work in collaboration with M. S. Swaminathan Research Foundation, an institution of international repute. This institution is today foremost in all aspects of food security thanks to the able guidance of Dr M. S. Swaminathan a brilliant professor, eminent academician and research scientist, popularly known as the Father of the Green Revolution. His inexhaustible enthusiasm and particular interest in pro-nature, pro-poor and pro-women projects is well-known.

Dr Swaminathan's encouragement, timely support and maximum co-operation extended to the present project has enabled publication of the book for the benefit of the rural people I am sure this will encourage use of *Ayurvedic* home remedies with indigenous plants accessible to the tribal population. His perception that, with proper methods and approaches, ancient lifestyles are relevant even in the 21<sup>st</sup> century has been the principal factor and encouragement to my efforts. I also wish to record my appreciation of the efforts of Mr Akshay Panda, Senior Scientist, MSSRF, Jeypore, Odisha, who was always present at the time and place when needed and for helping me out in every possible manner. Last but not the least, I must express my gratitude, my love and affection to all those who supported me directly or indirectly to make this project a success.

January 2014

**Durgaprasad Dash**

## ACKNOWLEDGEMENTS

This book would not have been possible but for the effort of Dr Durga Prasad Dash, Ayurvedic Paediatrician who found time to write it amidst a busy schedule with the sole purpose of reaching out to a larger community about the fundamental concepts in Ayurveda and the paediatric theories and practices propounded in that system. The indirect but significant role played by the tribal community of Odisha in the publication of this document needs mention. Their request for knowing about plant based home remedies for treating common childhood ailments and a subsequent intervention paved the way for this book. Special thanks are due to Mr Akshay Kumar Panda, Senior Scientist of MSSRF, Odisha, who located and photographed some of the less commonly known plants given in the Annexure.

A deep debt of gratitude is owed to the Director of Medicinal Plants Knowledge Centre, Patrapada, Bhubaneswar and Head of Government Ayurvedic Medical College, Bolangir, Odisha for allowing us to photograph the pictures of medicinal plants in their Institutions. The contributions of Ms. Savita Satakopan, Chairperson, Pharmacognosy Sub Committee, Ayurvedic Pharmacopoeia Committee, Department of AYUSH, Ministry of Health and Family Welfare, Government of India in verifying the botanical names of the plants, for critical suggestions on the content and for providing the diacritical marks for the Sanskrit terms is gratefully acknowledged. She also prepared the note for Annexure II. Ms. Hema Sukumar's role for editing the document needs special mention.

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## INDO ROMANIC EQUIVALENTS OF DEVANĀGARI ALPHABETS

|         |          |           |
|---------|----------|-----------|
| अ - a   | छ - cha  | य - Ya    |
| आ - ā   | ज - Ja   | र - Ra    |
| इ - i   | झ - Jha  | ल - la    |
| ई - ī   | ञ्ज - ña | व - va    |
| उ - u   | ट - Ta   | श - śa    |
| ऊ - ū   | ठ - Tha  | ष - ṣa    |
| ऋ - r̥  | ड - da   | स - sa    |
| ए - e   | ढ - dha  | ह - Ha    |
| ऐ - ai  | ण - na   | क्ष - Kṣa |
| ओ - o   | त - Ta   | क्स - Jñ  |
| औ - au  | थ - Tha  | ऋ - Tra   |
| . - m̥  | द - Da   |           |
| : - h̥  | ध - dha  |           |
| क - Ka  | न - na   |           |
| ख - Kha | प - pa   |           |
| ग - Ga  | फ - pha  |           |
| ঘ - Gha | ব - Ba   |           |
| ঙ - ña  | ঝ - Bha  |           |
| চ - ca  | ম - Ma   |           |

## INTRODUCTION

Āyurveda is founded on certain basic principles that have a permanent relevance and may even be said to be the ‘soul’ of Āyurveda. The greatness of Āyurveda is that it has survived through centuries, preserving and retaining its authenticity and is still a very viable form of medical practice in the modern world. The fundamental principles of Āyurveda is applicable to all situations related to the good health of people even to-day. It is holistic in its approach. It addresses the root cause of a disease along with the symptoms exhibited. The roots of Āyurvedic philosophy are also embedded in the Indian philosophy. Āyurveda explains life, birth, re-birth and death; in effect it encompasses all aspects of life. It explains what *Hita* (Wholesome) is and what *Ahita* (Unwholesome) is – the two ‘aspects’ that are responsible for healthy individuals as well as the diseased one.

Many a disease, especially in childhood, can be treated properly through Āyurvedic medicines. Health of infant and toddlers, from conception to early childhood, depends on the health of the mother. Deficiency of nutritious elements in the mother’s diet will definitely affect the intellect, the structural growth and the functioning of the neural tube in the foetus. Optimal nutrition and healthy atmosphere for the mother is essential for the survival and development of a healthy child. In children nutrition, growth and development are intricately inter-linked. Aberration in one aspect of nutrition tends to influence the mental and physical development of the child significantly and even adversely. Breast feeding for appropriate duration and weaning by the introduction of other healthy diets at the appropriate time are two practices that can prevent morbidity and mortality in children.

Āyurvedic principles have laid maximum emphasis both on preventive and curative aspects. It is considered that wholesome diet and proper maintenance of regimen are the key factors for prevention of diseases. Two types of diet i.e. wholesome and unwholesome diet have been mentioned in the classics for different diseases, different races, and for different habitats. Similarly, proper and improper maintenance of daily regimen or seasonal regimens have also been mentioned. Improper maintenance of daily and seasonal regimen is considered the root cause of all diseases. Āyurveda believes that the basic cause of all diseases are the malfunctioning or the imbalances among the *Doshās* (three *doshik* factors viz. *vāta*,

*pitta, kapha*), *Dhātus* (seven body elements viz. *rasa, rakta, māmsa, meda, asthi, majja, śukra*) and *Malās*(three external secretions viz. *mūtra, purisha* and *sweda*) since these constitute and contribute to human pathology.

During childhood children are exposed to various allergens viz. cold air, dust, smoke, pollens, animal dander, feathers and wool, house dust mite etc. which act as a triggering factor for respiratory and skin diseases. Children are more vulnerable to allergic problems because of their low immunity during developmental stages. Many children are allergic to particular food or food preparations. Exposure to these triggering factors produces different kinds of diseases. For example in the case of URTI (Upper Respiratory Tract Infection) dust, cold air, and respiratory syncytial virus are the causative factors which lead to symptoms such as rhinitis, sinusitis, throat infections and lower respiratory tract infections leading in turn to cough, fever and dyspnoea.

### ***Doshā, Dhātu and Malā Concepts***

Āyurveda describes that the body is made up of *doshā, dhātu* and *Malā*. *Doshā* means *tridoshā* i.e. 3 types — those are *vāta, pita* and *kapha*, and five sub-types of each *doshā*. *Dhātu* means *sapta dhātu* i.e. 7 types — those are *rasa, rakta, māmsa, meda, asthi, majja*, and *śukra* which are considered as the vital tissues for survival. *Malā* means *trimalā* i.e. 3 types viz. *mūtra, purīsha* and *sweda* which are the excretory products. *Doshā, Dhātu* and *Malā* are the basic constituents of the living beings. Imbalance of any one factor due to certain reasons can be the cause of a disease. Āyurveda emphasizes that the *Āhāra* and *Vihāra* (diet and regimen) are the direct factors and *Deśa, Kāla* (geographical distribution and environmental conditions) are the co-factors of diseases. Among the *tridoshās*, *vāta* has its own force with velocity whereas *pitta* and *kapha* are stable ones. Both are energized and accelerated into force of action with the help of *vāta doshā*. When *Vāta, Pitta* and *Kapha* are in balance, a normal or healthy state is achieved. *Saptadhātus* are the structural and biologically active tissues of human body which maintain the body's physical status and the power of genesis. *Malā* are the excretory by-products such as urine, stool and sweat.

### ***Panchamahābhūta Concepts***

*Panchamahābhūta* concept is the most significant part in Āyurveda as well as in astrology. *Prithvi* (earth), *Jala* (water), *Agni* (Fire), *Vāyu* (Air) and *Ākāśa* (ether) are the five basic constituents or ‘matter’ of the body, and the whole universe. There is a relationship between *Panchamahābhūta* and *doshās* e.g. (a) *Vāyu* and *Ākāśa* – *Vāta doshā*; (b) *Agni* or *Teja* – *Pitta doshā*; (c) *Prithvi* and *Jala* – *Kapha doshā*. *Panchatanmatra* (the five root or basic energies) are the innate potentiality of the *Panchamahābhūta*. *Prithvi mahābhūta* has the innate quality of *Gandha* (perception of smell), *Jala mahābhūta* has the innate quality of *Rasa* (taste perception), *Agni mahābhūta* has the

innate quality of *Rūpa* (colour perception), *Vāyu mahābhūta* has the innate quality of *Sparśa* (touch perception), *Ākāsh mahābhūta* has the innate quality of *Śabda* (sound perception). It is believed that matter which is present in the world is also present in the human body in a subtle form.

### ***Sāmānya and Viśeṣa Concepts***

The concept of *sāmānya* (similarity) and *Viśeṣa* (dissimilarity) could be better explained as per the dietary habit of individuals. The food that we consume, if similar to the body constituents, then those similar constituents in the body gradually increase. For example, animal meat is directly similar to the meat of the human body. So, in people who consume meat it will increase their body flesh called *Māmsa Dhātu*. The qualities of milk are *guru* (*heavy*), *śeeta* (*cold*), *snigdha* (*soothing*) and are similar to the qualities of the *Kapha doshā* in the body. For example, if one will consume cold milk daily he will suffer from *kapha* vitiated diseases. Inactivity or laziness of individuals increases due to which the recipient will not be able to digest properly thereby decreasing the body mass. This is an example of *Viśeṣa* concept. *Kapha doshā* increases due to laziness and exercise reduces *Kapha Doshā*. Use of oil reduces *Vāta doshā* as they counterbalance each other.

### ***Rasa, Guṇa, Viṛya, Vipāka and Prabhāva Concepts***

The influence of Āyurvedic drugs and how they work in different conditions are due to their *Rasa* (taste), *Guṇa* (character), *Viṛya* (potency), *Vipāka* (metabolism) and *Prabhāva* (influence). Drug action depends on one of these factors or all simultaneously. Āyurvedic medicines accommodate these principles and also explain the concepts of occurrence of a disease. The action potential of individual drug is different. For example, all *madhura rasa* drugs are *vrumhaniya* (anabolic or increases body mass) in nature. However, honey though having *madhura rasa* is *langhaniya* in action (reduces body mass or fat) due to its *anurasa* as *Kashāya*. (Anurasa in this context means ‘after taste’ or hidden taste, and *Kashāya* means astringent i.e. honey though has its primary taste as sweet has an astringent taste which acts to reduce body mass.) Ayurveda believes that drugs may have a primary taste, but there is chance of presence of some hidden taste by which the action of the drugs differ from one another, though the primary taste may be the same.

### ***The Raw Materials Used in Ayurvedic Medicines***

The crude drugs used as raw materials in the Ayurvedic formulations are derived from natural sources. They are classified as those from Earth referred to as *Sthāvara*, (stationary) and those from Animals, referred to as *Jangama* (mobile). Both plant, mineral ores and pure mineral drugs are from the earth, and are known as *Padapa*, *Dhatu* and *Khanjia* respectively. Although a majority of drugs

are innocuous, there are several, acknowledged to be poisonous in nature, capable of providing adverse reactions even in normal doses. Some examples are *Nux-vomica* seeds, the poisonous species of Aconites, Opium, Cobra venom, Arsenic, Mercury etc. Their use in medicines are recommended only after very elaborate 'detoxifying' processes, which render them non-poisonous and bereft of their original toxicity. A rule of thumb quoted for such detoxification is that the toxins of the *Sthavara* drugs may be treated with *Jangama* drugs and vice versa. For example, *Gomutra* (cow urine) is one of the fluids commonly used for the detoxification of, say, iron or aconite. Similarly, arsenic and mercury must be treated with various plant juices in a serial manner before they can be certified as usable. Ultimately, *Ayurveda* holds that even a poisonous drug, processed in the manner recommended in classics and administered in the right dose after proper diagnosis cannot have any adverse effects, whereas even the most harmless of drugs can produce deleterious effects if not handled properly by a *vaidya*.

# KAUMĀRABHṛITYA

It is generally believed that the history of Āyurveda began about 3000 BC, and was claimed as a gift from God. The lineage is popularly described as follows:

## *Āyurveda Parampara*

BRAHMA → PRAJAPATI → ASVINIKUMAR



INDRA



KASYAPA, VASISTA, ATRI, BHRIGU, KAASYAPA



VRUDHAJIVAKA ← JIVAKA



ANAYASA YAKSHA → VATSYA



NEPAL RAJAGURU PANDIT-HEMARAJ SHARMA

The earliest of physicians were the Big Three, *Caraka*, *Suśruta* and *Vagbhata* whose works *Caraka Samhitā*, *Suśruta Samhitā* and *Aṣṭāṅga Hṛdaya* respectively are now termed as '*Brihatrayi*'. These classics are the origin of many medical treatises that are followed by various scholars and are quoted even today. Among the various branches of medicine that these treatises dealt with, Paediatrics (*Kaumārabhṛitya*) is one.

## ***Kaumārabhṛitya and Its Significance***

*Kaumārabhṛitya*, the Indian treatise of Paediatric Medicine deals with the care of children. It consists of *sūtras* with implications of practical utility and justifies clinical results. This branch of medicine has been considered as important in the *Brihatrayi* as the following paragraphs indicate.

## ***Brihatrayi in Āyurvedic Parampara***

As per CARAKA SAMHITĀ (*Caraka's text*)

There are eight divisions (chapter headings) of Ayurveda provided, namely

तस्यायुर्वेद स्याङ्गन्यषौ; तथा - कायचीकित्सा,  
शालाक्यं, शल्यापहर्त्रुकं, विषगरवैरोधिक प्रसमनं, भूतविधा,  
कौमारभुत्यकं, रसायनं, वाजीकरणमिति ! (च.सं.सू.30/28)

*Tasyāyurveda syāngānyasṭau: tadyathā – Kāyaciikitsā,  
Śālākyam, śalyāpahar trukam, viṣagarovairōdhīka prasamanam, bhōotavidyā,  
Kaumārabhrityakam, Rasāyanam Vajēekaranāmiti (Ref: Ch.su.30/28)*  
Kaumārabhritya has been given 6<sup>th</sup> place.

As per *SUSRUTA SAMHITĀ* (*Susruta's text*)

तथा, शल्यं, शालक्यं, कायचिकित्सा, भूतविधा,  
कौमारभुत्यम, अगदतन्त्रं, रसायनतंत्रं, वाजीकरणतन्त्रमिति ! (सु.सं.सू.1/7)

*Tadyathā śalyam, śālakyam, Kāyaciikitsā, Bhōotavidyā,  
Kaumārabhrityam, Agadatantram, Rasāyana tantram, Vajēekarantantraamitī*  
(Su.su.1/7)

Kaumārabhritya has been given 5<sup>th</sup> place.

As per *VAGBHATTA* (A.S & A.H)

काय बालग्रहोर्ध्वान्ध शल्य ढंषटाजरा वुषौ ! (अ.सं.सू.1/6)

*Kāyabālagrahordhvāṅga śalya dramṣṭājara vṛṣāna* (A.S.su.1/6)

काय बालग्रहोर्ध्वान्ध शल्य ढंषटाजरा वुषौ !

अस्टावन्धानि तस्याहुश्चकित्सायेसुसम्मिश्रता ! (अ.ह.सू.1/5)

*Kāyabālagrahordhvāṅga śalya dramṣṭājara vṛṣāna*

*Aṣṭāvāṅāni tasyāhuścikītsāyēsu samśrītā* (A.H.su.1/5)

Kaumārabhritya has been given 2<sup>nd</sup> place both by *Astanga Samgraha* and *Astanga Hridaya*. (*Astanga Samgraha* and *Astanga Hridaya* are two texts written by two different authors with the same name *Vaghbhatta*. *Astanga Samgraha* was written by *Laghu Vaghbhatta* and *Astanga Hridaya* by *Vridha Vaghbhatta*).

The sage *Kasyapa* is considered the ‘Father of Paediatrics’ as this *sloka* mentions.

कौमारभुत्यमष्टानां तन्त्राणामाध मुच्यते !

आयुर्वेदस्य महतो देवानामिव हव्यपः !!

अनेन हि संवर्धितमितरे चिकित्सन्ति ! (का.सं.वि.2/10)

*Kaumārabhr̥ityam aṣṭānām tantrāñāmādya muchyate*

*Āyurvedasya mahatō devānāmīva havyapaha*

*Anena hī samvardhītamītare Cikitsantī* (K.vi.2/Verse-10)

*Kaumārabhr̥itya* has been given 1<sup>st</sup> place only in *Kaśyapa Samhitā*.

*Kaśyapa Samhitā* is considered as the book of *Kaumārabhr̥itya* on the basis of subject matter, as the contents are more related to the welfare of children. However, the subject is also dealt with in different *Samhitās* and texts. The subject matter of *Kaumārabhr̥itya* is yet incomplete, due to the present non-availability of source books and lack of literary research. In this book a few topics are taken into consideration in brief as per their practical significance.

*Kaumārabhr̥itya* had 200 chapters originally, but only 78 are available. It has Sūtras dealing with the welfare of the neonate and children up to the age of 16 years. Mother and child care has been given special attention in ancient Āyurvedic classics.

This is the branch of Astanga Āyurveda (the eight major branches of Āyurveda) that begins with the care of a pregnant lady, management of morbidity in a neonate and the care that is to be provided thereafter, and the special care to be provided during the ‘growth and development’ stages of normal, healthy children from their birth to 16 years of age.

## Definition

*Kaumārabhr̥itya* deals with the care of children, administration of mother’s milk and purification of mothers’ milk in cases of diseased mother, measures to prevent ‘Graha’ doshā and treatment of disease (Su.su.1/7).

## Classification of *Kaumārabhr̥itya*

*Kaumārabhr̥itya* can be classified as per the age division. The classification is important to understand normal growth and development, nutritional needs, disease pattern, diagnosis of disease and management. The age classifications are given here with their relevant modern terminology for easy understanding.

*Bāla* (Children) – from birth to 16 years of age

*Navajāta* (Neonate) – birth to 1 month of age

*Kṣirapā* (Infant) – from birth up to 12 months of age, where mother’s milk is the principal diet

*Kṣīraannadā* (Toddler) – from 13 months to 36 months, milk with cereals such as rice, wheat, corn flour, green gram is the diet

*Annadā* (Childhood) – from 3 years to 16 years of age, cereals especially rice, wheat, legumes is the principal diet

## Special Features

According to *Charaka Samhitā* the term ‘*Bāla*’ refers to the period from birth to 16 years of age and all the childhood ‘features’ written below is common in ‘*Bāla*’ i.e. the entire paediatric age group. (According to the *Āyurveda* classics no distinction is made till the age of 16 from birth as is done in Western medicine and so the children in this entire age group are classified under the term *Bāla*). The childhood features described in the *Āyurvedic* classics are as follows:

*Kapha pradhāna kāla* — There is predominance of *kapha doshā* which is responsible for the child to maintain a sleep pattern necessary for its physical and mental growth.

*Sukumāra kāla* — This is the stage where a child is very delicate and will not be able to bear physical and psychological violence of any kind. During this period because of low vitality a child is vulnerable to different kinds of infection.

*Asampūrṇa dhātu kāla* — A stage of immature body tissues where there is an innate quality of growth of all *dhātus*, e.g. the 7 *dhātus* as described in classics are in their growing stage.

*Kleṣa asahiṣṇutā* — Children in this stage become fatigued very fast, unable to do hard and stressful work.

*Parādhēnatā* — Dependant in nature — both physically and emotionally. They require the guidance of their parents or guardians to do their work.

## Feeding and Dietary Regimen

Dietary regimen is known as *āhāra vidhi* in *Āyurveda*. For the new born up to 6 months mother’s milk alone is recommended. *Kasyapa Samhitā* has given importance to administration of fruits after 6 months of age under the heading of *Phalaprashan*. *Phala rasa* is a rich source of vitamins and minerals and should be started at 6 months of age. This is done to provide extra supplementation of nutrients, to maintain health, and prevent nutritional disorders. *Annāprāśan* should be started by 10<sup>th</sup> month and before one year of age. *Phalaprāśan* is to be continued along with *annaprāśan*. (*Phalaprāśan* — weaning food with fruit juice started after 6 months of age of child. *Annaprāśan* — weaning food specially prepared with rice or wheat or both with sugar started after 10 months of age).

# NAVAJĀTA ŚIŚU PARICHARYA

## Care of Neonate

Growth and development of an infant directly depends on the care taken at birth and during the neonatal stage. Neonates require certain specific care depending on how they were delivered and the problems during delivery if any. Ayurveda describes the pattern of delivery under *sukha prasav* (Normal vaginal delivery) and other problematic conditions under *Mudhāgarbha cikitsa* (obstructed labor). The severity of *mudhagarbha* depends upon the etiological factors. There are two types of treatments described in *Śushruta Samhita Cikitsasthan* chapter 15. (i) *Ausadhi cikitsa* (medicinal treatment), (ii) *Śastra cikitsa* (operative treatment which can be compared with caesarean section). If any *kleśa* (stress) occurs *prāṇapratyāgamana* (resuscitation) methods are advised in different samhitas to make the newborn stress free.

## Management of the Neonate

### ***Step-I: Mukhaviśodhan (Clearing of oral cavity)***

After delivery mukha (mouth), tālu (palate), kanṭha (throat), jihwā (tongue) should be cleaned with kārpasa (cotton) which should be smeared with saindhav (rock salt) and sarpi (cow's ghee). The caretaker must cut his/her nails and clean the hands before performing the procedure (Ch.sa 8/43).

### ***Step-II: Prāṇapratyāgamana (to make the newborn conscious and stable)***

Just after delivery the newborn is affected by labor stress. To overcome this condition, *Āyurveda* advocates gentle massage with Balā taila, and creating a soft sound by rubbing two stones near the ear (A.H.ut.1/1-2). Charak *Samhitā* advises sprinkling of cold water in the summer season and warm water in the winter season over the face of the newborn baby. Fanning should be done with black-coloured materials (Ch.sa.8/42).

### ***Step-III: Nālacchedana (cutting of umbilical cord)***

When the child becomes stable, the umbilical cord should be cut at a distance of 4 *angula* (approximately 4 cm) from the base of umbilicus (A.S.ut.1/5).

Charak *Samhitā* advises to cut the umbilical cord by using silver or golden knife and tie a knot with cotton threads. No medicine is required for cord care. If sepsis occurs then use the oil made up of *lodhra*, *yastimadhu*, *priyangu*, *suradāru* and *haridrā* prepared with *tila taila*. Dusting over the cord area by using the powder of the said drugs should be done (Ch.sa. 8/44).

### **Precautions**

Ayurveda describes *ardhadhar* (half blunt and half sharp), *tiryakadhar* (sharp instruments) *sastra* for cutting of *nābhināli*. After cutting of *nābhināli* that should be tied with *karpasa* (cotton) thread. Cut area should be protected from soiling and smearing with urine or stool.

### **Step-IV: *Ulva parimarjana* (cleaning of vernix caseosa)**

Newborns body is usually smeared with some white membranes from mothers' womb. In case where the amniotic fluid is less the smearing is more and thick. That is called *Ulva* in *Āyurveda*. After delivery the newborn's body should be cleaned with dry and washed cloth. *Saindhav* (rock salt) and *sarpi* (cow's ghee) should be mixed and applied over the skin of the baby and wrapped gently with cotton clothes to remove *Ulva* (Ch.Sa. 8/43).

### **Step-V: *Garbhodaka vamana* (stomach wash)**

Foetus swallows Garbhodaka (amniotic fluid) inside the womb. After delivery that should be cleared by administration of saindhav and sarpi through the oral cavity (A.H.ut. 1/10).

### **Step-VI: *Snāna* (bath)**

After the newborn becomes stable and comfortable from labour stress and after diagnosing his normal body conditions (i.e. the newborn must be active) bathing can be done (Ch.sa 8/42). Sushruta *Samhitā* has emphasized particular bathing liquids for baby bath (Su.sa 10/13).

These are as follows: Bathing liquids for specific conditions

| Bathing liquids  | Conditions  |
|--|---|
| Decoction of stems/barks of <i>Kṣēri vriksha</i> (like ( <i>Vata</i> , <i>Udumbara</i> , <i>Aswatha</i> , <i>Plakṣa</i> , <i>Pāriśa</i> )  | Dominance of <i>pitta</i> (Child has skin problems)       |
| <i>Sarvagandhadaka</i> ( <i>Chandan</i> , <i>Agaru</i> , <i>Lavanga</i> , <i>Karpūra</i> , <i>Ela</i> , <i>Tejpatra</i> , <i>Tvaka</i> , <i>Kankola</i> , <i>Kumkuma</i> , <i>Nāgakeśara</i> ) | Dominance of <i>vāta</i> (Dry skin)                       |
| <i>Raupya – hema - pratapta vāri</i> (Water treated with silver/gold)  | Loss of strength (Anaemia or other nutritional disorders) |
| <i>Kapittha patra</i> (leaves) <i>kashaya</i>  | Dominance of <i>Kapha</i> (For inactive child)            |

The proportion of raw materials and water for bathing liquid has not been given in the classics. Therefore, a rough estimate is used and one has to take the raw materials and water in the ratio of 1:20 for preparing the decoction. Usually 20 times water is taken for bathing decoctions and filtered properly before giving bath. The temperature of bathing liquid must be well tolerated by the baby. In all seasons and in all conditions *Raupya-hema-pratapta-vari* (to prepare this, water should be heated for 20 minutes with silver/gold) can be used as the bathing liquid. The action of metals influences the health of the baby. The metals must be removed before bath.

### **Bathing contraindication**

This is usually in diseased conditions like *Atisāra* (diarrhoea), *Jwara* (fever), *Ādhmana* (tympanites), *Ajeernā* (indigestion), *Annadvesha* (loss of appetite), *Netra Rōga* (eye disease), *Mukha Rōga* (disease of the oral cavity).

### **Step - VII: Raksha karma (protective measure)**

Protective measures: Āyurveda advocates the following measures: (1) Taking small raw branches of *karanja*, *khadira*, *badari* and *pilu*, tying them together with strings and hanging outside the door of the nursery. Since these branches and leaves have disinfectant properties this practice is to purify the air. (2) Sprinkling of *krimighna* (insecticidal) drugs such as *vidanga*, *siddhārtaka*, *guggulu*, *agaru*, *chandan* powder on the floor of the nursery. (3) Sprinkling of coarse powder of *Tāndūla* (*śāli*) twice a day. (4) *Śānti homa* should be performed in the house. (5) Amulets made of *Vaca* root, *Sarṣapa*, *Hingu* resin, *Laṣuṇa* bulb are tied to both the mother and the baby or can be hung in the *kumaragara*. (6) It is described that two *udaka kundas* may be placed at the head-side of the baby. This instruction seems to be for maintaining humidity.

## **Other Practices**

### **Abhyanga**

*Abhyanga* which is daily oil massage is a routine practice in the care of neonates for their proper growth and development. This involves first head massage, followed by the palms and soles and thereafter the entire body. Body massage should be started right from birth.

### **Benefits**

It helps to remove

Bad odour (*daurgandhya*) of the body

Heaviness (*gaurava*) or discomfort

Drowsiness (*Tandrā*) (here ‘drowsiness’ should be considered as ‘abnormal sleep’)

Itching (*Kandu*)

Dirt (*Malā*)

Distaste (*arochaka*)

Unpleasant odour due to sweating (*sweda bibhatsata*)

### ***Contraindications of Abhyanga***

There are some disease conditions where body massage with oil should not be given as it may increase the virulence of the disease. These conditions are vitiated *Kapha* (respiratory distress conditions), *Ajeernā* (indigestion), *Agnimāndya* (anorexia), *Āma* (bowel disorder), and *Jwara* (fever).

### ***Vastra dharana/cloth/bed (A.H.ut.1/33)***

Bed, bed sheets, cloths and clothes used for children must be light, soft, clean and fragrant. Dirty clothes should not be used. Therefore, high standard of hygienic practice should be followed to avoid infectious diseases.

*Vasana* (dress), *Sayana* and *Aastaranya* (bed and bedsheets), *Aasana* (seat), *Pravaranya* (coverings) should be washed properly. *Swetavastra* (white-coloured clothes) are the best for all newborns.

### ***Shastikarma***

The rituals to be performed on the 6<sup>th</sup> night after birth for neonate is important. Most of the Ayurvedic classics describe this night as dangerous for the neonate and that is why people worship Shasti māta (name of goddess) traditionally.

### ***Rātricharya/Rutu charya***

By following this, one can prevent diseases for the mother and become swastha (healthy). One should not take heavy food, should avoid *maithuna* (intercourse), and *nidra* (sleep) during *sandhyakāla* (evening) (*Bh.P*). This is prescribed for lactating mothers to prevent the mother from getting infectious diseases.

### ***Anjana (collyrium)***

Anjana is usually used in the eyelid of infants. Because of its *kapha hara* and *Roga nāśaka* property, it prevents various infectious eye disorders like *Netrabhishyanda* (conjunctivitis).

### ***Advice to the mother about childcare***

- (i) Child should be given exclusive breast milk 8 times daily in 24 hours up to 6 months of age followed by burping after each feed for 10 minutes in an erect position to prevent aerophagia causing vomiting.

- 
- (ii) Mother should not feed in a hurry, but take the required time to feed the baby to prevent infantile colic.
  - (iii) Mother is advised to cover the child with dry cotton clothes and change the wet cloth soon after urination.
  - (iv) Mother has to note whether urination is more than 6 times per day to judge the adequacy of breast feeding.
  - (v) Golden-yellow coloured, ‘cheese’ like stool is a sign of good digestion and moving bowels 10 to 14 times in 24 hours is normal and once in two days is also considered normal in neonates.
  - (vi) Breast secretions - milk secretion from nipples of new born does not require any treatment.
  - (vii) Vaginal secretions - vaginal white discharge or blood like discharge in new born baby does not require any treatment.

## SAMSKĀRĀS (RITES)

All Āyurvedic *Samhitās* give explanations about *samskārās* and some of the *samskārās* are celebrated as family festivals even today. *Guhyasūtras* described about 40 *samskārās* from which Āyurveda accepts only 16 *samskārās* performed from birth to death. Three *samskāras* are to be performed for the pregnant woman. Those are (i) *Garbadhan samskārā* (ii) *Pumsavana samskārā* (iii) *Simantonayana samskārā*. There are 10 *samskārs* to be followed during childhood; those are (i) *Jatakarma* (ii) *Nāmakarana* (iii) *Dolashayana* (iv) *Surya/chandra darshana* (v) *Niskramaṇa* (vi) *Karṇavedhana* (vii) *annapāna* (viii) *Chūdakarma* (ix) *Vedārambha* (x) *Upanayana*. Five *samskāras* are performed from youth to death; those are (i) *Samāvartana* (ii) *Vivāha* (iii) *Vānaprastha* (iv) *Antyeṣṭhi*. *Samskārās* are rites and, with a little variation depending on their castes people perform them in their families.

### (i) *Jatakarma samskār*

After delivery when the newborn becomes stable the baby should lick a mixture of *Gṛīha* (ghee) and *Madhu* (Honey). Dosage is recommended as the tip of index finger of the newborn baby (Su.sa 10/13) i.e. one drop of each mixed properly. After this mother's milk should be given from right breast first in an inclined position such that the breast is above and the baby's face is below (Ch.sa 8/46).

### (ii) *Nāmakarana samskār*

*Nāmakarana* means 'naming' ceremony. On the 10<sup>th</sup> day of the birth of the child after performing *puja* in the house, the naming ceremony should be started (Su.sa 10/24). On the 10<sup>th</sup> or 12<sup>th</sup> day *mangala homa* and *mantra* should be performed by the priest as per caste, *gōtra*, *nakṣatra* and *devatā*. Two names should be chosen, one by the father as per *nakṣatra* and the other as per the family's choice (A.S.ut. 1/27-30).

### (iii) *Dolashayana samskār*

This *samskār* should be performed on the 12<sup>th</sup> day for a male and on the 13<sup>th</sup> for a female child. In the initial 12 to 13 days a baby is with its mother for constant, continuous attention and observation for its well-being and later it is shifted to a swing. Baby is separated from its mother by keeping it in a swing made of suspended cloth (*Dola*). Baby sleeps comfortably in a swing.

#### (iv) *Surya/chandra darshana*

This *samskār* should be performed at the end of 1<sup>st</sup> month of the child's birth. This is to test macular fixation. The procedure is to show the child the morning sun and the moon at night.

#### (v) *Niskramana samskār*

When the baby is 4 months old on a holy day as per the decision of the priest the baby is bathed, decorated and is taken out to temple with parents who perform *puja* for the welfare of baby. One should sprinkle white mustard, honey and ghee in the premises outside the home (K.Khi. 12/4-5).

#### (vi) *Karṇavedhana samskār*

*Karṇavedhana* is ear piercing and should be performed in *śuklapakṣa* on a holy day after deciding *nakṣatra*, *tithi* and *muhūrtā* suitable for the baby. It must be done within 6 to 8 months of age. The objective as described in the text for ear piercing is for wearing ornaments and protection of the child (A.H.ut.1/28-32). Here the belief is to protect from 'evil eyes'; however, the use of gold perhaps helps prevent bacterial infections.

#### (vii) *Annaprāṣṭana samskār*

*Annaprāṣṭana* has been well described in Āyurvedic classics and according to that *Anna* and *Pāna*, i.e food and milk/water, appearing in pleasing colour (*varna*), smell (*gandha*), taste (*rasa*) and touch (*sparsa*) are taken systematically. This is believed to constitute the life of living beings and is the result of practical observation.

This food provides fuel (*indhana*) for the maintenance of the gastric fire (*jat harāgni*). It invigorates mind (*satwa*), it promotes proper distribution of body elements (*śareera-dhātu*), vitality (*balam*), complexion (*varna*) and the activity of the sense organs (*indriya prasāda*). The anna are of four kinds as per origin and preparation. (i) Eatables: (*āśitam*) *anna* (ii) Drinkables: (*peetam*) *peya*, *dugdha* (iii) Masticable: (*Ghaditam*) *bhakṣyam* (iv) Linctus: (*leedham*) *lehya*.

*Annaprāṣṭan* means diet along with breast milk. At 6<sup>th</sup> month child should be given specially prepared cereals along with mother's milk (Su.sa. 10/49). *Kāśyapa* described specifically about the administration of different fruit juice after determining the digestive capacity of the baby. At 10<sup>th</sup> month rice can be given along with ghee and salt. Particularly, preparations with old *raktaśāli* rice, wheat, *vidanga* (fruit of *Embelia* species), salt, ghee should be given (K.Khi. 12/19-21). This is part of complementary feeding practices as we know it today.

**(viii) *Cūdākarma samskār* (Tonsure ceremony)**

*Cūdākarma samskār* is also called *Muṇḍana samskār*. This is performed by shaving for the first time the scalp hair of the baby that it has had since birth (K.Su. 21st chap.). This helps in proper blood circulation to the scalp, helps hair growth and ensures closure of the anterior fontanelle. It should be done between 1 and 3 years of age.

**(ix) *Vedārambha samskār***

*Vedārambha* is school education. When parents observe that the child's physical and mental growth is appropriate they send the child to school at about 5 years of age. Both *Upanayana samskār* and *Vedārambha samskār* is described in *Rig veda* but not defined in *Āyurvedic* texts.

**(x) *Upanayana samskār***

*Upanayana* is traditional thread ceremony. In some castes this ceremony is performed as a family function e.g. in Brahmin families for the male child. The time period is about 5–7 years.

Some other *samskārās* are described in some ancient texts but references are not available.

## BĀLA GRAHA VIJÑANA (DEMONOLOGY)

It is a branch of Astanga Āyurveda i.e. one of the eight sub-sections of Āyurveda called ‘*Bhuta-vidya*’ because the disease is believed to originate from the influence of *bhuta* or *graham* (planet). This *Bhuta-vidya* as revealed in Āyurvedic classics and Vedas comprises a difficult and intricate subject matter, and particularly complicated for interpreting the subject matter from the point of view of modern pathology.

Some diseases peculiar to infants and children said to be due to the influence of *Graha* is a unique aspect characteristically described in Āyurveda. Though it is not well understood even today by the Āyurvedic scholars, the belief still persists.

The definition of *Graha* and *Bhuta* are different as per their activities.

**Graha:** Graha described in different places, in different samhitas are different. The approach and description resemble infections, vitamin deficiency disorders and superhuman activities. *Susruta samhita* describes *graha* as follows. That which produces unique characteristics in a human being and influences his approach to life and how he deals with situations is ‘*Graha*’ and study of this gives one the power to probe and predict the private and future events of one’s life (Su.ut. 60/4).

**Bhuta:** Those that roam about in quest of evil and mischief in spite of the celestial nature of their own divine origin have been termed *Bhutas* (Su.ut. 60/26).

In the Āyurvedic texts, *Grahas* (in modern terminology may be interpreted as infectious organisms) have different identities and are classified as per their morphology and character. These afflict children due to *abhisāṅga* (direct contact). These are not visible to the naked eyes.

Morphology, habitat and properties of *graha*:

1. *Grahas* are seen only by divine eyes.
2. Troops of *grahas* and their servants are numerous and they are fond of flesh, blood.
3. *Sushruta Samhitā* describes the wounded one should be protected from the ‘night wanderers’.

## General Causes of Attack of *Graha* on Infants

The *grahas*, as per texts, affect a child in the following cases (Su.ut. 27/6-7, Su.ut. 37/18-20)

1. Where the conduct of a mother or a wet nurse during the time the child is breast fed is not proper.
2. Where proper benedictory rites are not performed and the child is allowed to remain in an unclean state.
3. Where the child becomes somehow uneasy, gets frightened or is rebuked or begins to cry.
4. Children of the families in which the Gods, the Priests, the Bramhins, the pious, the preceptors, the seniors and the guests are not properly worshiped and attended upon.
5. Where cleanliness and virtues are not observed and family members do not make daily offerings to the deities and give alms to beggars, or live on food prepared by others and eat in broken bowls and plates of indian bell metals evil spirits make their appearance to demand proper respect and worship. They are omnipresent and invisible and enter the person or a child.

Sign of *Graha* attack: Piteous and frightened look, dryness of lips, throat and palate, crying, anxious appearance, wishing to eat but still unable to do so.

### **Management**

(i) Keep the child in a clean room; (ii) Rub the body with old ghee; (iii) Strew mustard on the floor; (iv) Burn a mustard oil lamp (Su.ut. 60/30).

Vagbhatta advices baths, massage, fumigations and internal medication.

1. Personal cleanliness like bathing should be given with the decoction of leaves and bark of *Latākaranja*, *Vaṭa*, *Tulasi*, *Indrāvaruni*, *Śami*, *Bilva*, and *Kapittha*.
2. Anointment all over the body with pastes of *Chandana* (sandal wood), *karpūra* (camphor) and *kasturi* (musk - an aromatic secretion from special type of deer called the musk deer) (Su.ut. 27/20).
3. Massage over the body should be done with old *goghṛta* (cow's ghee) (Su.ut. 27/19).
4. *Dhoopana/Havana* (Fumigation) should be given with the collected material of urine (just wet the materials with urine) and faeces of dog, feather of peacock, *vaca*, *ghṛta* and *sarsapa*. Fumigation with those materials eradicates all *Bālagrahās* (K. dhupakalpa.1/22).

5. For internal administration ghee is made up of *śveta sarsapa*, *vaca*, *hingu*, *priyangu*, *haridrā*, *dāruharidrā*, *manjisthā*, *kumbhi*, *haritaki*, *bibhitaka*, *āmalaki*, *aparājita*, *nimba leaf*, *karanja seed*, *śirīṣa seed*, *devadāru*, *śunthī*, *pippali*, *mari ca* each equal part and total 4 times the weight of ghrita, all should be boiled with water 8 times the volume of ghrita add *goghṛta* 1 part. Prepare this in *ghṛtapaka* method and use for internal medication. This is called *Siddharthaka ghṛta* (A.H.ut. 5/10-14). (*Ghṛtapaka* is the process by which all raw drugs are cut into small pieces and crushed and dipped in hot ghee. Here water, ghee and raw drugs are taken in the proportion of 8:1:4.)

*Dose:* 2.5 ml to 5 ml from 1 year to 3 years of age with luke warm water.

**Advice:** The mother should avoid *Vyavāya* (sexual intercourse), *madhya* (wine), *pishitasevita* (wrong food habits) should be avoided; *paricāraka* (care-taker of the child) must maintain cleanliness. Well-ventilated room should be provided to the mother.

# PREVENTIVE, PROTECTIVE AND PROMOTIVE METHODS

Ancient scholars of *Āyurveda* like *Caraka*, *Sushruta*, *Vāgbhatta*, *Gāngadhar* and others contributed greatly to the promotion of good health and the prevention of diseases. They found that the common factor for all diseases are *Kāla* (time factor), *Indriyārtha* (psychic and somatic factors) and *karma* (deeds present and past). (A.H. ut. 1/40) However, apart from these, several measures prescribed in *Ayurveda* are described in the following paragraphs.

## Environmental Sanitation (Preventive)

**Homa:** *Ghṛta*, *sigru*, *sarja*, *agaru*, *guggulu*, *karpura*, *devadaru*, *candan*, *sarjarasa*, *nimba*, *rajika*, *gandhaka* etc. are poured as offering to the sacrificial fire. Owing to the influence of the *Homa* many kinds of disease-causing elements viz. bacteria, virus and diseases like *Masurika* (measles), *Viṣamajwara* (typhoid) etc. can be prevented through the aroma of the sacrificial fire.

**Mantra (Vedic hymns):** ‘*Mann*’ means - to think, ‘*tra*’ means to protect. Therefore, the term *mantra* — that which liberates and protects.

e.g. *ॐ नमः भगवते भूतेश्वराय* – To prevent *bhutopasarga* (the *mantra* for warding off evil spirits)

*Viṣṇu Sahasranāma* – for *Grāhārōgas* (for placating planetary evil influences) when the patient has *Abhiṣāṅgaja jwara* (fever due to mental shock).

**Jala śodhana:** Water purification is essential to prevent diseases: *Kataka*, *Gomedaka* (alamandine garnet), may be added to water for purification. This is to prevent water-borne diseases.

**Bali karma (Sacrifice of living or non-living matters):** For *graha Rōgas* like *skandha* (infectious organisms), *skandhapasmāra* (epileptic fits), *bali karma* is advised. Paste prepared out of *kumkuma*, red flower garlands from hibiscus (*Japā*), *sarṣapa* has to be kept in a *Palāśa* (*palasha*) leaf and must be placed in a place where four roads meet together in a *nirjana pradesha* (uninhabited) as a *bali* (sacrifice) to the respective *grahas* (Su.ut. 60/31).

**Kṛida bhoomi (playground):** The ground should be sprayed with water medicated with *vidanga*, *marīca*. These drugs are *krimighna* (antiprotozoal), and by this spray the ground becomes free from insects, protozoa and helminths.

The child will also avoid eating clay due to its bitter taste produced with the effect of the drugs (A.H. ut. 1/56).

**Janapadodhwamsajanya rōgas:** These are diseases which originate from a common source of polluted air, land, and water and become epidemic during some seasons, e.g. chicken pox, conjunctivitis, plague etc. Therefore special efforts must be made to keep the environment clean and use purified water only.

**Sankrāmaka rōgas (contagious diseases):** The diseases which are transmitted from one man to another by direct contact or through air or water are called *Sankrāmaka Rōgas*, e.g. *Kuṣṭha* (skin disease), *śoṣa* (tuberculosis), *jwara* (fever), *netrābhīṣyanda* (conjunctivitis). Those are described as *Aupasargika Rōga* in *Sushruta Samhitā*.

**Vidyalaya:** Properly illuminated and ventilated room should be provided in educational institutions.

**Kumāragara:** The place where neonate is kept under care is called *kumāragara* (nursery). *Vāstu* (dwelling place) *vidya* experts should construct buildings that will be well-lighted, protected from direct wind, protected from harm-causing animals and insects and with all facilities as per the need of baby. The nursery should be provided with the necessary articles for different seasons (Ch. Sa. 8/59-60). The place should be free from darkness, and admit free air only from outside (cross ventilation through windows). The place must be free from *Swapada* (dogs, cats, and other animals), *Damstrini* (fanged creatures or insects), *mūshika* (rat), patang (flies). Well-located place for kitchen water storage, grinding, lavatory, and bath are necessary. Thus the home of the child must be well-ventilated, clean and comfortable in all seasons (A.H.ut.1/32).

**Rakṣoghma drugs:** Various *rakṣogna* (bacteriostatic — drugs prevent organisms from multiplying, and thus protect) herbs such as *vaca*, *kuṣṭha*, *hingu*, *sarṣapa*, *laṣuna*, *guggulu* are kept in a packet and hung in the upper portion of the front door frame of *kumāragara*.

**Uṣṇodaka:** Boiled and cooled water is free from bacteria and is mentioned as *laghu* in Āyurvedic texts. The unboiled water may produce diarrhoea and other disorders. Thus use of boiled water prevents various water-borne diseases and is best for children (K. Khi.23).

**Mritika bhakshana:** This is a habit disorder where the child eats soil. Proper care, supervision and nutrition should be provided to avoid this condition. This is one cause for childhood anaemia and worm infestations.

## ***Vyādhikṣamatva (Immunity)***

*Vyādhikṣamatva* (Immunity) is innate in all human beings. *Vyādhikshamatva* is one's own power to protect one's body and develop self-resistance to fight against

multiple harmful factors e.g. *grahas* (bacterias, parasites, virus etc.). In *Āyurveda*, the basic factor responsible for this is described as ‘*Oja*’. It is described as having two types in the body (i) *para Oja* (ii) *apara Oja*. The amount of *para Oja* is 8 drops and it provides immunity to all the vital parts of body. *Apara Oja* is about half *anjali* (palm) approximately 100ml. which is scattered all over the body for protection. The place, appearance and power of action of *Oja* are difficult to explain and prove. But *Āyurveda* has described *Oja* under ten vital points of life or one’s survival (Ch.su. 29/3).

As far as immunisation is concerned all *Samhitās* have given emphasis for the use of *Suvarna* (gold). The description given in *Kashyapa Samhitā* is as follows: ‘The physician sitting with his head towards to the east, should grind the rod of gold on the grinding stone with little quantity of water. To this a little quantity of ghee and honey should be added, and then, the child is made to lick this linctus. This *Suvarna prāshana* increases intellect, strength, digestive power, length of life and is also spermatopoetic. This medicine is most sacred, auspicious and protects the body from *grahas*. If it is given for a month it makes one mentally able, and free from all diseases. If given for six months, he acquires the power of very quick understanding’ (K.su. lehyadhyaya Chap.18/25-28).

### ***Medhya Rasāyana* (Promotive)**

#### ***Intellect Promoting (Ch.Chi. 1:3/30-31)***

*Āyurveda* laid great emphasis on the promotion of intelligence of a child. That is why different intellect promoting drugs are described in classics to be administered in different forms to children for getting optimal efficacy. Four single-drug therapies are given below:

1. *Brahmi* (*Bacopa moniera*) leaf *swarasa* (juice)
2. *Yaṣṭimadhu* (*Glycyrrhiza glabra*) *cūrṇa* (stem powder)
3. *Gudūci* (*Tinospora cordifolia*) *swarasa* (stem juice)
4. *Śankhapuṣpi* (*Convolvulus pluricaulis*) *kalka* (paste of the plant)

All the drugs are described in *Charak Samhitā* for administration to all age groups. However, as it is difficult to administer in infants, it is better to give these drugs orally above the age of one year. *Swarasa* dose up to 1–6 years is 5 ml and 7–16 years is 10 ml. *Cūrṇa* dose up to 1–6 years is 1–2 g and 7–16 years is 3–5 g. *Kalka* dose up to 1–6 years is 5 g and 7–16 years is 10 g.

# NUTRITIONAL DISORDERS IN CHILDREN AS PER ĀYURVEDIC CLASSICS

Nutrition is an important part for the survival, growth and development of children. It also reduces infant mortality and helps to construct a healthy society. Āyurvedic texts describe this under *Apatarpanajanya Roga*. Though multiple factors are responsible for this including poverty and ignorance, long-term nutritional deprivation is a significant factor.

## **Karṣya**

If a child is given more of dry food items to eat, or less quantity of food, or unbalanced food, or goes without food and therefore is hungry for long periods of time everyday, cries a lot, has dry body surface (due to lack of oil massage) then the child will suffer from *Krishata* (emaciated body) (Ch.su. 21/11-12).

## **Treatment**

1. *Vṛṇhaṇa Cikitsā* (anabolic treatment by using more nutritional supplements)  
*Yoga:* *Suvarna bhasma* – 1 mg, *goghṛta* – 1 ml, *vaca* powder – 125 mg, *kusṭha* powder – 125 mg should all be mixed well and given twice daily. This amount of drug should be given once daily for a period of minimum one month for those children between 1–5 years of age.
2. *Aswagandha ghṛta*: 5 ml twice daily for children in the age group of 1–5 years.
3. *Lākṣadi taila*: *Lākṣa* is an exudation product from lac insect. Oil from *Lākṣa* is used for massage all over the body. (Please note that a *Vaidya* alone can prepare both *Aswagandha ghṛta* and *Lakshadi taila*.)

## **Phakka**

Slow mobility or lack of mobility (K.chi. 17/40)

*Kashyapa Samhitā* has described 3 types of disorders due to nutritional deficiency.

If a child is unable to walk after attainment of one year of age, the child might be suffering from *Phakka*. *Phakka* is the term used to describe weakness in movement due to nutritional deficiency in children. *Samhitā* described three types of Phakka as per the cause. Those are (i) *Kṣīraja phakka* (ii) *Garbhaja phakka* (iii) *Vyādhija phakka*.

- (i) **Kṣiraja phakka:** If child consumes breast milk which is vitiated with kapha doshā, that milk is bad for the child. That milk causes multiple diseases, due to which the body becomes emaciated and that condition is called '*Kṣiraja phakka*'.
- (ii) **Garbhaja phakka:** If the mother of the child becomes pregnant again while the first was still on breast milk, the body automatically prioritizes and the nutrition will go first to the new foetus for its proper growth and maturation in the uterus. Due to early cessation of breast milk in the mother the breast-fed older child suffers nutritional deprivation and the disease that occurs as a result is called '*Garbhaja phakka*'.
- (iii) **Vyādhija phakka:** The child suffers from nutritional deficit due to endogenous and exogenous causes such as long-term fever. The child's strength and lustre decreases. The child has emaciated hips and arms, protuberant abdomen, dry head with facial muscle wasting, yellowish eyes, horripilation (this is a condition where the child feels cold all over the body and the body hair bristles (goose bumps occur) for a short period of time). This term used in *Āyurvedic* text as *romāhārsha* (bristling of the hairs of the body) occurs; child appears just like a skeleton, lower extremities become weak and emaciated, and the child passes more faeces and urine. Due to weakness he crawls with hands and knees. Flies, insects, worms are attracted and come to him due to less activity and death results ultimately.

### **Management**

- (i) The child suffering from *phakka* should take *Kalyana Ghṛta* or *Satpala ghṛta* or *Amritā ghṛta* or *Brahmi ghṛta* for seven nights; afterwards cleansing measures like purgation should be done by giving milk treated with *Trivṛt*.
- (ii) Milk medicated with *Rāsnā*, *Madhuka*, *Punarnavā Akhuparnika*, *Eranda*, *Satapusā*, *Drākṣa*, *Pīlu* and *Trivṛt* should be given. (*Ksheerapaka vidhi*: Milk and the raw drugs and water are to be taken in the proportion of 1:4:4 and boiled using a medium flame till the quantity is reduced to 1 part of the original volume, i.e. same as the volume of milk taken originally.)
- (iii) *Ghṛta*, vegetable soup, meat soup, milk with *Śāli* (rice) and cereals should be given.
- (iv) *Rāja taila* should be prepared (this taila is prepared as per the *Taila paka* vidhi and only a vaidya can prepare this) and given for body massage daily.
- (v) Child should be encouraged to walk by pushing a small three-wheeled wooden frame (K.chi. 17).

### **Parigarbhika**

If mother became pregnant quickly after the 1<sup>st</sup> delivery the child suffers from *agnisāda*, *vamatu* (nausea), *tandrā* (drowsiness), *karsya* (emaciation), *aruci* (tastelessness or disgust for food) and *bhrama* (vertigo). Abdomen becomes distended.

‘*Parigarbhika*’ (A.S.ut 2/64) is nearly equivalent to the description of ‘*Garbhaja phakka*’; however, the latter is confined to physical movements. Treatment recommends appetiser drugs in the above conditions.

- (i) Prepare *kalka* with the drugs like *Pippali*, *Pippalimūla* (i.e. fruit and nodal roots of *pippali*), *katuki*, *Devadāru*, *Palāśā kṣara* and *vajra kṣara*, *vid* salt (black salt), *jeeraka*, unripened *Bilva* fruit and *Citrak*. Boil those kalkas with curd and prepare *kanji*; afterwards boil with cow’s ghee in *ghṛtapaka* methods. The preparation is described as the best drug to cure the disease due to *parigarbhika* (A.S.ut. 2/65).

*Note:* *Palāśā kṣara* is directly prepared from *palasa* plant, after burning and reducing it to ash as per *kṣara* preparation *vidhi*. This can be prepared only by *vaidyas*.

A combination of *Phitakāri* (Alum), *Navasara* (Sal Ammoniac), and *Soraka* (Salt Petre) called *Vajralṣāra* is prepared as per *kṣara* preparation *vidhi*. This can be prepared only by *vaidyas*

- (ii) Luke-warm milk with honey and sugar as per requirement should be given. Fried *cīrṇa* of *vidārikanda*, *yava*, *gōdhuma* and *pippali* should be given with ghee as diet (A.S.ut. 2/67). Nutritional disorders also include excessive feeding in Āyurveda. Some are given below:

## Quality of Āhāra

1. *Dravādhikatā* (more liquid)
2. *Dravalpata* (less liquid)
3. *Guru bhojana* (heavy diet)
4. *Ati rookṣa* (dry food)
5. *Ati snigdha* (excessively fatty)
6. *Ati madhura* (over sweet)
7. *Ati āmla* (over sour)

## Effect Produced

*Utklesa* (decreased digestive fire), *Pārswabhedā* (pain in flanks), *Atimootrata* (more urination), *Pratiśyāya* (common cold), *Atisāra* (diarrhoea). *Malabandha* (constipation), *Śoṣa* (dryness), *mootralpata* (scanty urination). *Ajeernā* (indigestion), *Āmatwam* (ingested food remains as it is). *Twak suṣkata* (dry skin). *Kapha* *vardhaka* (*doshik* vitiation), *medo sanchayakara* *Praśek* (fat deposition), *Hridgaurava* (dullness), *tandrā* (drowsiness), *Ālasya* (lethargy), *Ajeernā* (indigestion), *Aruchi* (anorexia), *Kapha*, *Meda*, *Kaṇṭharoga* (disease of the throat). *Balakara* (strength promoting), *Dridhakara* (strong), *Stoulya* (obese), *Prameha* (diabetes), diminution of *agni*. *Danta* (teeth), *netra* (eye), *kesha* (hair) *dourbalya*, *atyāgni* (increase digestive fire), *kapha pitta* *Vyādhi* (disease of *kapha* & *pitta*), *akāla vardhakya* (quick senile changes).

8. *Ati lavaṇa* (very salty) *Swarahānikara* (diminished voice), *trishnākara* (thirst), *glāni* (dullness), *śaithilya* (flaccidity), *dourbalya* (weak), *bāli palitam* (wrinkled skin), *Rakta pitta* (Vitamin C deficiency and anaemia).
9. *Ati Kaṭu* (excessively pungent) *Agni deepana* (increases appetite), *śuṣka* (dryness), *Karṣyakara* (emaciation), *shukrahara* decreases semen) dryness of *mukha* (face), *gudan* (anus), *asya* (oral cavity), *akṣipaka* (conjunctivitis). In children ‘*śukrahara*’ indicates disturbance of growth factor while in adults it is having anti-spermatogenic action.
10. *Ati Tikta* (excessively bitter) *Rooksata* in *dhātu*, decreases *poshaka* (nutritive) *kaphadhātu* (anabolic action of kapha), *Drishtināsaka*, *vāta prakopakara* (vitiates *vātadosha*), *Twak vikara vriddikaram* (increases skin allergy).
11. *Ati Kashāya* (very astringent) *Vāta dustikara*, *Kapha pitta hara*, *pakti* (creates suitable media for digestion), *mardava kara* (dryness all over the body).

### ***Vedana Parijñana as per Kaṣyapa Samhitā (K.su. 25)***

*Vedana Parijñana* means awareness or knowledge of suffering.

- The severity of the pain can be judged from the intensity of the cry.
- The part of the body that the child tries to touch constantly or the part that it tries to guard, or if touched, the intensity of cry increases means that part is affected.
- If the child has ‘headache’ the child moves head frequently, closes eyes, cries continuously and rejects feed.
- The child grinds teeth, has closed fist and takes breath with difficulty means the lungs are affected i.e. respiratory problems.
- Before onset of fever, the child yawns continuously with irritability, refuses feed, has excessive salivation and has hot face with cold feet.
- Rumbling noises in the abdomen, vomiting, flatulence, biting of mother’s breast with teeth, bending of legs indicate that the child is having abdominal problems.
- If the child is moribund and restless and does not pass urine, stool and flatus, it suggests that it is due to retention of stool and urine.

## VYĀDHIVIJJNĀNA

### Diseases and Their Treatment

Diseases of children can be classified into two divisions as per their clinical significance. (i) *Kṣīrapa kālina Vyādhi/Roga* (Neonate-infants) (ii) *Bāla Vyādhi/Roga* (paediatrics)

*Kaśyapa Samhitā* defines health first in the following terms and its opposite as ‘disease’. ‘One who has good appetite, good digestive power, normal bowel habit, pleasant psychic condition, sound sleep, normal strength, and growth and development is considered as disease free, but the opposite manifestations are the features of the diseased’ (K.Khi. 5/6-8).

As per Āyurvedic description clinical conditions develop in 6 stages to result in diseases. These are called ‘śatkriyākāla’.

**First stage – Sanchaya:** this stage accumulates doshā.

**Second stage – Prakopa:** aggravation of doshā.

**Third stage – Prasara:** spreading of doshā from sākha (limbs i.e. upper and lower) to koṣṭha (viscera) or vice versa.

**Fourth stage – Sthānasamsraya:** doshā remains in one place.

**Fifth stage – Vyakta:** signs and symptom of diseases became prominent.

**Sixth stage – Bheda:** division of disease occurs.

But in the neonatal period diseases may occur suddenly without passing through the clinical stage. Hence it is difficult to stop the disease process before ending in disease. An experienced physician based on his knowledge and skills can diagnose and manage a case early.

### **Prasava Kālina Vyādhi (Disease during Delivery)**

Some diseases occur during expulsion of foetus and it depends upon the time taken for each stage of delivery, obstructed labour, respiratory distress and aspiration conditions.

## ***Upaśīrṣaka***

If the fetal head is engaged in the vaginal tract for certain period during the process of delivery there will be diffuse, symmetrical swelling in the head of the newborn. *Āyurvedic* classics describe this condition as vitiation of *vāta doshā* in the head causing swelling of the scalp without change of colour and is called *Upaśīrṣaka* (A.H.ut. 23/21). Modern science describes this as ‘caput succedaneum’.

**Management:** Application of oil over the scalp (A.S.ut. 28/22). *Āyurvedic* paediatricians usually prefer to apply *Balā taila*, *Aswagandhabalālākshādi taila*, *Kshirabalā taila* for this.

**Diet:** Mother’s milk as per schedule/demand.

Without describing details classics have noted another condition, where if sepsis occurs it should be managed like *vidradhi* (abcess) i.e. incised and drained. This condition can be compared with ‘Cephalhematoma’.

## ***Ulbaka***

This disease occurs due to aspiration of fluids (amniotic fluid, meconium) by the fetus during delivery. The pathology of this disease is described that the fluid having *ślesma* (mucus) blocks at *kanṭha* pradesha and involves *hridaya* gradually. Child suffering from this shows the following symptoms: *baddhamuṣṭi* (closing of fist), *moha* (unconscious), *hridroga* (cardiac disease), *akshepaka* (seizures), *śvāsa* (asthma/dyspnoea), *kāṣa* (cough), *chhardi* (vomiting) and *jwara* (fever). This is called *Ulbaka* or *Āmbupurna Vyādhi* (A.S.ut. 2/91-92).

**Management:** *Snāna* (bath) and *abhyanga* (oil massage) is contra-indicated in this condition. *Śrōtaśodhana Cikitsā* (clearing of affected channels) should be provided. For *śrōtaśodhana*, frequent use of goats urine (internal) approximately 1ml. each time till the child becomes distress free. Drugs *śunthī*, *pippali*, *marīca*, *haritakī*, *vaca*, *haridrā* should be taken in equal quantity, *kalka* prepared, and administered 1 g orally with mother’s milk (A.S.ut. 2/92).

## ***Nābhīrōga***

Due to improper cutting and handling of umbilical cord different types of diseases occur. Those are *nābhīpāka* (umbilical cord suppuration), *nabhiśotha* (inflammation of the cord base), *nābhovranya* (ulcer over cordbase), *unnatanābhi* (umbilical polyp), *nābhikundala/nābhitundi* (umbilical hernia) and some others described in different *Āyurvedic Samhitās*. The most common umbilical disease found in rural practice is *nābhīpāka*. For its management two types of treatment are described i.e. medicated oil application and dusting with medicated powder over the affected peri-umbilical area. Medicated oil should be prepared with the *kalka* of *lodhra*,

*madhuka, priyangu, devadāru* and *haridrā* and *tila* oil in *tailapaka vidhi*. Powder for dusting should be prepared from the said drugs (A.S.ut 2/88).

### Visphōta

*Visphōta* is a childhood disease which manifests in the form of blisters. The pattern of blisters may be localised or all over the body but is always associated with fever (Su.ni. 13/16). The etiological factor responsible for this disease is diet. If lactating mother or child during early childhood consumes *Kashāya* and amla predominant diet with excessive *śuṣka* and *uṣṇa* diets since those are irritative in nature, there will be vitiation of *pitta-doshā* and *rakta-dhātu* occurs. As a result this disease manifests in the baby (M.N. 53/1-2).

**Management:** *Kvātha* or decoction should be prepared by boiling *patolā* leaf, *gudūci*, *bhīnimba*, *vāsā*, *nimba twak*, *parpataka*, *khadira* and *manjisthā* all in equal quantity with water to drug ratio of 8:1 till one part remains after boiling. This should be administered along with honey at a suitable temperature for oral or internal use for the child and dose as per Appendix 1A.

A *ghṛta* should be prepared with *patolā* leaf, nimba, *vāsā*, *haritakī*, *bibhītaka*, *āmalaki* and *gudūci* taken in equal quantity and adding cow's ghee 4 times the drugs. *Chritapaka vidhi* is followed for the preparation. Internal administration of this ghee is best for the management of *Visphōta* in children (Y.R.Vchi). *Lepa* (smearing) or external application of *rakta chandana* (red sandal wood), *nāgakeśara*, *jāti/Yūtika* (jasmine leaf), *śiriṣa* bark paste also help for reducing burning sensation (Y.R.Vchi).

### Rājika (Prickly Heat)

During summer season or hot climate because of excessive sweating painful macules called *pītikā* appears locally or all over body and are highly itchy. These are called *rājika*. Later *rājika* becomes filled with pus (A.H.ut. 31/12).

**Management:** Local application of paste made with *satavari*, *mustā*, *varā hikanda*, *vamsalocana*, *sahacara*, *dhānyaka*, *devadāru*, *sabjā* and *kuṣṭha* (A.H.chi. 18/11). All drugs should be ground with water to make a fine paste. It can be applied twice daily for pain relief and cure.

### Kāmalā (Jaundice)

*Kāmalā* is described in Āyurvedic texts as a complication of *pāndu*. If a child is suffering from *pāndu* (*hemolysis*) and takes more *pitta* vitiated diet he will incur *Kāmalā* within a short period of time (Ch.chi. 16/34). *Vagbhatta* stated that if a *pitta prakṛti* (body nature) child consumes more *paitik* (*pitta predominant*) diet he

will get *Kāmalā* (A.H.ni 13/17). *Pitta* vitiated diets are fried articles with spices, chilli, mustard oil, all sour articles, *kulatha* and many more described in different contexts. *Charak* has described two divisions of *Kamalā* (i) *Koṣṭhāṣṭa Kāmalā* and (ii) *Śākhāṣṭa Kāmalā* as per their place of dominancy. The signs and symptoms of *Kamalā* rogā described are yellowish discolouration of eye (conjunctiva), nail, face, stool and urine. Child has loss of appetite and is dull (K. su. 25/35).

The specific features described in a child that takes *pitta* vitiated milk from the mother suffering from *Kāmalā* are loose motions, thirst, increased body temperature and morbidity (M.N. Bc/2).

**Management:** Decoction made up of *haritakī*, *bibhītaka* and *āmalaki* two times daily in the recommended doses as per age can be given. *Gudūci* decoction or *dāruharidrā* decoction two times daily along with honey as vehicle can be given. Powder of *punarnavā* 1 g, *marīca* powder 125 mg with sugar as required once daily can be given. *Āyurvedic* drugs such as *Dhātri lauha*, *Shilajatu vaṭaka*, *Punarnavāsava*, *Arogya vardhini vati*, *Lokanāth rasa*, *Drāksādi ghṛta* also help cure the disease.

### **Kukunaka (Eye Disease)**

*Kukunaka* is one among the eye diseases described in the *Āyurvedic* classics for children. This disease is predominantly seen during the period when child is taking mother's milk. The etiological factor of this disease is vitiated mother's milk. If a lactating mother takes in excess sweet, fish, meat, *sāka* (edible leaves), *navanīta* (butter), *dadhi* (curd), *surasava* (wines), *kulattha* (horsegram), *kanji* (curry variety/gruel with vegetables), or excess salt and also has the bad habit of sleeping during day time, then they vitiate mother's milk with *tridoshā*. The child who takes that vitiated mother's milk will suffer from *kukunaka*. The affected part is the eyelid (K.khi. 13/3-8).

The clinical features of the disease are continuous tear flow, nose rubbing, irritable eyes and ears, inability to tolerate sunlight and swelling over eyelid.

**Management:** Decoction of tender leaves of *jambū*, *āmra* and *āmalaki* should be used for washing the eyes. Butter duly cooked with *haritakī*, *bibhītaka* and *āmalaki* or with *gudūci* can be used after proper filtering as eye drops. *Anjana* prepared with *śodhita Manashila* (detoxified realgar), *marīca* (pepper), *śankha* (conch shell), *rasānjanā* (extract of *dāruharidrā*) and *saindhav* salt pounded together and made into a paste with honey should be applied over the affected eye (Su.ut. 20/11-16).

### **Bālarōga Cikitsā**

Children are more vulnerable to different types of viral and bacterial infections. However, *Āyurvedic* classics have described *bhutabhisanga* and *bālagraha*

as the infective agents that cause the diseases. Usually *Swāsāvaha samsthāna rōga* (Respiratory Diseases) and *annavaha samsthāna rōga* (Diseases of the Digestive System) are predominantly seen in paediatric practices (K.khi. 13/9-11).

**Management:** The mother is advised to take *vamana* (*processed emesis in panchakarma*) and *virechana* (*processed purgatives in panchakarma*) therapy. Washing of the eyes with the decoction prepared from the leaves of *jambū*, *āmra*, *āmalaki*, *asmantaka* should be done. External application of *triphalā ghṛta*, *tulasī juice* with *yastimadhu Kvātha* can be given.

N.B:Panchakarma is a complex therapeutic procedure consisting of 5 different treatments to clean and purify the body by applying different drugs through alimentary canal, nostrils, skin etc.

### ***Swāsāvaha Samsthāna Rōga (Respiratory Diseases)***

*Swāsāvaha samsthāna rōga* means diseases related to lungs. The diseases may be acute or chronic but in all cases prompt management is needed to save the life of the child.

Acute Respiratory Infections (ARI) can be diagnosed if there is rapid breathing and child becomes restless.

One can follow the modern diagnostic criteria such as:

Birth to 2 months – respiratory rate >60/minute

2 months to 1 year – respiratory rate >50/minute

1 year to 5 years – respiratory rate >40/minute

If the children have respiratory rates more than the said rates it could be that the child is suffering from acute respiratory infections. Other features associated with respiratory problems, are running of nose, nasal congestion, cough, restlessness, rapid chest movements, dullness, anorexia and chest in-drawing (Ghai, 2000).

### ***Kāśa Cikitsā (cough)***

Charak *Samhitā* described that Kāśa may be *śuṣka* (dry cough) or with kapha (mucus) i.e productive cough due to difficulty in the movement of *vāyu* (air) in the *kanṭha Pradesha* (larynx) (Ch.chi. 18/8).

Kāśa is described as 5 types as per its appearance, those are (i) *vatik Kāśa*, (ii) *paitik Kāśa*, (iii) *kaphaja Kāśa*, (iv) *kṣayaja Kāśa* and (v) *kṣataja Kāśa*.

The prodromal feature of all varieties of kāśa are pain in the face and neck, itching in the throat, patient have a feeling that something is sticking at the pharynx, obstruction during eating.

## **Suggested Treatment for Kāśa**

Therapeutic treatment of the given age group is the same; however, there is variation in the dosage schedule.

### **Drug regimen**

#### **(i) Daśamūla Kvātha (B.R. Kāśarōga Cikitsā)**

This formulation has 10 roots, of which 5 are from big trees which are not allowed to be cut down to collect the roots due to environmental and biodiversity concerns. In recent times, the AYUSH Department in the Ministry of Health and Family Welfare, Government of India, has therefore permitted the use of stem bark instead of roots, in the case of trees, in the Pharmacopoeiae of ayurvedic drugs.

The 10 plants used are: *bilva*, *śyonaka*, *gambhāri*, *pātalā*, *agnimantha*, *sālaparnī*, *piśniparnī*, *bṛhati*, *kantakāri*, *gōkshura*.

*Preparation:* Equal quantities of fresh roots of all the 10 plants are to be taken. Crush them to a coarse powder and prepare its hot decoction by taking 8 times water and boiling for 1 hour. Add freshly prepared *pippali* powder with this during each administration.

*Dosage:* 1–5 drops of *Kvātha* with 10–30 mg of *pippali* powder for 1-month to 1-year old.

5–15 drops of *Kvātha* with 30–60 mg of *pippali* powder between 1 year and 3 years of age. This is not recommended for a child less than one month, as the neonate may not tolerate the taste.

Administer the *kvātha* with honey 2–3 times daily for 5–7 days as per severity.

#### **(ii) Vāsāka swarasa (B.R. Kāśarōga Cikitsā)**

*Vāsā swarasa* i.e. Fresh leaf juice of *Vāsā* should be prepared and administered with honey 2–3 times daily for 5–7 days as per severity.

*Dosage:* 1–3 drops of *swarasa* with 5 drops of honey to the child of 1month to 1-year old.

5–15 drops of *swarasa* with 10 drops of honey to the child of 1-year to 3-years old.

*Vehicle for administration:* Honey.

#### **(iii) Kāśantaka cūrṇa (B.R. Kāśarōga Cikitsā) (Please refer to Appendix 1C)**

*Haritakī*, *Bibhītaka*, *Amalāki*, *Śunthī*, *Pippali* and *Marīca* all to be taken in equal quantity, finely powdered and administered with honey 2–3 times daily for 5–7 days as per severity. This is a pungent powder. Since the powder is directly given with honey, the particle should be fine. Otherwise choking and coughing could result and will be painful; so fine powder should be given.

*Dosage:* 130 mg to 1 g of *cūrṇa* with 10 drops of honey to children between the ages of 1 month and 1-year, three times daily.

1–2 g of *cūrṇa* with 20 drops of honey to children in the age group of 1 year to 3 years, three times daily.

2–3 g for children from 4 to 16 years of age, thrice daily along with honey.

*Vehicle for administration:* Honey.

#### (iv) *Kaphanasaka avaleha* (A.H.chi. 3/45)

*Pippali, Pippalimula* (nodal roots of *pippali*), *Śunthī, Bibhītaka* all in equal quantities to be taken and fine powder prepared. Administer with honey 2–3 times daily for 5–7 days as per severity.

*Dosage:* 130 mg to 1 g of *cūrṇa* with 10 drops of honey to children in the age group of 1 month to 1 year, three times daily.

1 to 2 g of *cūrṇa* with 20 drops of honey to children from 1 year to 3 years, three times daily.

2 to 3 g for children from 4 to 16 years of age, three times daily.

*Vehicle for administration:* Honey.

#### (v) *Dādimādi yōgā* (A.H.chi. 3/51)

The peel of *Dādimā* or pomegranate fruit – 2 parts by weight, *Guda* (i.e. jaggery) which is more than one year old – 8 parts by weight, *Śunthī, Pippali* and *Marīca* – one part each by weight. Take all raw materials, dry them in the sun, grind into a fine powder and mix with jaggery and prepare *vatiṣ* (pills) properly and administer 2–3 times daily for 5–7 days as per severity.

*Dosage:* 30–130 mg of *vati* (pill) for 1 month to 1 year child, three times daily.

130–250 mg of *vati* to 1 year to 3 years old child, three times daily.

500 mg for children in the age group of 4 to 16 years, three times daily. Please note that the *vati* has to be ground into a fine powder before mixing with honey.

*Vehicle for administration:* Honey.

#### (vi) *Drākṣādi yōgā* (B.R. Bālārōga Cikitsā)

*Drākṣā, Durālabhā, Haritakī, Pippali* to be taken in equal quantity. Prepare fine powder and administer with honey and *ghṛta* (ghee) 2–3 times daily for 5–7 days as per severity.

*Dosage:* 130 mg to 1 g of *cūrṇa* with 5 drops of honey and 10 drops of *ghṛta* for 1 month to 1-year old child.

1–2 g of *cūrṇa* with 10 drops of honey and 20 drops of *ghṛta* for children between 1 year and 3 years of age.

*Vehicle for administration:* Mixture of honey and ghee.

### ***Specific treatment of doshik Kāśa***

#### **(A) *Kaphaja Kāśa***

1. In *Kaphaja Kāśa* the production of sputum is excessive and thick in nature.
2. *Vamana* therapy is indicated after *Ghṛtapanā* with *Kantakari* or *Dashamuladi Ghṛta*. This *ghṛta* administration is to induce vomiting.

#### **(B) *Paitika Kāśa***

1. Sputum with blood associated with foul smell is the cardinal symptom.
2. For management use *Agnidipak* (appetiser) e.g. *Śunthī* and *Pushtikarak* (nutritive) drugs, e.g. *bidarikanda, amla, draksha*, can be given.
3. *Pittasamak* drugs such as *Yaṣtimadhu cūrṇa* can be administered for mild laxative action and mucolytic action.
4. If haemoptysis (blood in vomit) is more, drugs such as *Laksha* (insect oxudation) can be used.

#### **(C) *Vātika Kāśa***

1. Use *Madhura* drugs (sweet taste) e.g. *yaṣtimadhu* and *Jivaniya* drugs e.g. *jīvanti, drāksa* and milk for internal administration helps in this condition.
3. *Māmsa rasa* (meat soup) with *Ghṛta* is beneficial as it is soothing to the throat. This is because *vātika kāśa* is a dry cough condition.

The other two varieties of *Kāśa*, like *kshayaja Kāśa* and *kshataja Kāśa* are rarely seen in the paediatric age group.

Common diet for *Kāśa* patients: Unpolished red rice, dal with greengram, kulattha, meat from forest animals, puffed paddy, ghee, honey, milk, dry grapes (raisins), warm water.

### ***Physical massage***

*Hasta sweda*, i.e. sudation for infant's sole, palm, chest and face can be given by the mother with her palms in coryza or rhinitis condition for relief from rhinorrhoea and pain. Sudation through *ghṛtalipta tāmbula patra* (betel leaf smeared with ghee prepared from cow's milk ghee) can be done over chest in all respiratory problems.

## **Dietary regimen**

Dietary regimen is known as *āhāra vidhi* in *Āyurveda Pathya* (good for health) – rice, wheat, green gram, goat's milk, ghee are *pathya*. *Usnodaka* (luke warm water) is always *pathya* (wholesome) for children.

## **Śwāsa (Bronchial asthma)**

Bronchial asthma is one among the common childhood problems occurring mostly due to parental ignorance in not giving treatment in time. This condition usually occurs in chronic respiratory problems. This problem occurs because of obstruction in the lung alveoli by mucus and sphutum.

The common etiological factor responsible for asthma are diets like dry food with excess cold water intake, cold food, cold air, diets prepared with horsegram, til and lotus stem, curd, unboiled cow's milk, meat of sea animals, inhalation of dust, pollens, feathers, smoke, restraining from natural urges like urination, motion, thirst, hunger, sleep, cough, yawning, vomiting also causes for this problem.

Five types of Śwāsa has been described in the classics as per its severity. Those are as follows.

### ***Mahaśwāsa***

1. Prolonged breathing.
2. Unconsciousness.
3. Feeble voice.
4. Threat to life and death may occur within 7 days.

### ***Urdhwaśwāsa***

1. Deep inspiration and prolonged expiration.
2. Upward rolling of eye balls.
3. Difficulty in breathing leading to unconsciousness.
4. Increased intracranial pressure.

### ***Chinnaśwāsa***

1. Deep breathing.
2. Cutting type of chest pain.
3. Unconsciousness.
4. Pallor.

### **Tamakaśwāsa**

1. Hurried (rapid) cardiac movements.
2. Continuous cough with discharge.
3. A little expectoration of sputum after prolonged coughing.

### **Kshudraśwāsa**

It is generally a condition that produces respiratory distress e.g. just after running a race. Therefore treatment is not required.

The common and most prevalent type of śwāsa found in paediatric practice is tamakaśwāsa which occurs due to inhalation of different allergens by the child. Some times this type of śwāsa occurs along with fever and is called ‘Pratamaka’ where the child may loose consciousness (Ch.Chi. 17).

### **Management:**

1. It is essential to avoid etiological allergy factors.
2. *Cūrṇa* made from *Haritaki*, *vid lavana* (black salt) and *Hingu* along with old cow’s ghee should be given with lukewarm water thrice daily with a dose of 1–3 g *cūrṇa* each time to children between one to five years of age.
2. Mustard oil (5 g) triturated with old jaggery (5 g) two times daily for 3 weeks to children between one to five years of age can be given for good results.
3. Some drugs which are available off the shelf in medical stores can also be given. Those are Śwāsakutha rasa, Śwāsakāṣṭa cintamani, Vāsāvalehā, Smṛgyādi *cūrṇa*, Srīṅgārabhra, Vāsārista, Agastya *Haritaki* can be given with their recommended dosage as per age and strength of patient.

### **Some Useful Drugs for Common Respiratory Problems**

Some groups of drugs described in Caraka *Samhitā* called as *vargas* are as follows:

**Kāśahara Varga:** Drugs belonging to this category consist of 10 different plants namely *Drākṣa*, *Haritaki*, Āmalaki, *Pippali*, *Dhanvayāsa*, *Karkaṭasringi*, *Kantakāri*, *varsābhu*, *Punarnavā* and *Bhūmyāmalaki*. These are the single plants that are themselves given as drugs to treat respiratory problems.

**Śwāsahara varga:** Drugs belonging to this category consist of 10 different plants namely *Śāti*, *Puṣkara*, *Amlavetasa*, *Ela*, *Hingu*, *Agaru*, *Tulasi*, *Bhūmyāmalaki*, *Jīvanti* and *Corapuṣpi*. These are the single plants that are themselves given as drugs to treat asthmatic problems.

**Hikkānigrahana Varga:** Drugs belonging to this category consist of 10 different plants namely *Śāti*, *Puṣkara*, *Badara bija* (seed of *Badara*), *Kanṭakāri*, *Bṛhati*, *Bandaka*, *Haritaki*, *Pippali*, *Dhanvayāsa* and *Karkaṭasringi*. These are the single plants that are themselves given as drugs to treat hiccup problems.

## **Common plants used in respiratory disorders**

Many single plants are used as Āyurvedic drugs for treating respiratory disorders apart from those that are used in drug preparations. They are also easily available locally and are very effective. *Tulasi* (leaf), *Kantakāri* (whole plant), *Yastimadhu* (stem), *Pippali* (fruit), *Vāsā* (leaf) are some common herbs/plants that are used in various preparations for respiratory disorders.

### **1. Tulasi: Ocimum sanctum (DGV. P-II)**

***Gunakarma:*** *Rasa* (taste): *Kaṭu* (pungent), *Tikta* (bitter)

***Guṇa:*** *Laghu* (light), *Rukṣa* (dry)

***Vipāka*** (metabolic action of the drug): *Kaṭu* (pungent)

***Virya*** (action potential): *Uṣṇa*

***Dosa Karma:*** *Kaphavātashamaka* (pacifies *kapha* and *vāta doshā*)

*Tulasi* pacifies *kapha* and *vāta doshā* which is the root cause of *kāsa* problems. There are two varieties of *Tulasi* plant namely *Sweta* and *Krishna*. Of these, *Krishna Tulasi*, the leaves and stem of which are tinged with black, is considered to be of best quality by some senior clinicians, though some Ayurvedic physicians hold that both are the same. The juice of *Tulasi* leaves is used as an expectorant in *kasa* and *swasa* conditions. One of its best use in paediatric practice is in childhood hepatitis with enlarged liver. Since it pacifies *kapha Dosha* and vitiates *Pitta*, the patient may have mild sweating when the juice is administered. When given regularly, it will remove bad odour from the oral cavity of those who have the problem.

### **2. Kantakāri: Solanum xanthocarpum**

***Gunakarma:*** *Rasa* (taste): *Tikta* (bitter), *Kaṭu* (pungent)

***Guṇa:*** *Laghu* (light), *Rukṣa* (dry)

***Vipāka*** (metabolic action of the drug): *Kaṭu* (pungent)

***Virya*** (action potential): *Uṣṇa* (heat)

***Dosā Karma:*** *Kaphavātashamaka* (pacifies *kapha* and *vāta doshā*)

*Kantakāri* is the best drug in case of *Vātaja Kāśa* (dry cough). It acts as an expectorant and demulcent. It stops hiccups and is also useful in asthma, chronic rhinitis, cough, pneumonia and hoarseness of voice. Powdered *Kantakāri* administered with *Madhu* (honey) is very beneficial to children suffering with chronic bronchitis.

### **3. Pippali: Piper longum**

***Gunakarma:*** *Rasa* (taste): *Kaṭu* (pungent)

***Guṇa:*** *Laghu* (light), *Snigdha* (soothing), *Teekṣṇa* (sharp)

*Vipāka* (metabolic action of the drug): *Madhura* (sweet)

*Virya* (action potential): *Anuṣṇa* (neither hot nor cold)

*Dōsha Karma*: *Kaphavātashamaka* (pacifies kapha and vāta doshā)

Pippali is an excellent drug in case of cough caused by *Kapha Doshā*. It acts as an expectorant and prevents the production of *Malakapha* and purifies the *Dhātu* as it is a *Rasāyana* (vitaliser). It is used as a tonic in case of immune deficiency conditions and it rejuvenates *Rakta Dhātu* by which it strengthens the lungs. It can also be used in *Tamaka Śwāsa* (bronchial asthma).

#### 4. *Yaśtimadhu*: Glycyrrhiza glabra (DGV. P-II)

**Guṇakarma:** *Rasa* (taste): *Madhura* (*Sweet*)

*Guṇa*: *Guru* (*heavy*), *Snigdha* (*soothing*)

*Vipāka* (metabolic action of the drug): *Madhura* (*Sweet*)

*Virya* (action potential): *Seeta* (*cool*)

*Doshā Karma*: *Vātapittashamaka* (pacifies pitta and vāta doshā)

*Yaśtimadhu* acts as a demulcent due to its *Snigdha Guṇa* and *Madhura rasa* & *Vipāka*; hence it can be used in *Swarabheda* (hoarseness of voice) and *Kāśa*. *Yaśtimadhu ksheerapaka* is effective in case of *swarabheda*.

It is used in cough, asthma and other respiratory disorders due to its expectorant property.

#### 5. *Vāsā*: Adhatoda vasica (DGV. P-II)

**Guṇakarma:** *Rasa* (taste): *Tikta* (*bitter*), *Kashāya* (*astringent*)

*Guṇa*: *Laghu* (*light*), *Rukṣa* (*dry*)

*Vipāka* (metabolic action of the drug): *Kaṭu* (*pungent*)

*Virya* (action potential): *Śeeta* (*cool*)

*Doshā Karma*: *Kaphapittashamaka* (pacifies kapha and pitta)

*Vāsā* liquefies the *kapha* which gets expectorated. It acts as bronchodilator and therefore helps in easy breathing. *Vāsā* may be used in case of asthma, breathlessness and throat infection.

### **Methods for Prevention of Respiratory Disorders**

#### **1. Healthy Lifestyle**

The best way to prevent pneumonia is to take measures to avoid coming in contact with the organisms that cause the respiratory infections, including colds and flus.

Everyone should always wash his or her hands before eating and after visiting the lavatory. Ordinary soap is sufficient; antibacterial soaps add little protection, particularly against viruses. Nasal secretions containing Respiratory Sensitil Virus can remain infectious for several hours. Touching inanimate objects, such as subway poles or toilet seats, does not spread flu and colds.

## 2. Daily Habits

Daily diet should include foods such as fresh, dark-coloured fruits and vegetables like tomato, brinjal, bottle-gourd, lady's finger, beans, carrot and fruits like pomegranate, pear, apple, papaya and grapes. Supplements of vitamin C and E may be helpful. Interestingly, maintaining an active social lifestyle like study, playing and sleeping, food intake at regular hours help to prevent colds. In Āyurveda the following is described in the context of *Dinachārya* (daily regimen) for maintaining good health.

Awakening from bed – early morning at brahmamuhūrta (between 3:30 a.m. ans 5:30 a.m).

Mukha prakshalana – wash one's face thrice with normal water after awakening from bed.

Brushing of teeth – with Ayurved recommended gum powder like Dasanasamskārā *cūrṇa*.

Snacks and meals – as per family and society in respective area i.e. *Āyurveda* prescribes different food for the different communities and regions (geographical).

Playing – Child should be provided multiple coloured (natural pigments) toys for playing and playground must be out of danger. Ugly looking toys are likely to frighten the child and toys likely to cause choking hazards and have cutting edges should be avoided.

Bathing – *Āyurveda* prescribes that bathing liquids for early childhood should be slightly warm (which must be tolerable to the child) and normal cold water for all children and adults for all seasons. However, one may change as per his *sātmya* (agreeable to natural constitution).

Sleeping – sleeping up to 9 hours during nights is best for all children for the promotion of physical and mental health i.e. three *prahars* (each *prahar* is 3 hours). Day time sleeping is allowed only in the summer season.

## 3. DO'S & DON'TS: Advice for All

### DO'S

- Cover the head with thick, warm cloth.
- Foods – Have foods having *Laghu, Snigdha* properties.

- Not too liquid in nature.
- *Āmla* (sour), *Lavaṇa* (salty) dominant diets.
- *Jangala māmsa*, jaggery, milk.
- *Canaka* (Bengal gram), *Trikāṭu* (*sūnhi*, *pippali* and *marīcā*), *Yava* (barley variety), *Godhuma* (wheat), *Dadhi* (curd), *Dādimā*, *Haritakī*.
- *Yusha* (soup) – soup of *Bālamūla* (root of plant *Bālā*) or *Kulattha*.
- Luke warm *Dashamula Paniya* (decoction) made of *bilva*, *śyonaka*, *gambhāri*, *pātalā*, *agnimantha*, *sālaparnī*, *prśniparnī*, *bṛhati*, *kanṭakāri*, and *gōkṣura*.
- *Snehana* (oleation).
- *Śwedana* (sudation).
- *Vamana* (processed emesis).
- *Nasya* (nasal instillation).
- *Gandusha* (gargling).

### **DON'TS**

- Strictly avoid windy places.
- Intake of very cold water, exposure to cold environment.
- Anger, stress, sorrow — this means one has to prevent and to protect the child from such emotions.
- Excess intake of dry foods and fried items.
- Suppression of urges (there are 13 types of natural urges described in *Āyurvedic* texts for all age groups like passing of flatus, motion, urination, spitting, thirst, hunger, sleeping, coughing, rest after hard labour, respiration, yawning, tear, vomiting, ejaculation of semen in males).

Every individual should be educated regarding the ideal lifestyle advocated by *Āyurveda* to achieve the goal of health for all.

### ***Bālatisāra* (Diarrhoea)**

Diarrhoea is a common term which creates fear among the people as the chance of death is more due to improper management and dehydration. This disorder is common in infants and toddlers due to various factors such as diets during weaning period, dentitional diarrhoea, rota viral diarrhoea, fungal diarrhoea, diarrhoea due to bacterial infections. *Āyurveda* has described this disorder in the context of *Kṣīrālasaka*.

### ***Kṣīrālasaka***

This is a disease due to breast milk being affected by tridoshā. The child has watery, loose stools with foetid smell, stool with undigested food; stool is of varied colour, frothy, part solid and part liquid. Child is irritable, has severe abdominal pain, urine

is yellowish or white and thick, there is fever, thirst, loss of taste, vomiting, retching, yawning, pain in the body, tossing of limbs and restlessness, tremors, giddiness, rhinitis, conjunctivitis and stomatitis. It is very difficult to cure (A.H.ut. 2/20-22).

As per severity diarrhoea has been divided into two categories:

1. Acute – loose motion less than 14 days duration.
2. Chronic – 3 attacks of diarrhoea in last 3 months.

(Please note that loose stool or semisolid stool golden-yellow in colour, cheese-like for a baby who is taking exclusively mothers milk 10 times/day is normal if child is active.)

**Toddlers' diarrhoea** – This is a pattern of diarrhoea which always contains mucous in stool with foul smell.

**Treatment criteria:** A child, who is not lethargic, and is playing well, not so irritable but crying during passing of stools, can be treated with home remedies.

**Referral criteria:** Very irritable child, crying continuously, with dry tongue, passing watery stool with smell, scanty urination should be referred to hospitals after ORS (Oral Rehydration Solution) therapy.

### ***Causes of Diarrhoea in 6 months to 1 year***

- Vitamin A deficiency.
- Malnutrition.
- Artificial feeding e.g. bottle feeding.
- Allergy to cow's milk.
- Infections (viral, bacterial, fungal).
- Food or solutions with high sugar content.

### ***Management***

Rice water with salt.

Lassi (butter milk) with salt.

Lemon water with salt.

Tender coconut water.

### ***Homemade Oral Rehydration Solution (ORS)***

Preparation of homemade ORS:

1. Boiled and cooled water  $\frac{1}{2}$  litre, 4 tsp. sugar, and 1 tsp. salt should be mixed to prepare the solution (tsp. - teaspoonful).
2. Boiled and cooled water  $\frac{1}{2}$  litre, 4 tsp. of sugar, 2 finger-pinch salt, and 10 drops of lemon juice should all be mixed to prepare the solution.

Cow's milk diarrhoea – If parent finds that the child who was apparently well before administration of cow's milk but became sick and the problem started only after administration of cow's milk, then the only choice is removal of cow's milk from the child's diet which will cure the condition.

ORS is contraindicated in certain conditions such as persistent vomiting i.e. more than 3 vomiting phase per hour, abdominal distension, severe dehydration, shock, and altered consciousness is the acute stage where one should not give any liquids to the child because of its dangerous effects. In this condition immediate hospitalization and parenteral fluids with drugs is the only option.

### ***Medicines for the management of childhood diarrhoea***

#### ***Bālachaturbhadra cūrṇa (B.R. B.chi. 40)***

*Mustā, Ativiṣā, Pippali, Karkaṭaṣṇī* all should be taken in equal quantities, dried properly in the sun and ground to get fine powder. This powder should be administered in cases of loose motion.

*Dosage:* 250 mg in infants and 500 mg in toddlers to be administered 2–3 times per day for 5–7 days.

*Anupāna* (vehicle): For infants to be administered with mother's milk and for toddlers with water/milk.

#### ***2. Bālabilwādi yōga: (A.H. chi. 9/35-36)***

*Bālabilva* (dry unripened fruit of bilva), *guda, pippali, śunthī* all in equal quantities are taken, powdered and mixed with *tila taila* (til oil) as per requirement to make semisolid preparation. This *yōga* is described for the management of *Pravāhikā* (diarrhoea which can be compared with toddlers' diarrhoea).

*Dosage:* 500 mg of the powder for toddlers to be administered 2–3 times per day for 5–7 days.

*Anupāna:* Luke warm water.

#### ***3. Sauvarchalādi cūrṇa (B.R. Bālarōga Cikitsā)***

This is indicated in *kaphātisāra cikitsā* (diarrhoea due to *kapha doshā*)

*Sauvarcalā* (black salt), *Vaca, Śunthī, Marīca, Pippali, śodita Hingu* (purified by frying it in cow's ghee), *Ativiṣā* (this is a species of Aconite, but it is non-poisonous and hence does not require Śodhana), *Haritakī* all should be taken in equal quantities, dried

properly in sunshine and powdered. This powder should be administered with luke warm water in cases of *Kaphatisāra*.

*Dosage:* 500 mg for toddlers to be administered 2–3 times per day for 5–7 days.

*Anupāna:* This powder should be administered with luke warm water.

#### 4. Manjistādi yōga (Y.R. Bālarōga Cikitsā)

A *cūrṇa* made up of *Manjisthā*, *Dhātakī*, *Lodhra*, *Sārivā* and *Lajjālu* all should be taken in equal quantities, dried properly in the sun and finely powdered. This powder is to be used in all varieties of diarrhoea and it works better in *pittatisāra*.

*Anupāna:* This powder should be administered with honey.

*Dosage:* 250 mg for infants and 500 mg for toddlers (approximate dose) administered 2–3 times per day for 3–5 days.

Some formulations for *Bālatisāra* (loose motion in children) are being used by some Vaidyas resulting from their own experience. But there is no direct classical reference for the preparations.

*Laja* powder with *Bilvamoola kwātha* + *Sharkara*

*Indrayava curna* + Honey

*Āmrātaka* + *Jambū* + *Āmra powder* + Honey

*Bilvaphalamajja* + *Āmra Kvātha*

*Śuntī* + *Mustā* + *Bālaka* + *Indrayava Kvātha*

#### Common plants used in diarrhoeal disorders

Many single plants are used as Āyurvedic drugs for treating diarrhoeal disorders apart from those that are used in drug preparations. They are also easily available locally and are very effective. The common herbs/plants that are used in various preparations for diarrhoeal disorders are as follows:

##### 1. Kutaja: Holarrhena antidysenterica

**Guṇakarma:** *Rasa* (taste): *Tikta* (bitter), *Kaṣāya* (astringent)

**Guṇa:** *Laghu* (light), *Rukṣa* (dry)

**Vipāka:** *Kaṭu* (pungent)

**Viryā** (action potential): *Śeta*

**Dōsha Karma:** *Kaphapitashamaka*, dipana, samgrāhi

Kutaja is having antidiarrhoeal actions. It also works to reduce the intestinal motility and pain in dysentery. This is a very popular anti-diarrhoeal drug.

## 2. Dādima: Punica granatum

**Guṇakarma:** *Rasa* (taste): *kaṣāya, āmla*

**Guṇa:** *Laghu, snigdha*

**Vipāka:** *Katu*

**Virya** (action potential): *anuṣṭa*

**Doshā Karma:** *vātakaphahara, vranaropaka, samgrāhi*

Dādima is having anti-diarrhoeal actions. It also works to reduce the water volume and decreases gut motility. Its rind is used as anti-diarrhoeal drug. One has to dry it and prepare churna for use. Also the swaras of the fruit of Dādima has anti-diarrhoeal actions.

### ***Diet for all varieties of diarrhoea***

Arrowroot powder gruel, läja manda (this is puffed paddy added with water/milk and little bit of salt, sago, and buttermilk) for toddlers.

### ***Malavarodha (Constipation)***

Malavarodha (constipation) indicates a condition when one is not able to pass motion regularly and freely. This unpleasant bowel habit causes daily stress to the sufferers. Constipation is a common problem in children. Usually this problem occurs due to improper dietary habits, amoebic dysentery and worm infestations. The person suffering from constipation are usually in a gloomy mood, pass more flatus and hard stools.

When a child is not able to pass motion for 2 days and suffers from some abdominal pain, it is better to consult a physician to rule out sub-acute intestinal obstruction which is very common in round worm infestation in children.

### ***Management***

Parents should be advised to give adequate fluids to their child. Fruits like grapes, orange, apple, pineapple regulates bowel habit; green vegetables like ladies fingers, tomato, carrot, brinjal as well as leafy vegetables help. All animal foods can create constipation.

Some drug preparations are available in the texts but those have no ‘Samhitā’ references.

1. Take fresh *Haritaki* 100 g and prepare its kalka (paste), add *Śaīndhava lavana* (black salt) 5 g and use after proper mixing. Give 5 g daily with luke warm water for children from 2 to 5 years of age.

2. Drākṣa 10 g with one cup of milk should be boiled for 10 minutes and filtered. This preparation should be regularly given once daily to avoid constipation during childhood i.e. 2 to 12 years of age.
3. *Triphala kwātha – Haritaki* (1 part - 5 g), *Bibhītaka* (1 part – 5 g), and *Āmalāki* (1 part – 5 g) all should be taken without seeds; add water 4 times (60 g) and then boil to make it 1 part of kaśāya, i.e. 15 ml. Administer 5 ml once daily from 1 to 5 years of age, 10 ml from 6 to 10 years of age and 15 ml for older children.

### ***Common plants used in constipation***

Many single plants are used as Āyurvedic drugs for treating constipation apart from those that are used in drug preparations. They are also easily available locally and are very effective. The common herb/plant used in various preparations for constipation are as follows:

1. *Haritaki*: Terminalia chebula

***Guṇakarma:*** *Rasa* (taste): *tikta, madhura, amla, kaṭu, with kashāya predominance*

***Guṇa:*** *Laghu* (light), *Ruksa* (dry)

***Vipāka:*** *madhura*

***Virya*** (action potential): *Uṣṇa*

***Doshā Karma:*** *Kaphapitashamaka, Anulomaka*

This drug is very useful for its laxative action and well used for children who are constipated.

2. *Āragvadha (Amalatās)*: Cassia fistula

***Guṇakarma:*** *Rasa* (taste): *tikta, madhura*

***Guṇa:*** *Laghu* (light), *Ruksa* (dry)

***Vipāka:*** *madhura*

***Virya*** (action potential): *Seta*

***Doshā Karma:*** *pitashamaka, Anulomaka*

This drug is very useful for its laxative action and safe to use for children who are with constipated bowel habits.

### ***Chhardi (vomiting)***

*Chhardi* (vomiting) is of two types i.e. (i) Nausea – a child who feels the sensation of vomiting and (ii) Vomiting – forceful expulsion of stomach contents through the mouth.

**Management protocol:** If nausea or vomiting occurs due to over feeding, indigestion, gastritis, worm infestation, travel sickness, G.I (gastrointestinal) infections these can be managed very well at the village level.

**Referral conditions:** Vomiting due to acute infections when child is lethargic; sub-acute intestinal obstruction where a child will not pass stool or flatus; fever present and may be with headache when child may lose consciousness; acute diarrhoea.

### **Treatment**

1. Seed of mango (*aam guṭhli*), *lāja* (puffed paddy) and *śaīndhav* (black salt) all should be taken in equal quantities, dried properly in sunshine and finely powdered. 2–5 g of the powder should be administered with honey from 1 to 5 years of age (B.R. B.chi).
2. *Karkaṭaṣṭingi*, *mustā*, *ativiṣā* all should be taken in equal quantities, powdered and kept in an airtight jar. Whenever needed it is administered with honey (B.R. B.chi).  
*Dosage:* 250 mg for infants and 500 mg for toddlers (approximate dose), can be administered 2–3 times per day.
3. *Śunthī*, *Pippali*, *Rasānjan*, *Shalidhanya* (red rice var) *Lāja*, and *Karkaṭaṣṭingi* all should be taken in equal quantities, dried properly in the sun and powdered. 2–5 g of this powder should be administered with honey to children from 1 to 5 years of age (B.R. B.chi).

### **Charmarōga (Skin diseases in children)**

Skin diseases are common in children due to different factors such as diet, food allergens, environmental factors, coming in contact with persons with skin diseases, and use of dirty clothes.

### **Etiological factors**

Excessive intake of allergen-producing food items is also considered as a causative factor of skin diseases in children (up to 16 years of age). These are:

1. *Atidrava āhāra sevana* (excessive liquid diet intake); 2. *Atiāmla āhāra sevana* (excessive sour diet intake); 3. *Atisnidga* and *guru āhāra* (excessive fatty food and heavy diet intake); 4. *Ati dadhī sevana* (excessive curd intake); 5. Excessive intake of *lavāna* (salty food); *matsya* (fish) and *navānna* (newly harvested rice); 6. Excessive intake of *māsha* (black gram), *mūlaka* (radish), *pīsatanna* (diet variety), *tila* (til), *ksheera* (milk) and *guda* (jaggery); 7. Excessive intake of *madhu* (honey), *kākamāci*, *lakūca* (*Artocarpus lakoocha*); 8. *phanīta* (fermented liquid - wine prepared from *Madhuka indica*) and *matsya* (fish); 9. Intake of *dadhī*, *Badari*, *kulattha* (horse gram) and *atasi*

(linseed) excessively; 10. Excessive intake of *grāmya oudaka anupa* (*animals living near water bodies*) *māmsa* and *haritaśāka* (green leafy vegetables) (Ch.ni. 5/6).

Infants and toddlers are more vulnerable to atopic dermatitis and scabies especially in villages due to their unhygienic situations viz. dirty clothes, dirty beds and bed sheets, contaminated food materials, and contaminated water.

A disease ‘*Charmadala*’ is described in *Kashyap Samhitā* which emphasises skin diseases of infants and its chronicity afterwards.

In children who are fed on breast milk, vitiated breast milk is the exciting cause. In children who are fed on breast milk and rice, the vitiated condition of breast milk and incompatible and unsuitable diet are the causes. Very delicate children due to unstable dhātus, rubbing with clothes, excessive holding in lap, due to hot air, heat of sunrays, perspiration, poultice, contact with one’s own waste products, urine and faeces, uncleanliness, compression by hands, over rubbing and familial tendency causes this *charmadala* i.e. dermatitis develops over face, neck, hand, feet, in between testicles, sacral region and joints.

### ***Classification***

*Charmadala* are of four varieties: (i) *vātik*, (ii) *paitik*, (iii) *kaphaja* and (iv) *sannipātika*.

#### ***(i) Symptoms of Vātik charmadala***

Child suffering from *vātik* *charmadala* has rounded patches associated with itching, cracking, roughness and of blackish appearance over the body, gets diarrhoea and child is seized with convulsion, dryness of mouth and horripilation (goose bumps). This can be compared with acute dermatitis.

#### ***(ii) Symptoms of Paitik charmadala***

Child suffering from *Paitik* *charmadala* has round patches black and yellow in colour, dry in appearance, hot, filled with abnormalities of putrifaction; these rashes causes cracking of skin and flesh resembling like the burnt leaf of lotus. Child has green-coloured loose motion, severe anal suppuration associated with burning sensation, dryness of mouth, vomiting, yellow coloured face. This can be compared with allergic dermatitis.

#### ***(iii) Symptoms of Kaphaja charmadala***

Child suffering from *Kaphaja* *charmadala* has round patches all over the body. Which are cold, unctuous (having a greasy or soapy or oily feeling), dense, white in colour and multiple in number, and do not cause too much pain. They are mustard sized tubercles, get suppurated quite late, are associated with itching and pricking pain; other features are coryza, anorexia, heaviness of body part, cough,

breathing difficulty, child vomits mucus and is seized with drowsiness. This can be compared with allergic dermatitis.

#### **(iv) Symptoms of *Sannipātika charmadala***

As this is due to vitiation of tridoshā, hence mixed feature appears; rounded patches of black or red lustre with appearance like burnt jaggery, which get suppurated early, foul smelling, cracked with putrid discharge. Child weeps, exhibits restlessness and aversion to breast milk. Child passes black or pink-coloured loose stools. This is said to be incurable.

#### **Management**

- (i) ***Vatik charmadala treatment:*** When child is taking mother's milk, for purification of breast milk, decoction of *vidārikanda*, *eranda*, *bṛhati*, *gōkshura*, *punarnavā*, *pṛśniparni* should be given to the mother for drinking. Paste of *tila* mixed with old *ghṛta* should be anointed over breast. Body of the child should be washed with *rāsna kvāṭha* or warm water. Oil prepared with *bāla* and *atibalā*, *bilvā* root, *suradāru*, and pulp of *āmra* (mango) should be massaged over the affected part of the child.
- (ii) ***Paitik charmadala treatment:*** The mother after being anointed with oil and bath should be given emetic and purgative medicines. For vomiting she should be given *pippali* paste and neem water, and for purgative action decoction of *āragwadha phala majja* with milk should be given. For internal administration give ghee prepared with *madhuka*, *candan*, *devadāru*, *mustā*, *manjistā* and *rasānjan* (*dāruharidrā* extract). For quick healing of wound, dusting should be done with fine powder of *lodhra*, *yāstimadhu*, *dāruharidrā*, *āmalaki*, *twak* and *tejpatra* should be smeared over the body of the child. The powder should be dusted over the wound and also smeared all over the body. In cases where a child is constipated he may be given mild laxatives with *haritaki cūrṇa*.
- (iii) ***Khaphaja charmadala treatment:*** The mother should be treated first with emetic medicines. For emetics she should be given decoction of *nimbu* (lemon) and *madanphala* with *saindhav* salt. For the child external application of paste made up of *triphalā* with *dāruharidrā* or *haridrā* with *rasanjan* over the affected lesions is prescribed (Ref. of *Charmadala*: K.khi. 15).

#### ***Krimirōga (Helminthiasis) (Su.ut. 54)***

Helminthiasis is an extremely common childhood ailment mostly seen in tropical and sub-tropical regions. Emergency arises due to acute allergy or mechanical obstruction produced by one or more parasites. It refers to intestinal worms.

|                     |                         |
|---------------------|-------------------------|
| Mode of infestation | - Food, drink, fingers. |
| Part of entry       | - Alimentary canal      |

- Migration of larvae – Through the lungs  
 Site of localisation – Small intestine

Fever, pallor of the skin, abdominal pain, pain in the chest region, dullness, vertigo, loss of appetite, loose motion are the general features associated with worm infestation.

### **Treatment**

*Apakarṣana* – manual expulsion of worms by using wet cotton swabs.

*Prakrutivighāta* – Advocate the diet and drugs by which the worm cannot survive and is expelled out from the anus.

*Nidāna paribarjan* – Avoid the diet and regimen (sweet and oily foods) which can increase worm infestation.

### **Drugs**

1. *Mustā, vidanga, pippali, Ākhuparnī, kampillaka, dādima, bilva* all to be taken in equal quantities, powdered and administered 2–5 g with honey from 1 to 5 years of age twice daily (R.K.T.\217).
2. *Vidanga, puṣkara, śigrū, ākhuparnī* all to be taken in equal quantities, powdered and 2–5 g administered with honey from 1 to 5 years of age twice daily (R.K.T\153).
3. Fresh *pārasika yavāni* should be taken as fine powder, 2–5 g administered with Jaggery of equivalent weight of that powder with luke warm water from 2 to 10 years of age (B.R. 11/1).
4. *Palāśa bija* (seed of *Palāśa*), *indrayava, vidanga, nimba, bhūnimba, bilva* all to be taken in equal quantities, powdered and administered, 2–5 g with Jaggery (equivalent weight of that powder) from 2 to 10 years of age with luke warm water (B.R. 11/12).

Any one from the above preparations can be given as per availability to treat worm infestation.

### **Common Plants Used in Worm Infestation**

Many single plants are used for treating Krimirōga (worm infestation) apart from those that are used in drug preparations. They are also easily available locally and are very effective. The common herbs/plants used in various preparations for krimi are as follows:

1. *Kampillaka*: *Mallotus philippinensis*

*Guṇakarma*: *Rasa* (taste): *Kaṭu*

*Guṇa*: *Laghu, Rukṣa, tikṣṇa*

*Vipāka: katu*

*Viryā (action potential): Uṣṇa*

*Dōsha Karma: virechana, krimighna, vrāṇāpaha*

Seeds of this plant powdered and administered is very useful for the management of worm infestations. It works better against hook worms.

## 2. *Vidanga: Embelia ribes*

*Guṇakarma: Rasa (taste): tikta, kaṭu*

*Guṇa: Laghu, Rukṣa, tikṣṇa*

*Vipāka: kaṭu*

*Viryā (action potential): Uṣṇa*

*Doshā Karma: krimighna, dīpana, Anulomaka*

Seeds of this plant powdered and administered is very useful for the management of all worm infestations.

## ***Jwara (Fever)***

A lot of importance and emphasis has been given to the Chapter on ‘Jwara’ in all Āyurvedic *Samhitās* (A.H.ni. 2/1). (An interesting story is found regarding how human beings get ‘jwara’ in some texts. It is said that *jwara* came to earth as a result of the anger of lord *Shiva* against *Daksha Prajāpati*. This is, of course, the belief of our ancestors.)

### ***Prodromal symptom of Jwara***

Irritability, laziness, giddiness, secretion of tear from eyes, weakness, yawning, anorexia, and pain all over the body are all forerunners of fever (A.H.ni. 2/6-9).

### ***Fever in infants and toddlers***

During the onset of fever the child flexes the body parts repeatedly, yawns, coughs frequently and suddenly clings to the wet nurse, does not like to breast feed, has salivation, heat, discolouration, excessive warmth in forehead, anorexia and coldness of feet (K.su. 25/12-13).

### ***Management of fever***

#### **1. *Ṣadāṅgapāniya* (B.R./Jwara Cikitsā)**

*Uśīra, raktachandana, sugandhabāla, drākṣa, āmalaki* and *parpataka* — all to be taken in equal quantities; a *kvātha* is prepared and administered when

it becomes cool. Though it can be administered as such, in infants one may add honey or sugar for palatability.

**2. *Gudūcyādi kvātha* (B.R./Jwara Cikitsā)**

*Guduci* (stem); root bark of *neem*, *āmalaki* (fruit without seed) are all taken in equal quantities, a *kvātha* prepared and administered with honey when it becomes cool.

**3. *Sephāli swarasa* (B.R./Jwara Cikitsa)**

*Sephāli* (*Pārijātaka*) leaf *swarasa* 5 ml with honey 1 ml twice daily for 1 year and increases up to 5 ml for 5-year old child twice daily.

**4. *Pippali* fruit powder, *madhu*, *guduci* fresh stem *swarasa* in the ratio of 1:2:3 should be mixed properly and given in chronic fever (B.R./Jwara Cikitsa).**

**5. *Ativisā*, *karkaṭaśrṅgi*, *pippali* to be taken in equal quantities, powdered, and administered with honey twice daily for treatment of kāṣa, jwara & chhardi (A.H. ut. 2/57).**

**6. *Latākaranja* seed is the best medication for malarial fever.**

a) The combination of the roasted seeds of *latākaranja* and *pippali* (1:1) is powdered and given with honey, approximately 0.5 g for children 1 year to 5 years of age and 1 g for children 6 years to 16 years of age, three times a day for a duration of 3–4 days.

b) Another combination recommended for malaria is the powders of *marīca* and *latākaranja* (1:1) given with honey, approximately 0.5 g for children 1 year to 5 years of age and 1 g for children from 6 years to 16 years of age. Spleenomegaly, i.e. enlargement of the spleen, occurring as a complication due to malaria responds well to *latākaranja*.

**7. *Tulasi* leaf 10 in number and *guduci* stem (a piece of one inch length) to be taken and 4 times water added and boiled to 1/4<sup>th</sup> of its volume, cooled and the dose given to the child of 2–5 years of age thrice daily for the management of fever (Tewari and Sharma, 1998s).**

### ***Udaraśoola (colic pain) in Children***

Usually *soola* refers to pain. In this context *Udaraśoola* is colic pain in children. This can be divided into two types as per the age of the child it occurs in. One is described as ‘infantile colic’ and the other as ‘colic pains’. Infantile colic is mostly due to aerophagia (air locking in the oesophagus as baby swallows air) or/and if the mother in her hurry fails to burp the child properly after feeding breast milk. An infant with colic is described as ‘one who, otherwise healthy and well-fed, has paroxysms of irritability, fussing or crying that lasts for a total of three hours a day and occurring on more than three days in any one week for a period of three weeks.’

General colic pain may be due to various complications. The common are indigestion, worm infestations, excessive eating, gastritis, and giardiasis. Following treatments can be given in all colic pain conditions.

### **1. Chatuhsama cūrṇa (B.R. Soola Cikitsā)**

*Ajvāyan, saindhav salt, haritaki, śunthī* should be taken in the proportion of 1:1:1:4. Pound them into a fine powder and give with luke warm water for quick relief from abdominal pain.

*Dosage schedule:* 250 mg (per dose) 2 doses for 1 month to 1 year of age and 500 mg per dose in 2 divided doses for 1 year to 5 years (spoon measure –1/4tsf).

### **2. Hingwastaka cūrṇa (B.R. Soola Cikitsā)**

Take Śunthī, Pippali, Marīca, Ajamoda, Saindhav salt, Śvetajīraka, Kṛṣṇa jeerak all in equal quantities, dry properly and pound into a fine powder. Take the same amount of *Hingu* and fry it with cow's ghee, powder it and mix with the other powders to make *Hingwastaka cūrṇa*. Always give this powder with luke warm water.

*Dosage schedule:* 250 mg (per dose) 2 doses for 1 month to 1 year of age and 500 mg per dose in 2 divided doses for 1 year to 5 years of age (spoon measure –1/4 tsf).

### **3. Author's Own Prescription**

Well-cleaned, dry *Latakaranja* seeds should be taken. The seed coat is removed using a sharp instrument and the *kernel* is taken. This is then finely powdered and mixed with appropriate quantity of honey to make pills weighing 250 mg and 500 mg each and kept in an air tight jar. This will remain for a period of one month. Also one can prepare this fresh every time. During administration one can add more honey for its palatability (Dash, 2009).

*Dosage schedule:* 250 mg in 2 divided doses for 1-month to 1-year olds. 500 mg in 2 divided doses for 1-year to 3-year olds.

### **Common Plant used in *Udaraśoola***

Many single plants are used for treating *Udaraśoola* apart from those that are used in drug preparations. These are also easily available locally and are very effective.

*Prasārani:* Paederia foetida

*Guṇakarma:* Rasa (taste): tikta

*Guṇa:* guru, sara

*Vipāka:* katu

*Viryā* (action potential): Uṣṇa

*Dōsha Karma:* vātahara, viṣya

The leaf of this drug has a very bad smell and is useful for the management of Udaraśola. It is a very popular folk medicine practiced by local vaidyas.

### **Dagdhavrāṇa (Burns)**

*Dagdhavrāṇa* or burn is a very common complaint in paediatric practice. Minor burns may be cured by simple medication but severe burns are life-threatening to the children. Immediate hospitalization is required in some cases. However, simple burns can be managed very well through home remedies. One of the classical external preparations for burn management is *Sudhākara Malahara*.

#### **Method of preparation of Sudhākara Malahara**

100 g *tila taila* to be taken in a bowl and heated over a stove. Cool for 5 minutes and while it is still warm, add 25 g powder of *sarjarasa* into it, add water gradually and mix well by manual churning or triturating. Mix 5 g each of powder of camphor and *tuttha* (copper sulphate) into the preparation. Mix by continuous churning, adding water, till a butter-like preparation results without increase further in volume. Stop churning. This is how *Sudhākara Malahara* should be prepared (S.P.S.S.). Keep it in jars and use it in all varieties of burns. It also works for the management of cracked sole. This can only used for external applications.

*Goghṛta* i.e. cow's ghee alone or its preparation like *Shatadhauta ghṛta* and *Sahasradhauta ghṛta* are very useful for the management of burns. A physician or a trained attendant can prepare the ghṛita. (*Shatadhauta ghṛta*: *Shata* means 100 times, *dhaut* means washed, in this context water is mixed and the ghee churned and then water is removed after each churning process. *Sahasradhauta ghṛta*: *Shasra* means 1000 times, *dhaut* means washed, in this context water is mixed and the ghee churned and water is removed after each churning process).

### **Dhoopana (Fumigation)**

*Dhoopana vidhi* is another concept described in Āyurvedic classics for enhancing health and vitality of the children by maintaining environmental sanitation in the area where infants and children live and play. It is believed that the plants, seeds, leaves and plant extracts are having some power and influence which makes the environment free from germs.

Dhoopan drugs are classified into three categories. They are:

#### **(i) Drugs of plant origin**

*Kuṣṭha*, *Vaca*, *Siddhārtaka* (white mustard), *Sarjarasa*, *Haridrā* (rhizome), *Dāruharidrā* (stem), *Guggulu* (extract), *Bhallātaka* (fruit), *Hingu*, *Tulasi* (whole plant), *Tagara* (whole plant), *Neem* (leaf), *Yuthika*, *Devadāru* (Stem Bark), *Ela* (fruit).

- (ii) Drugs having aromatic exudates and oil prepared from the plant parts having aroma  
*Sarjarasa*, '(*Ral*)', *Bhallātaka* (fruit) taila, flower of Jasmine oil, *Ela* (fruit) (Eladi taila), *Vaca* (rhizome) (vachadi taila).
- (iii) Drugs expected to be having antiseptic action  
*Tagara*, *Uśira*, *Dāruharidrā*, *Haridrā*, *Kuṣṭha*, *Siddhartaka*, Neem (leaf), cow dung.

### **Utility of *Dhoopana***

1. Disinfection of room, clothes, and bed sheets used by children.
2. Prevention of infection from various germs.
3. Promotion of health from *Kaphaja vikāra*.
4. Treatment of various diseases by making the area germ free.

## POSOLOGY - IN GENERAL

Adult dose = >16 years must be considered as adults.

For drugs of specified doses

1 year = 1/16 of adult dose = 1/16 of adult dose

4 years = 4/16 of adult dose = ¼ of adult dose

8 years = 8/16 of adult dose = ½ of adult dose

12 years = 12/16 of adult dose = ¾ of adult dose

Age, Sex, Strength, Weight, Diet, Duration of illness, *Agni*, Habits, *Doshā*, *Dushya*, *Kāla* are to be ascertained and taken into consideration.

### Points to remember during administration of drugs to the children

1. Administering adequate quantities of proper drugs prepared from appropriate plants/plant parts will not only prevent the disease from worsening but also cure it completely.
2. Drug selection is important. Plants must be correctly identified and the correct part must be used in preparation of the medicine.
3. Method of preparation of drugs should be proper.
4. If medicines are in the form of pills and tablets they are to be given after powdering and mixed with honey or ghee or an appropriate vehicle as indicated in text.
5. Narcotics, alcoholic preparations and poisonous drugs should not be used for children.
7. Give importance to the palatability of the drug so that the child will accept it.

## EPILOGUE

T

he purpose *Āyurveda* has dealt in such great detail on paediatrics is to ensure better and healthier progeny. Starting from a safe childbirth it goes on to deal with suitable environment for the growth and development of the child with special emphasis laid, of course, on remedies for the management and cure of childhood diseases. After birth, the child should be provided with a ‘suitable environment’, which is a comprehensive term involving family, neighbourhood, society, and surroundings that help in ensuring proper physical growth and mental development as described under various *Samskārs*. *Āyurvedic* classics start by laying emphasis on how the baby’s nursery should be, and go on to elaborate the importance of mother’s milk, proper time for weaning, adequate nutrition at all stages of development and how to ensure that the nutritional need of the child is met with even during sickness and convalescence.

Many diseases are described with their multiple remedies in the classics. However, only some diseases which are more prevalent in the Jeypore area of Odisha have been dealt with here keeping also in mind that the raw materials for preparation of drugs should be easily available to the community. The effect of these herbs has been quoted here in brief with their practical significance in simple terms, as far as is possible, for the benefit of the caregiver. This is an attempt to create awareness among the people about bringing up children, especially with regard to their health, by adopting *Āyurvedic* principles. If one follows the *Āyurvedic* guidelines described in the various *Samhitās* the child will definitely enjoy a longer, happier and healthier life.

# A P P E N D I X

## Drugs and dosage of Āyurvedic preparations

| Form of medicine                | Per day dose according to the age of the patients |              |               |            |
|---------------------------------|---|--------------|---------------|------------|
|                                 | 1 month   | 1 to 5 years | 6 to 16 years | Adults     |
| <i>Svarasa</i>                  | 1–3 drops   | 5–15 drops   | 2–5 ml        | 7–14 ml    |
| <i>Kalka</i>                    | 130 mg  | 1–2 g        | 2–5 g         | 6–12 g     |
| <i>Cūrṇa</i>                    | 130 mg  | 1–2 g        | 2–3 g         | 3–6 g      |
| <i>Kvātha</i>                   | 1–5 drops   | 5–15 drops   | 2–5 ml        | 14–28 ml   |
| <i>Hima</i>                     | 1–5 drops   | 5–15 drops   | 2–5 ml        | 14–28 ml   |
| <i>Vati</i>                     | 16–30 mg  | 30–130 mg    | 130–250 mg    | 130–250 mg |
| <i>Bhasma</i>                   | 8–16 mg   | 30–130 mg    | 130–250 mg    | 250–500 mg |
| <i>Asava/Arishta</i>            | 1–5 drops   | 5–15 drops   | 2–5 ml        | 14–28 ml   |
| <i>Panaka</i>                   | 1–5 drops   | 5–15 drops   | 2–5 ml        | 14–28 ml   |
| <i>Ghrta</i>                    | 1–5 drops   | 5–15 drops   | 2–5 g         | 12–24 g    |
| <i>Siddha dugdha</i>            | 5–10 drops  | 1–20 ml      | 100–200 ml    | 100–250 ml |
| <i>Shuddha Tankana, gairika</i> | 65–130 mg   | 130–250 mg   | 250–500 mg    | 500 mg–1 g |

# IB

APPENDIX

## Explanations of terms used in processing of Ayurvedic Medicines

### ***Svarasa* preparation**

Take fresh leaves of the recommended plant and extract juice after making its paste. But to extract juice from *Vāsā* and *Nimba Putapaka* method should be adopted. *Putapaka* method is the method where before extraction the fresh leaves are heated in a covered earthen pot or in a pressure cooker.

### ***Kalka* preparation**

Fresh or dry medicinal plants are taken, washed with water and cut into small pieces. Then those drugs are ground into very small pieces, as small as possible. During administration one has to add sugar or jaggery or honey or ghee as per indication.

### ***Kvātha* preparation**

For the preparation of *Kvātha* or hot decoction, drugs can be divided into three categories (i) mridu drugs — these are soft in nature and should be boiled with 4 times water by volume over a medium flame. When the volume is reduced to 1/4<sup>th</sup> the original quantity, it should be filtered and collected and allowed to cool to reach normal room temperature before administering. (ii) Madhya drugs — these are neither soft nor very hard. These should be boiled with 8 times water by volume over a medium flame. When the quantity is reduced to 1/4<sup>th</sup> the volume taken, the decoction should be filtered and collected and cooled and the decoction should be had when it is at normal room temperature. (iii) Khara drugs — those are very hard in nature and should be boiled with 16 times water by

volume over a medium flame. When it boils down to 1/8<sup>th</sup> the original volume, it should be filtered and collected and allowed to cool to normal room temperature before administering it.

(N.B: Dry drugs to be taken, washed with water, and cut into small pieces. Then the volume of the drug is measured in a measuring pot, and water added as per the given criteria.)

### ***Kṣīrapāka* preparation**

*Kṣīra* means cow's milk, *pāka* means boiling. In this preparation one has to take milk 4 parts to that of the drug and water 8 parts to that of drug and drug one part. Boil over a medium flame till the quantity is reduced to 1/4<sup>th</sup> the original volume, i.e. equivalent to the volume of milk taken.

### ***Hima* preparation**

The literary meaning of *Hima* is cold. This is a method where the ratio of drug and water should be maintained as 1:6 and the drug should be dissolved in water and kept overnight. It can then be used in the morning.

### ***Cūrṇa* preparation**

Dry drugs are to be taken and powdered thoroughly, seived properly and used as per dosage. When sieving, portion remaining on top of sieve should be again powdered, till all pass through. Whatever amount is taken for making powder should all be utilized and no part should be thrown away.

# I C A P P E N D I X

## ***KĀŚANTAKA CŪRNA*** **(An Āyurvedic Medicine for cough and cold)**

### **Method of Preparation**

- Take equal parts of dry haritak (harida), bibhtaka (bahada), mlaki (Aanla), unth (sunthi), pippali (pipali), and marca (golamaricha) and grind them individually.
- Sieve each powder separately through a sieve of mesh size which will give a moderately fine powder. Repeat the grinding and sieving process till the desired fineness is obtained uniformly. No part of the powder should be rejected. Mix all the different powders together.
- Mix equal part of candy sugar (*misri*) to the powder.
- Pass the mixture through a sieve of convenient mesh size to obtain a homogeneous mixture.
- The resulting mixture is kāśantaka cūrna.

### **Dosage**

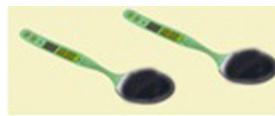
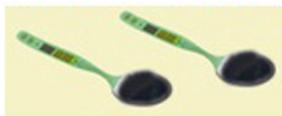
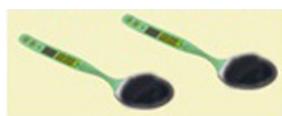
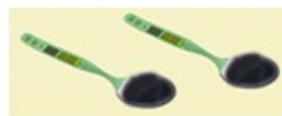
- For children below one year: 130 mg to 1 g i.e.  $\frac{1}{4}$  teaspoonful of powder administered with 10 drops of honey per dose, 3–4 times a day for 5–7 days as per severity.



- For children 1 to 3 years: 1 g to 2 g of powder i.e.  $\frac{1}{2}$  teaspoonfuls administered with 20 drops of honey per dose, 3–4 times a day for a period of 5–7 days as per severity.



- For adult : 3 g to 6 g of powder i.e. 1 to 2 teaspoonful administered with hot water, 3–4 times a day for a period of 5–7 days.



**Source:** Bhaisajya Ratnavali, Ka Cikits, Sloka No.43

|                  |  |  |  |  |  |  |
|------------------|--|--|--|--|--|--|
| MEDICINAL PLANTS |  |  |  |  |  |  |
| PLANT PARTS      |  |  |  |  |  |  |
| THE CRUDE DRUGS  |  |  |  |  |  |  |
| POWDER           |  |  |  |  |  |  |
| KĀŠANTAKA CŪRNA  |  |  |  |  |  |  |

# IIA APPENDIX

## Note on the Ayurvedic drugs and their source plants, as mentioned in the text

T

he names given in Sanskrit for the medicinal plants used as ingredients in the formulations recommended in the text are those that appear in the ancient classics, and followed to this day. Although several of them are unidentifiable today in terms of Botanical sources, most have been correctly identified by their botanical names, and are included as drugs in ayurvedic practice. They are also available in the crude drugs market under their Sanskrit or local names. Classical texts in the later centuries added more medicinal plants and newer formulations based on the experience of the practising *Vaidyas* of those times who also found it necessary to approve some plants as substitutes (with equivalent therapeutic properties) because of the non – availability of the original ones. Down the ages, therefore, Ayurvedic practitioners have used the original Sanskrit name along with local names in the local languages, for raw materials used in their formulations. This has resulted in some confusion over the botanical nomenclature, since for one drug known by a name in Sanskrit more than one plant source was indicated, and consequently with differing botanical names, from the different regions in the country. To a great extent the problems were solved by consensus among the *Vaidyas* who also sanctioned the use of substitute drugs, provided they were with equivalent therapeutic properties.

In this text also, there are drug plants included in formulations, which are not the original ones mentioned in the ancient classics, but approved substitutes introduced during the later ages and now available in the local market. A few of the photographs in the following pages belong to this category. Photographs of some plants that are not common and may not be familiar to the reader are also included. The idea is to inform the user of this text that what appears to be not

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genuine to some is not necessarily so, due to local traditions and practices as explained above. Most of the plant drugs given in the text follow the names in both Samskrit and Latin standardised and approved by experts in the Ayurvedic Pharmacopeia Committe, Ministry of Health and Family Welfare, Govt of India and are Ayurvedic drugs as defined in the Drugs and Cosmetics Act, 1940, Govt of India.

Medicinal plants are generally sourced from forest tracts and from the wild and no systematic cultivation exists. Medicinal plant gardens associated with institutions doing research in the indigenous systems of medicine, as well as, ‘Sacred groves’ established in areas surrounding temples contribute to the knowledge of the common man, interested in learning about them.



IIB  
APPENDIX

## List of Medicinal Plants

*Asterix indicates its inclusion in the photographs that follow*

| Sl.No. | Sanskrit Name              | Local (Odia) Name      | Botanical Name   | Parts Used                    |
|--------|----------------------------|------------------------|--|-------------------------------|
| 1.     | <i>Agaru</i>               | <i>Aguaru</i>          | <i>Aquilaria agallocha</i>   | Wood                          |
| 2.     | <i>Agnimantha*</i>         | <i>Agnimanth</i>       | a) <i>Premna integrifolia*</i><br>b) <i>Clerodendron phlomoides*</i> | Root<br>Root                  |
| 3.     | <i>Ajamoda</i>             | <i>Ajamoda</i>         | <i>Apium leptophyllum</i>  | Fruit                         |
| 4.     | <i>Ākhuparnīka</i>         | <i>Akshuparni</i>      | <i>Merremia emarginata</i>   | Fruit                         |
| 5.     | <i>Āmalaki</i>             | <i>Aanla</i>           | <i>Embllica officinalis</i>  | Fruit                         |
| 6.     | <i>Amlavetasa</i>          | <i>tabha</i>           | <i>Hippophae rhamnoides</i>  | fruit                         |
| 7.     | <i>Āmra</i>                | <i>Amber</i>           | <i>Mangifera indica</i>  | Stem Bark, Petiole, Latex     |
| 8.     | <i>Āmrātaka*</i>           | <i>Ambada</i>          | <i>Spondias pinnata*</i>   | Fruit, Stem Bark, Root        |
| 9.     | <i>Ankola</i>              | <i>Ankula</i>          | <i>Alangium lamarckii</i>  | Seed, Root bark               |
| 10.    | <i>Aparājita</i>           | <i>Dhala aparajita</i> | <i>Clitoria ternatea</i>   | Whole plant                   |
| 11.    | <i>Āragvadha</i>           | <i>Sunari</i>          | <i>Cassia fistula</i>  | Seed pulp, bark, leaf         |
| 12.    | <i>Arjunā</i>              | <i>Arjuna</i>          | <i>Terminalia arjuna</i>   | Stem Bark                     |
| 13.    | <i>Aśmantaka/ Kancanār</i> | <i>Kanchanar</i>       | <i>Bauhinia variegata</i>  | Bark, flower                  |
| 14.    | <i>Aśvattha</i>            | <i>Ashwastha</i>       | <i>Ficus religiosa</i>   | Stem Bark                     |
| 15.    | <i>Atasi</i>               | <i>Alasi</i>           | <i>Linum usitatissimum</i>   | Root                          |
| 16.    | <i>Atibalā*</i>            | <i>Pedipedica</i>      | <i>Abutilon indicum*</i>   | Whole Plant, Fruits and Seeds |
| 17.    | <i>Ativisā*</i>            | <i>Atibisha</i>        | <i>Aconitum heterophyllum</i>  | Rhizome                       |
| 18.    | <i>Badari</i>              | <i>Barakoli</i>        | <i>Ziziphus mauritiana (=Z.jujuba)</i>                               | Leaf, Stem Bark, fruit        |
| 19.    | <i>Balā</i>                | <i>Bāla</i>            | <i>Sida cordifolia</i>   | Root                          |

|     |  |                     |                                      |                              |
|-----|--|---------------------|--------------------------------------|------------------------------|
| 20. | Bālaka   | Hribera             | Coleus vetiveroides                  | Whole Plant                  |
| 21. | Bandāka  | Madanga             | Dendrophthoe falcata                 | Root                         |
| 22. | Bhallātaka   | Bhalia              | Semecarpus anacardium                | Fruit                        |
| 23. | Bhūmyāmalāki   | Bhuin Analā         | Phyllanthus fraternus                | Whole Plant                  |
| 24. | Bhūnimba   | Bhuin Nimba         | Swertia chirayita                    | Whole Plant                  |
| 25. | Bibhītaka  | Bahada              | Terminalia belerica                  | Fruit                        |
| 26. | Bilva  | Bela                | Aegle marmelos                       | Root, Fruit                  |
| 27. | Bimbi  | Kunduri             | Coccinia indica                      | Root                         |
| 28. | Brāhma   | Brahmi              | Bacopa moniera                       | Whole plant                  |
| 29. | Bṛhatī   | Bruhati             | Solanum indicum                      | Root                         |
| 30. | Caṇaka   | Chana (Butta)       | Cicer arietinum                      | Seed                         |
| 31. | Candana  | Chandan             | Santālum album                       | Wood                         |
| 32. | Citraka  | Chitrak             | Plumbago zeylanica                   | Root                         |
| 33. | Corapuṣpi  | Chorepuspi          | Chrysopogon aciculatus               | Flower                       |
| 34. | Dādima   | Dalimba             | Punica granatum                      | Fruit, Leaf, Peel, Stem Bark |
| 35. | Dāruharidrā/Suradru  | Katha Haladi        | Berberis aristata                    | Wood, Stem                   |
| 36. | Devadāru   | Debadaru            | Cedrus deodara                       | Stem Bark/ wood              |
| 37. | Dhanvayāsa / Durālabhā   | Durlabha            | Fagonia cretica                      | Whole Plant                  |
| 38. | Dhānyaka   | Dhania              | Coriandrum sativum                   | seed                         |
| 39. | Dhātakī  | Dhataki (Haragouri) | Woodfordia fruticosa                 | Flower                       |
| 40. | Drāksa   | Kismis              | Vitis vinifera                       | Fruit                        |
| 41. | Ekaparnī (also known as Ākhuparnī or Akhuparnika, see sr no 4) | Akshuparni          | Merremia emarginata (= M.tridentata) | Fruit                        |
| 42. | Ela  | Gujurati            | Elettaria cardamomum                 | Fruit                        |
| 43. | Eranda   | Jada                | Ricinus communis                     | Root, Seed                   |
| 44. | Eraवरु   | Kharbhuja           | Cucumis melo                         | Seed                         |
| 45. | Gajapippali*   | Gajapippali         | Scindapsus officinalis*              | Fruit (or) Spadix            |
| 46. | Gambhāri   | Gambhari            | Gmelina arborea                      | Root, Stem Bark              |
| 47. | Godhumā  | Gaham               | Triticum aestivum                    | Seed                         |
| 48. | Gōksura  | Gokhura             | Tribulus terrestris                  | Root                         |
| 49. | Gudūci*  | Guluchi             | Tinospora cordifolia*                | Stem                         |
| 50. | Guggulu  | Gugula              | Commiphora wightii                   | Resin                        |
| 51. | Gunjā  | Nali kaincha        | Abrus precatorius                    | Seed, Whole Plant            |
| 52. | Haridrā  | Haladi              | Curcuma longa                        | Leaf, Rhizome                |
| 53. | Haritakī   | Harida              | Terminalia chebula                   | Fruit                        |
| 54. | Hingu  | Hengu               | Ferula foetida                       | Exudate                      |
| 55. | Indravaruni  | Indrayan            | Citrullus colocynthis                | Leaf, stem bark              |

|     |                             |                                  |   |                         |
|-----|-----------------------------|----------------------------------|---|-------------------------|
| 56. | <i>Indrayava</i>            | <i>Kurei</i>                     | <i>Holarrhena antidysenterica</i>                                 | Seed                    |
| 57. | <i>Jambeera</i>             | <i>Tabha</i>                     | <i>Citrus limon</i>   | Fruit                   |
| 58. | <i>Jambú</i>                | <i>Jamukoli</i>                  | <i>Syzygium cumini</i>  | Fruit                   |
| 59. | <i>Jeeraka/sveta Jiraka</i> | <i>Jeera</i>                     | <i>Cuminum cyminum</i>  | Seed                    |
| 60. | <i>Jīvanti*</i>             | <i>Jivanti</i>                   | a) <i>Leptadenia reticulata*</i><br>b) <i>Dendrobium species*</i> | Pseudobulb              |
| 61. | <i>Kākamāci</i>             | <i>Kakamachhi</i>                | <i>Solanum nigrum</i>   | Fruit                   |
| 62. | <i>Kālamegh</i>             | <i>Kāla megha</i>                | <i>Andrographis paniculata</i>                                    | Whole plant             |
| 63. | <i>Kampillaka</i>           | <i>Kampillaka</i>                | <i>Mallotus philippinensis</i>                                    | Fruit                   |
| 64. | <i>Kanaka (Dhattura)</i>    | <i>Durdura</i>                   | <i>Datura metel</i>   | Seed                    |
| 65. | <i>Kankola</i>              | <i>kababachini</i>               | <i>Piper cubeba</i>   | Seed                    |
| 66. | <i>Kantakāri</i>            | <i>Kantakhari (Bheji baigan)</i> | <i>Solanum xanthocarpum</i>                                       | Whole Plant             |
| 67. | <i>Kapītana</i>             | <i>Parisha</i>                   | <i>Thespesia populnea</i>   | Stem Bark               |
| 68. | <i>Kapittha</i>             | <i>Kaitha</i>                    | <i>Limonia acidissima</i>   | Fruit, Stem Bark, leaf  |
| 69. | <i>Karanja</i>              | <i>Karanja</i>                   | <i>Pongamia pinnata</i>   | Seed, Stem bark, branch |
| 70. | <i>Kataka</i>               | <i>Nirmali</i>                   | <i>Strychnos potatorum</i>  | Seed                    |
| 71. | <i>Kārvellaka</i>           | <i>Kalara</i>                    | <i>Momordica charantia</i>  | Seed                    |
| 72. | <i>Karkatasṛngi*</i>        | <i>Karkatshrungi</i>             | <i>Pistacia integerrima*</i>                                      | Gall                    |
| 73. | <i>Karpūra</i>              | <i>Karpura</i>                   | <i>Cinnamomum camphora</i>  | Sublimate               |
| 74. | <i>Katuki</i>               | <i>Katuki</i>                    | <i>Picrorhiza kurroe</i>  | Rhizome                 |
| 75. | <i>Khadira</i>              | <i>Khaira</i>                    | <i>Acacia catechu</i>   | Extract                 |
| 76. | <i>Khas/Usira</i>           | <i>bena</i>                      | <i>Vetiveria zizanioides</i>                                      | Root, stem              |
| 77. | <i>Kriṣṇasārīvā*</i>        | <i>Gopa Kana</i>                 | <i>Cryptolepis buchananii*</i>                                    | Whole Plant, Root       |
| 78. | <i>Kṛṣṇajeeraka</i>         | <i>kakajera</i>                  | <i>Carum carvi</i>  | Seed                    |
| 79. | <i>Kulattha</i>             | <i>Kolatha</i>                   | <i>Dolichos biflorus (Macrotyloma uniflorum)</i>                  | Seed                    |
| 80. | <i>Kumbhi</i>               | <i>Kumbhi</i>                    | <i>Careya arborea</i>   | Seed                    |
| 81. | <i>Kumkuma/Kesar</i>        | <i>Keshar</i>                    | <i>Crocus sativus</i>   | Flower, Gum/Gall        |
| 82. | <i>Kuṣṭha</i>               | <i>Kotha</i>                     | <i>Saussurea lappa</i>  | Root                    |
| 83. | <i>Kusumba*</i>             | <i>Kusum</i>                     | <i>Schleichera oleosa*</i>  | Bark, Fruit, Seed       |
| 84. | <i>Kutaja</i>               | <i>kurei</i>                     | <i>Holarrhena antidysenterica</i>                                 | Bark                    |
| 85. | <i>Laja</i>                 | <i>Lia</i>                       | <i>Oryza sativa</i>   | Puffed Paddy            |
| 86. | <i>Lajjālu</i>              | <i>Lajkuli</i>                   | <i>Mimosa pudica</i>  | Whole Plant             |
| 87. | <i>Lakuca</i>               | <i>Jeutha</i>                    | <i>Artocarpus lakoocha</i>  | Leaf, Fruit             |

|      |                           |                              |                                       |                       |
|------|---------------------------|------------------------------|---------------------------------------|-----------------------|
| 88.  | <i>Laṣuna</i>             | <i>Rasuna</i>                | Allium sativum                        | Bulb                  |
| 89.  | <i>Latākaranja</i>        | <i>Gila</i>                  | <i>Caesalpinia bonducella</i>         | Seed                  |
| 90.  | <i>Lavanga</i>            | <i>Labanga</i>               | <i>Syzygium aromaticum</i>            | Flower                |
| 91.  | <i>Lodhra</i>             | <i>Lodhra/Tilak</i>          | <i>Symplocos racemosa</i>             | Stem Bark             |
| 92.  | <i>Madana</i>             | <i>madanaphala</i>           | <i>Catunaregam spinosa</i>            | Fruit                 |
| 93.  | <i>Madhuka</i>            | <i>Mahula</i>                | <i>Madhuca indica</i>                 | Flower, stem          |
| 94.  | <i>Mandukaparnī</i>       | <i>Thalkudi</i>              | <i>Centella asiatica</i>              | Whole Plant           |
| 95.  | <i>Manjisthā</i>          | <i>Manjistha</i>             | <i>Rubia cordifolia</i>               | Stem                  |
| 96.  | <i>Maṛica</i>             | <i>Golamarīca</i>            | <i>Piper nigrum</i>                   | Fruit                 |
| 97.  | <i>Māṣha</i>              | <i>Biri</i>                  | <i>Vigna mungo</i>                    | Seed                  |
| 98.  | <i>Mudga</i>              | <i>Muga</i>                  | <i>Vigna radiata</i>                  | Seed                  |
| 99.  | <i>Mūlaka</i>             | <i>Mula</i>                  | <i>Raphanus sativus</i>               | Seed                  |
| 100. | <i>Mustā</i>              | <i>Mutha</i>                 | <i>Cyperus rotundus</i>               | Rhizome               |
| 101. | <i>Nāgakeśāra*</i>        | <i>Nageswar</i>              | <i>Mesua ferrea*</i>                  | Flower                |
| 102. | <i>Nimba</i>              | <i>Nimba</i>                 | <i>Azadirachta indica</i>             | Leaf, Stem Bark       |
| 103. | <i>Nirgundi</i>           | <i>Begunia</i>               | <i>Vitex nigundo</i>                  | Leaf                  |
| 104. | <i>Nyagrodha (Vata)</i>   | <i>Bara</i>                  | <i>Ficus benghalensis</i>             | Stem Bark             |
| 105. | <i>Pālakya</i>            | <i>Palanga</i>               | <i>Spinacia oleracea</i>              | Leaf                  |
| 106. | <i>Palāśa</i>             | <i>Palasha</i>               | <i>Butea monosperma</i>               | Seed                  |
| 107. | <i>Pārasika yavāni</i>    | <i>Juani</i>                 | <i>Hyoscyamus niger</i>               | Seed                  |
| 108. | <i>Pāribhadra</i>         | <i>Paladhua (Chauladhua)</i> | <i>Erythrina indica</i>               | Bark, leaf            |
| 109. | <i>Pārijātaka/Sephali</i> | <i>Gangasiuli</i>            | <i>Nyctanthes arbortritis</i>         | Leaf                  |
| 110. | <i>Pāriśā</i>             | <i>Gaja Sunthi</i>           | <i>Thespesia populnea</i>             | Seed/stem bark        |
| 111. | <i>Parpataka</i>          | <i>Parpatak</i>              | <i>Fumaria parviflora</i>             | Whole Plant           |
| 112. | <i>Pātalā</i>             | <i>Padhel</i>                | <i>Stereospermum suaveolens</i>       | Stem Bark             |
| 113. | <i>Patola</i>             | <i>Bana Potal</i>            | <i>Trichosanthes cucumerina</i>       | Root, Leaf            |
| 114. | <i>Pilu</i>               | <i>Pilu</i>                  | <i>Salvadora persica (S.oleoides)</i> | Leaf, Root bark, Seed |
| 115. | <i>Pippali</i>            | <i>Pipali</i>                | <i>Piper longum</i>                   | Fruit, Root, Stem     |
| 116. | <i>Plakṣa</i>             | <i>Plaksha</i>               | <i>Ficus lacor</i>                    | Stem Bark             |
| 117. | <i>Prasāraṇī</i>          | <i>Pasaruni</i>              | <i>Paederia foetida</i>               | Leaf                  |
| 118. | <i>Priyangu</i>           | <i>Dahia</i>                 | <i>Callicarpa macrophylla</i>         | Fruit, Flower         |
| 119. | <i>Prśniparnī</i>         | <i>Iswarjata</i>             | <i>Uraria picta</i>                   | Root                  |
| 120. | <i>Punarnavā</i>          | <i>Puruni (Purunamundi)</i>  | <i>Boerhavia diffusa</i>              | Whole Plant           |
| 121. | <i>Puṣkara</i>            | <i>Puskaramula</i>           | <i>Inula racemosa</i>                 | Root                  |
| 122. | <i>Rājamāṣa</i>           | <i>Rajma</i>                 | <i>Vigna unguiculata</i>              | Seed                  |
| 123. | <i>Raktachandana</i>      | <i>Rakta chandan</i>         | <i>Pterocarpus santalinus</i>         | Wood                  |
| 124. | <i>Rāsnā*</i>             | <i>Rasana*</i>               | <i>Vanda species*</i>                 | Stem                  |
| 125. | <i>Sabja</i>              | <i>Banatulasi</i>            | <i>Ocimum basilicum</i>               | Leaf, seed            |

|      |                    |                 |  |                                |
|------|--------------------|-----------------|--|--------------------------------|
| 126. | Sahacara           | Anlei           | Barleria prionitis                                 | Root, leaf                     |
| 127. | Śāla               | Sala            | Shorea robusta                                     | Exudate                        |
| 128. | Sālaparnī          | Shalaparni      | Desmodium gangeticum                               | Root                           |
| 129. | Śāli               | Dhan            | Oryza sativa                                       | Seed                           |
| 130. | Śāṅkhapuspi        | Dhala aparajita | Convolvulus pluricaulis                            | Whole Plant                    |
| 131. | Saptaparnī         | Chhatiana       | Alstonia scholaris                                 | Stem Bark                      |
| 132. | Sārivā             | Anantamula      | Hemidesmus indicus                                 | Whole Plant, Root              |
| 133. | Sarja/Sarja rasa   | Jhuna           | Vateria indica                                     | Resin, Extract                 |
| 134. | Sarpagandha        | Patalgaruda     | Rauwolfia serpentina                               | Root                           |
| 135. | Sarsāpa            | Sorisha         | Brassica campestris var.rapa                       | Seed                           |
| 136. | Satapuṣpa          | Pana madhuri    | Anethum sowa                                       | Fruit                          |
| 137. | Śātāvari           | Shatabari       | Asparagus racemosus                                | Rhizome                        |
| 138. | Śati               | Sati            | Hedychium spicatum                                 | Rhizome                        |
| 139. | Sami               | Sami            | Prosopis spicigera                                 | Fruit, flower, leaf, stem bark |
| 140. | Siddhārtaka        | Dhala sorisa    | Brassica campestris var. alba                      | Seed                           |
| 141. | Śgrū               | Muninga/sajana  | Moringa oleifera                                   | Seed                           |
| 142. | Śrīṣā              | Śrīṣā           | Albizia lebbek                                     | Stem Bark, seed                |
| 143. | Sugandhabāla*      | Sugandhabala    | a) Pavonia odorata<br>b) Decalepis hamiltonii*     | Root                           |
| 144. | Śunthī             | Śunthī          | Zingiber officinale                                | Rhizome                        |
| 145. | Suradaru/Debadāru  | Debadaru        | Cedrus deodara                                     | Stem Bark                      |
| 146. | Katabhi (Kumbhi)   | Kumbhi          | Careya arborea                                     | Stem bark, flower              |
| 147. | Śvetajīraka/Jiraka | Jeera           | Cuminum cyminum                                    | Fruit                          |
| 148. | Śyonaka            | Swanak          | Oroxylum indicum                                   | Stem Bark                      |
| 149. | Tagara*            | Tarato          | a) Valeriana wallichii*<br>b) Ervatamia divaricata | Rhizome, Root                  |
| 150. | Talīsa*            | Talisha         | Aties webbiana*                                    | Leaf                           |
| 151. | Tāmbula            | Pana            | Piper betel  | Leaf                           |
| 152. | Tejpatra           | Tejapatra       | Cinnamomum tamalā                                  | Leaf                           |
| 153. | Tila               | Rasi            | Sesamum indicum                                    | Seed                           |
| 154. | Trapuṣa            | Kakudi          | Cucumis sativus                                    | Seed                           |
| 155. | Trivīṭ             | Tihudi          | Ipomoea turpethum                                  | Stem bark                      |
| 156. | Tulasi             | Tulasi          | Ocimum sanctum                                     | Leaf, Whole Plant              |
| 157. | Tvaka              | Dalachini       | Cinnamomum verum (Cinnamomum zeylanicum)           | Bark                           |
| 158. | Udumbara           | Dimiri          | Ficus glomerata                                    | Bark                           |
| 159. | Upakuncikā*        | Kāla jeera      | Nigella sativa*                                    | Seed                           |

|      |                       |                            |                           |                    |
|------|-----------------------|----------------------------|---------------------------|--------------------|
| 160. | <i>Uśira/Khas</i>     | <i>Bena</i>                | Vetiveria zizanioides     | Stem, Root         |
| 161. | <i>Vaca</i>           | <i>Bacha</i>               | Acorus calamus            | Rhizome            |
| 162. | <i>Vamsalocana</i>    | <i>Baunsha karadi</i>      | Bambusa arundinacea       | Bamboo manna       |
| 163. | <i>Varāhikanda</i>    | <i>Ratalu</i>              | Dioscorea bulbifera       | Rhizome            |
| 164. | <i>Vāsā</i>           | <i>Basanga</i>             | Adhatoda vasica           | Leaf               |
| 165. | <i>Vata/Nyagrodha</i> | <i>Bara</i>                | Ficus benghalensis        | Stem Bark          |
| 166. | <i>Vatsanābha</i>     | <i>Vatsanabha</i>          | Aconitum chasmanthum      | Root               |
| 167. | <i>Vajra</i>          | <i>vazrakantaka</i>        | Euphorbia antiquorum      | Stem, root         |
| 168. | <i>Vidanga</i>        | <i>Bidanga</i>             | Embelia sps*              | Fruit              |
| 169. | <i>Vidarikanda</i>    | <i>Bhuin Kakharu</i>       | Pueraria tuberosa*        | Root               |
| 170. | <i>Varsābhu</i>       | <i>Varshabhu/Bichhuati</i> | Trianthema portulacastrum | Root & Whole Plant |
| 171. | <i>Yastimadhu</i>     | <i>Jastimadhu</i>          | Glycyrrhiza glabra        | Stem               |
| 172. | <i>Yava</i>           | <i>Jaba</i>                | Hordeum vulgare           | Seed               |
| 173. | <i>Yavāni</i>         | <i>Juani</i>               | Trachyspermum ammi        | Fruit              |
| 174. | <i>Yūthikā*</i>       | <i>Malli (Jasmine)</i>     | Jasminum auriculatum*     | Leaf, Flower       |

## SOME MEDICINAL PLANTS AND THE PARTS USED TO PREPARE MEDICINES



Agnimantha (*Clerodendrum phlomidoides*)  
(Plant)

Field: Medicinal Plants Knowledge  
Centre, Patrapada, Bhubaneswar

Agnimantha (*Premna integrifolia*)  
(Plant)

Field: M.S.Swaminathan Research  
Foundation, Jeypore



Agnimantha (*Clerodendrum phlomidoides*)  
(Stem)

Crude Drug : Manikalai Brother's, Bolangir,  
Odisha



Āmrātaka (*Spondias pinnata*)  
(Tree)

Field: M.S.Swaminathan Research  
Foundation, Jeypore

Āmrātaka (*Spondias pinnata*)  
(Dry Fruit)

Crude Drug: Manikalal Brother's, Bolangir,  
Odisha



Atibala (*Abutilon indicum*)  
(Plant)

Field: Govt. Āyurvedic Medical College,  
Bolangir, Odisha

Atibala (*Abutilon indicum*)  
(Fruit)

Crude Drug: Govt. Āyurvedic Medical  
College, Bolangir, Odisha



**Gajapippali (*Scindapsus officinalis*)**  
**(Spadix with Fruits)**  
**Crude Drug : Manikalal Brother's, Bolangir,**  
**Odisha**



**Gudaci (*Tinospora cordifolia*)**  
**(Climbing Plant)**  
**Field: Medicinal Plants Knowledge Centre,**  
**Patrapada, Bhubaneswar**



**Gudaci (*Tinospora cordifolia*)**  
**(Dry stem)**  
**Crude Drug: Manikalal Brother's, Bolangir,**  
**Odisha**



Jīvanti (Dendrobium species)  
(Pseudobulb)  
Crude Drug : Manikalal Brother's, Bolangir,  
Odisha



Karkaṭaśringi (Pistacia integerima)  
(Leaf Gall)  
Source : Manikalal Brother's, Bolangir,  
Odisha



Kusumba (*Schleichera oleosa*)  
(Plant)

Field: M.S. Swaminathan Research  
Foundation, Jeypore, Odisha

Kusumba (*Schleichera oleosa*)  
(Fruit)

Crude Drug: M.S. Swaminathan Research  
Foundation, Jeypore, Odisha



Kṛiṣṇasārīva (*Cryptolepis buchananii*)  
(Plant)

Field: Govt. Āyurvedic Medical College,  
Bolangir, Odisha

Kṛiṣṇasārīva (*Cryptolepis buchananii*)  
(Root)

Crude Drug: Govt. Āyurvedic Medical  
College, Bolangir, Odisha



## Nāgakeśara (Mesua ferrea) (Plant)

## **Field: Medicinal Plants Knowledge Centre, Patrapada, Bhubaneswar**

## Nāgakeśara (*Mesua ferrea*) (Flower)

## **Crude Drug: Govt. Ayurvedic Medical College, Bolangir, Odisha**



## Rāsnā (Vanda species) (Stem with Root)

## **Crude Drug : Manikalal Brother's, Bolangir, Odisha**

## Sugandhabāla (*Decalepis hamiltonii*) (Root)

## **Crude Drug : Manikalal Brother's, Bolangir, Odisha**



**Tagara (*Valeriana wallichii*)  
(Rhizome and Root)**  
**Crude Drug : Manikalal Brother's, Bolangir,  
Odisha**



**Tālīsa (*Taxus wallichii*)  
(Leaf)**  
**Crude Drug : Manikalal Brother's, Bolangir,  
Odisha**



**Upakuncikā (*Nigella sativa*)  
(seed)**  
**Crude Drug : Manikalal Brother's, Bolangir,  
Odisha**



**Vidanga (*Embelia* species)  
(Fruit)**  
**Crude Drug : Manikalal Brother's, Bolangir,  
Odisha**



Vidarikanda (*Pueraria tuberosa*)  
(Root)

Field: Medicinal Plants Knowledge Centre,  
Patrapada, Bhubaneswar

Vidarikanda (*Pueraria tuberosa*)  
(Root)

Crude Drug: Manikalal Brother's,  
Bolangir, Odisha



Yuthika (*Jasminum auriculatum*)  
(Plant)

Field: Medicinal Plants Knowledge Centre,  
Patrapada, Bhubaneswar

Yuthika (*Jasminum auriculatum*)  
(Flower)

Fresh Flower: Medicinal Plants  
Knowledge Centre, Patrapada,  
Bhubaneswar

## ABBREVIATIONS

|            |   |
|------------|---|
| A.H.       | <i>Aṣṭāṅga Hṛdaya</i>                   |
| A.S.       | <i>Aṣṭāṅga Sangraha</i>                 |
| B.chi.     | <i>Bālarōga cikitsā</i>                 |
| Bh. P.     | <i>Bhava Prakaśa</i>                    |
| B.R.       | <i>Bhaiṣajya Ratnāvali</i>              |
| Ch.        | <i>Caraka Samhitā</i>                   |
| Chap.      | <i>Chapter</i>                          |
| Chi.       | <i>Cikitsā Sthāna</i>                   |
| DGV. P- II | <i>DravyaGuna Vignān part-II</i>        |
| K.         | <i>Kaśyapa Samhitā</i>                  |
| Kb.        | <i>Kaumārabhṛtya</i>                    |
| Khi.       | <i>Khila Sthāna</i>                     |
| L.N.       | <i>Latin Name</i>                       |
| M. N.      | <i>Mādhava Nidāna</i>                   |
| M. N. Bc.  | <i>Mādhava Nidāna-BālaRōga cikitsā</i>  |
| Ni.        | <i>Nidāna Sthāna</i>                    |
| R.A.V.     | <i>Rāstriya Āyurveda Vidyāpeeth</i>     |
| R.K.T.     | <i>Rāvanākruta Kumāra Tantra</i>        |
| Sa.        | <i>Śareera Sthāna</i>                   |
| S.P.S.S.   | <i>Siddhayoga Prayoga Sara Samgraha</i> |
| Su.        | <i>Suśruta Samhitā</i>                  |
| su.        | <i>Sūtra Sthāna</i>                     |
| ut.        | <i>Uttara tantra</i>                    |
| vi.        | <i>Vimānasthāna</i>                     |
| Y.R.Vchi.  | <i>Yoga Ratnākar Visphōta Cikitsā</i>   |

## GLOSSARY OF SANSKRIT TERMS

**Bṛihatrayi - Carak Samhitā, Suśruta Samhitā, Vāgbhatta (Aṣṭāṅga Hṛdaya)**

*Aasana* seat

*Aastaraṇa* bed sheet

*Abhiṣaṅga* direct contact

*Ādhmana* tympanites

*Agni* fire

*Agni deepana* appetiser

*Agnimāndya* digestive impairment/anorexia

*Agnisāda* loss of digestive fire

*Ahita āhār* unwholesome diet

*Ajeernā* indigestion

*Akala vardhakya* senile changes before old age

*Ākāsa* ether

*Akshepaka* seizures

*Akṣipaka* conjunctivitis

*Ālasya* laziness

*Alpāhara* less diet intake

*Ama* bowel disorder

*Āmatwam* undigested food

*Anjali* palm/the space between two open palms of an adult

*Anjana* collyrium

*Annadā* from 3 years to 16 years

*Annadveṣa* aversion to food

*Annapāna* weaning

*Annaprāśana* Food specially prepared with rice or wheat started after 6 months of age and 10 months of age. There are 2 views available in *Samhitas*. However we recommend to administer after 10 months of age

*Anulomaka* laxative; purgatives

*Anurasa* after-taste as an e.g. honey tastes sweet but *Kashāya* (*astringent*) is its *anurasa* or after-taste

*Anuṣṭa* neither hot nor cold

*Apatarpanajanya* decreasing of body mass

*Arochaka* Distaste

*Aruchi* loss of appetite (see *agnimandya* previous page)

*Asahisṇuta* intolerable

*Asampūrṇa* incomplete

*Aṣṭāṅga hṛdaya* written by *vriddha Vagbhatta*

*Aṣṭāṅga samgraha* written by *laghu Vagbhatta*

*Asthi* bones and cartilages

*Asya* oral cavity

*Ati Āmla* over sour

*Ati Kashāya* very astringent

*Ati Kaṭu* excessively pungent

*Ati lavana* very salty

*Ati madhura* over sweet

*Ati rookṣa* excessive dryness

*Ati snigdha* excessively fatty

*Ati tikta* excessive bitter

*Atimootrata* excessive urination

*Atisāra* diarrhoea

*Atyāgni* excess digestive fire

*Baddhamuṣṭi* closing of fist

*Bāla* from birth to 16 years of age

*Bāla kshayam* decrease of strength

*Balākara* strength promoting

*Balam* vitality

*Bali* sacrifice

*Bali palitam* wrinkled skin/premature ageing

*Bhakṣaṇa* eating

*Bhakṣyam* eatables

*Bhrama* vertigo

*Bija* seed

*Candana* sandal wood

*Chandra* moon

*Chhardi* vomiting

*Chūdakarma* shaving of scalp hair

*Cūrṇa* powder

*Dadhi* curd

*Dadhi navānna* newly harvested rice

*Damstrini* fanged creatures or insects

*Danta* teeth

*Daurgandhya* bad odour

*Devatā* deity

*Dhātu* seven body elements described in Āyurveda which governs the body pathology

*Dhoopana/Havana* fumigation

*Dhumrapāna* smoke inhalation

*Dināchārya* daily regimen

*Dīpana* increases appetite

*Dōla* swing

*Doshā* three physiological factors described in Āyurveda viz. vāta, pitta, kapha

*Dourbalya* weak

*Dravādhikatā* more liquid

*Dravalpata* less liquid

*Dridhakara* strong

*Drishtināsaka* destroyer of vision

*Dugdha* milk especially cow's milk

*Gandha* smell perception

*Gandusha* gargling

*Garbadhan* pregnancy

*Garbhaja* created by pregnancy

*Garbhōdaka* amniotic fluid

*Gaurava* Heaviness

*Ghaditam* obstruction

*Ghṛta* Ghee

*Glāni* dullness

*Gōtra* lineage

*Graha* Āyurvedic description about infective organisms, vitamin deficiency, planetary influence

*Guda* jaggery

*Gudam* anus

*Guṇa* character and property of a drug in the context

*Guru* heavy

*Guru āhara* heavy diet

*Guru bhojana* heavy diet

*Hema* gold

*Hita āhār* wholesome diet

*Hridaya* heart

*Hridgaurava* dullness

*Hridroga* cardiac disease

*Indhana* fuel

*Indriya prasāda* activity of the sense organs

*Indriyārtha* five sensory factors i.e. *śabda, sparsa, rūpa, rasa, gandha* are collectively known as *Indriyārtha*

*Jala* water

*Jala śodhana* water purification

*Janāpadodhwamsa* destruction of human habitation

*Jātakarma* birth measures

*Jaṭharāgni* gastric fire

*Jihwā* tongue

*Jwara* fever

*Kāla* time factor

*Kalka* paste

*Kandu* Itching

*Kanji* curry variety/gruel with vegetables

*Kanṭha/kanṭha* pradesh oropharynx and larynx

*Kanṭharōga* disease of throat

*Kapha* mucus/cold and calm in nature, its action potential accelerated by *vāta*

*Kapha vārdhaka* increases kapha Doshā

*Kaphadhātu* anabolic action of kapha

*Kaphapittashamaka* pacify *Kaphapitta dosha*

*Kapha pitta hara* reduces *kapha* and *pitta*

*Karma* deeds

*Karṇavedhana* ear piercing

*Kārpāsa* cotton

*Karpūra* camphor

*Kārshyakara* causes emaciation

*Kārsya* emaciation

*Kāśa* cough

*Kaṣāya* decoction

*Kashāya* astringent

*Kasturi* musk

*Katu* pungent

*Kaumārabhṛtya* paediatrics

*Kesha dourbalya* weakness of hair

*Khara* hard

*Klesa* tiredness

*koṣṭha* viscera

*Krīda bhoomi* playground

*Krimighna* insecticidal/antiprotozoal

*Krishata* emaciated body

*Kṛṣatva* emaciation

*Kṣīra* milk

*Kṣīraannadā* from 13 months to 36 months (Toddler)

*Kṣīraja* created by milk

*Kṣīrapā* from birth up to 12 months of age (infant)

*Kulattha* horsegream

*Kumāragara* neonatal care unit/nursery

*Kuṣṭha* skin disease

*Kvāṭha/kaṣāya* decoction

*Laghu* light

*Langhaniya* reduces body mass or fat

*Lavana* salt

- Leedham* lick
- Lehya* electuaries
- Lepa* smearing
- Madhu* honey
- Madhura* sweet
- Madhya* medium
- Madhya* wine
- Majjā* bone marrow
- Mala* three external body secretions
- Malabandha* Hard stool
- Malāwarodha* constipation
- Māmsa* body muscle & flesh/meat
- Mangala homa* oblation to God for auspiciousness
- Mantra* vedic hymns
- Mārdava kara* dryness all over the body
- Māsha* black gram
- Masurika* measles
- Matsya* fish
- Meda* fatty portion of the body
- Medhya* intellect promoting
- Medo sanchaya* fat deposition
- Moha* unconscious
- Mooträlpata* scanty urination
- Mridu* soft
- Mrīttikā* clay
- Muhūrta* time
- Mukha* face/face and oral cavity/mouth
- Mukha rōga* disease of the oral cavity
- Mūlaka* radish
- Muṇḍana* tonsure
- Mūshika* rat
- Mūtra* urine
- Nābhikundala*/ *Nābhitundi* umbilical hernia

- Nabhinala* umbilical cord
- Nābhipāka* umbilical cord suppuration
- Nābhiśotha* inflammation of the cord base
- Nābhovrana* ulcer over cordbase
- Nakṣatra* star
- Nalacchedana* cutting of umbilical cord
- Nāmakarana* naming ceremony
- Nāśaka* destroying
- Nasya* nasal instillation
- Navajāta* birth to 1 month of age (Neonate)
- Navanīta* butter
- Netra* eye
- Netra rōga* eye disease
- Netrabhishyanda* conjunctivitis
- Nidra* sleep
- Nidranāsa* insomnia
- Nirjana pradesha* uninhabited and lonely place
- Niskramaṇa* The act of taking the child outside the home for the first time
- Oja* immune factor whose action can be described as per Ayurvedic text
- Ojaksaya* immune deficiency
- Paitik* Predominance of *pitta*
- Pakti* suitable media for digestion
- Panchakarma* five cleansing majors like *vamana*, *verechana*, *asthapana*, *anuvasana*, *shirovrechana*
- Panchamahābhūta* the five Universal elements viz. *Prithvi*, *Jala*, *Agni*, *Vāyu*, *Akasha*
- Panchatanmatra* the five innate potentiality of *panchamahābhūta* viz. *Śabda*, *sparśa*, *rūpa*, *rasa*, *gandha*
- Pāndu* anaemia
- Parādhēnatā* dependant
- Paricāraka* caretaker of the child
- Paricharya* care
- Parimarjana* cleaning
- Pārṣwabhedā* pain in flanks

*Patang* flies

*Peetam* drinkables

*Peya* medicated drinks

*Phalaprāshan* weaning food with fruit juice started after 6 months of age of child

*Phanita* wine variety

*Pisatanna* diet variety prepared with paste of blackgram and rice

*Pishitasevita* wrong food habits

*Pitta* maintain temperature, takes its action as per its placement, and accelerates by *vāta*

*Pittashamaka* pacify *pitta dosha*

*Poshaka* nutritious

*Prabhāva* influence of a drug

*Pradhāna* predominant

*Prakṛti* body nature

*Prameha* diabetes

*Prāṇapratyāgamana* regain consciousness

*Prāśana* internal administration through oral route

*Pratapta* dip

*Pratiṣyāya* common cold

*Pravarana* covering sheet

*Prithvi* earth

*Puja* ritual method of worship of gods

*Pumsavana* measures to get male child

*Purisha* stool

*Pushtikarak* nutritive

*Rakṣā karma* protective measure

*Rakṣōgna* protective (bacteriostatic drugs in the context)

*Rakta* blood

*Raktapittam* vitamin C (deficiency and anaemia)

*Rasa* taste perception/transparent part of internal body secretions viz. plasma, lymph

*Rasāyana* rejuvenative

*Raupya* silver

*Rooksata* dry (see also *Ruksa*)

*Rōga* disease

*Romāhārsha* bristling of the hairs of the body from cold or fear

*Rukṣa* dry (see also Ruksa)

*Rūpa* colour perception

*Śabda* sound perception

*Saindhav* rock salt

*Śaithilya* flaccidity

*Śāka* edible leaves

*Śākha* limbs i.e. upper and lower

*Śakrinmootra* loose stool and urine/irregular bowel movement

*Śāli* rice variety

*Samanya* an Āyurvedic siddhanta meaning similarity

*Samāvartana* marriage

*Samgrāhi* drug which helps to absorb water in the intestine; balanced digestive fire

*Samskārā* Hindu religious rites

*Sandhyakāla* evening

*Sankrāmaka* contagious

*Śānti homa* religious rites of sacrifice by producing fire with wood and ghee by the priests with enchanting Vedic hymns

*Śareera-dhātu* body elements

*Sarpi/Ghṛta* ghee

*Satwa* dynamic psychology

*Śeeta* cold/cool

*Sayana* bed

*Shukrahara* decreases semen

*Sīmantonayana samskārā* family celebration during pregnancy

*Śiśu* baby

*Skandhabālagraha* name

*Skandhapasmarabālagraha* name

*Śleṣma* mucus

*Snāna* bath

*Snehana* oleation

*Snigdha* soothing

*Śonita* ovum

*Śoṣa* dryness; tuberculosis

*Sparśa* touch perception

*Stoulyā* obese

*Śuklapakṣa* the period from new moon to full moon

*Śukra* semen/sperm, ovum and other secretions responsible for reproduction

*Śukrahara* lack of semen

*Sukumāra* delicate

*Surāsava* wines

*Sūrya* sun

*Śuṣka* dryness

*Suvarna* gold

*Swapada* dogs, cats, and other animals

*Śwarahānikara* diminished voice

*Swarasa* juice

*Śvāsa* asthma/dyspnoea

*Swastha* healthy

*Sweda* sweat

*Sweda bibhatsata* Unpleasant odour due to sweating

*Śwedana* sudation

*Tālu* palate

*Tandrā* drowsiness

*Tāṇḍula* rice grain

*Teeksna* sharp

*Tikta* bitter

*Tila* til (sesame)

*Tithī* date as per lunar calendar

*Trisṇakara* thirst

*Twak suṣkata* dry skin

*Twaka vikara* skin disease/allergic skin problems

*Twak vikara vriddikaram* increases skin allergy

*Udaka kūṇda* water-filled earthen pots

*Udaraśoola* colic pain

*Ulbaka* or *Āmbupurna Vyādhi* broncho-pneumonia

*Ūlva* vernix caseosa

*Unnatanābhi* umbilical polyp

*Upachaya nāsam* lack of growth

*Upanayana* threading ceremony

*Uṣṇa* warm/hot

*Uṣṇodaka* luke warm water

*Utkleṣa* decreased digestive capacity

*Vamana* processed emesis in panchakarma

*Vamathu* nausea

*Vānaprastha* living outside from residence

*Vāri* water

*Varna* colour/complexion

*Vasana* dress

*Vāta* having its own velocity and power of action, present all over the body

*Vātakaphahara* decrease or pacify *vātakapha dosha*

*Vātaprakopakara* vitiates *vātadosha*

*Vāta dustikara* impairment of *vata*

*Vatī* pill

*Vāyu* air

*Vedārambha* start of schooling

*Vid lavana* black salt

*Vidrādhi* abcess

*Vidyalaya* school

*Vihar* regimen

*Vipāka* metabolic action of a drug

*Virechana* processed purgatives in *panchakarma*

*Virya* potency of a drug

*Viṣagrathi* herbal drug

*Viṣamajwara* typhoid

*Viśesha* an Āyurvedic *siddhanta* meaning dissimilarity

*Viśodhana* wash

*Vivāha* marriage

*Vranaropaka* which heals injury

*Vriddi* Increases

*Vryya* aphrodisiac

*Vrumhaniya* anabolic or increases body mass

*Vyādhija* created by disease

*Vyādhikshamatva* immunity

*Vyavāya* sexual intercourse

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