

# RASAYANA AND MEDHYARASAYANA – AYURVEDIC CONCEPT OF NUTRITION - PHYSICAL AND CEREBRAL

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*Rasayana the science of nutrition is counted among the eight disciplines or branches Ayurveda has categorized for the purpose of proper understanding of the science as a whole. Commonly but wrongly designated as 'Gerontology', Rasayana in reality, covers such wider disciplines such as nutrition, therapeutics, and aging in its ambit. Literally translated to mean acquisition of excellence of tissue elements, Rasayana has come a long way – from the days of Caraka samhita (700 B.C.) when it was conceived as a measure for prevention of diseases / promotion of health, to the present day, when it is viewed again for the same purpose. However during this long journey from 700 BC to 2000 A.D. various scientists have viewed Rasayana at various angles and have given varied definitions and interpretations. The scope was widened to include prevention of disease, promotion of positive health, cure of chronic ailments, tackling of the diseases of the aged, prolonging youth, delaying aging, promotion of intellectual faculties and maintenance of physical and mental balance.*

## RASAYANA

**Rasayana** is the science of nutrition and literally translated, the expression refers to 'acquisition of excellence of 'tissue elements' (*Dhatu-s*) of the body. It does refer not only to the accomplishment of vital body fluids or excellence of nutritional fluid (*Rasadhatu*) but also suggests the proper flow or transport (*Gamanam/Ayanam*) of these nutrients to various organ systems including the brain and nervous system.

लाभापायोहि शस्तानां रसादीनां रसायनम् ।

रसादि ग्रहणेन स्मृत्यादयोऽपि गृह्यन्ते ।

ca.ci 1/1/8

cakra Ibid

Concept of Rasayana is as old as Vedas because many references on Rasayana are available in Atharva Veda (8/7/4). Extensive descriptions of divine Rasayana agents like Soma are available in these vedic texts. References about Acharya Rasayana and Sadvrta are also available in the vedic texts similar to description available in Charaka samhita (Rig-Veda 5/1/7 and Atharvaveda 16/2/2). Besides references are available regarding the superiority of certain other common Rasayana drugs like Pippali, Jivanti and Punarnava etc. Similarly a concept of Ajasrika Rasayana also appears in vedic literature. Vedas have seriously considered the problems of ageing and its delaying. It has been the cherished wish of human race to achieve long life and to live at least 100 years in perfect health. Probably all these ideas at a later stage necessitated the development of a full-fledged clinical discipline like **Rasayana** to deal with the problem of aging, its delaying.

The word Rasayana is composed of two words Rasa + Ayana. The means by which one gets the excellence of Rasa (The nourishing fluid which is produced immediately after digestion) is known as Rasayana. Apart from the excellence of Rasa, the individual is endowed with Psychic excellence like sharp memory, by virtue of rejuvenation therapy. Impairment of circulation of this body fluid results in diseases and decay. This body fluid of good quality should not only be present in adequate quantity, but also it should be able to permeate (circulate) throughout the various cells of the body to provide the type of nourishment they need. Rasayana is a specialized type of treatment influencing the fundamental aspect of body viz. Dhatus, Agni and Srotansi and ojas etc. Rasayana Chikitsa boosts the ojas and immune system.

## INTRODUCTION

It is a pity that even after the dawn of the new millennium the greatest of the technological advancements which can probe in to the deepest and subtlest parts of human body, have fallen short of offering the Ideal health package for the human race. The exhaustive research involving expenditure running in to crores in developing newer antibiotics, antiviral drugs and vaccines to prevent man from falling ill or curing the homosapines of the illness he succumbs to, have just not helped. The disease causative agents develop in to resistant strains sooner, and are rendering the whole exercise futile, superfluous, and inoperable. It is only recently that the current day scientist has realized that it is more important to create a resistant body immune to microbes is a better alternative. Truly the here say *Microbe is nothing body is everything* has

just come alive! Suddenly the current day scientist is on the lookout for a more positive, purposeful and comprehensive approach to health and also disease management. It is interesting to note Ayurveda the ancient Indian science of life and longevity has placed considerable emphasis on this aspect of medical practice long ago. **Rasayana** (Science of Rejuvenation) is a well directed measure aiming exactly at what can be termed the need of the hour – youthful and healthful long life.

Positive health is something more than no disease. Health stands at the very root of achieving the four essential pursuits of life as enunciated by the propounders of truth – the ancient Indian Rishis – *Dharma* (virtue) *artha* (wealth) *kama* (Desire) and *Moksha* (Emancipation). Diseases are major impediments for productive activities of the humans

and destroyers of health, wellbeing and life<sup>1</sup>. Achieving not simply a state of health but a state of healthful longevity has been the cherished wish of man since time immemorial. “*Jivema saradah satam pasyema saradah satam*” – the Atharvan hymn explicitly intends a longing for hundred years of enjoyable life with unhindered, unimpaired vision and hearing. concept of health as enunciated by the ancient Indian scientists is more comprehensive, than any such definitions made available hitherto.

The concept of health as defined by susruta is a combined state of physical, sensorial, mental and spiritual wellbeing where the ultimate bioactive units (*Tridosas*) basic tissue elements (*Saptadhatus*) digestive and metabolic components (*Samagni*) are in a balanced state and excretory functions (*Malakriya*) go uninhibited<sup>2</sup>. It is with this purpose *Ayurveda* included *Rasayana* as one among its basic division to cater to the needs of the homosapines<sup>3</sup>.

### RASAYANA DEFINITION :

The expression ‘*Rasayana*’ is a unified state of two words – ‘*Rasa* and *Ayana*’. In general terms it refers to the flow of nutrients or more specifically to the acquisition of excellence of vital fluids of the body to achieve a state of positive health, virile youth, and disease free senescence.

**RASA** The term has been applied to mean differently with varying contexts. It is spelt synonymous with *Brahman*, the grandsire of universe<sup>4</sup>, and *vishnu*, the lord symbolic of perseverance<sup>5</sup>, *Sringardi rasa*, an emotional feeling with reference to poetic expression<sup>6</sup> and *parada* (Mercury) in the science of Alchemy. Two important interpretations accepted in the context of *Rasayana* are (1) *Dhaturasa* – symbolising the first of the seven basic tissue elements (*saptadhatu*), formed out of the quintessence portion of the digested food (*Ahararasa*)<sup>7-11</sup>. (2) *Rasapancaka* – The active pharmacological component of the drug, which is, perceived with the help of organ of tongue – Taste or flavour (*Rasanartha rasah*)<sup>12</sup>

*Rasa* is also used to mean ‘water’ as in *Raghuvamsa* (*Sahasraguna mutsrushum adattehi rasam ravih*), ‘Love’ or ‘affection’ as in *uttaramacarita* (*Jarasa yasminnaharyo rasah*), to mean ‘liking’ or ‘desire’ as in *meghaduta* (*Ishste vastu nyupacitarasah premarasibhavanti*) and also to mean Juice of plants as in *Ikshu rasa*, (Sugar cane J.) *Draksha rasa* (Grape J.) etc.

**AYANA** : This term is born out of ‘*In gatou dhatuh*’ symbolizing movement. It’s interesting to note that the expression “*Rasa*” also is derived to mean movement – *Rasa – Gatou – dhatuh*,

*Ayana* has the following interpretations.

*Jnana* : to know, to perceive.

*Gamana* : to move, to approach

*Prapti* : to acquire, to attain.

*Ayana* is used to mean a path as in *Raghuvamsa* (*Agasthyacinha dayanat*), an entrance as in *Gita* (*Ayaneshu to sarveshu yathabhaga mavasthithah*) Final emancipation as in *Swetaswata upanisad* (*Naanyah panthah Vidyate Ayanaya*), The equinoctial and solstitial points as in *Uttarayana* and *Dakshinayana* used with reference to science of Astrology.

The most apt meaning of the *Ayana* in the context of *Rasayana* is *prapti*. Thus *Rasayana* is translated to mean *Rasaprapti* or ‘acquisition of tissue element’.

*Rasayana* is basically aimed at achieving proper nutrition to different organ systems and achieving a state of excellence of tissues. Once these tissues which are also called ‘*Dushya-s*’ (those which are susceptible for vitiation), are strengthened, they are automatically rendered immune to the insults by *Dosa-s* (etiological agents). Nutrition stands at the very root of existence of tissues and proper nutrition ensures proper functions of tissues. *Rasayana* not only accomplishes the formation of excellent nutritional Juice (*Rasa dhatu*), but also engineers proper flow and transport (*Gamana, Ayana*) of this nutrient material to various organ systems of the body imparting excellence and resistance – *Rasanam rasaraktadinam ayanam apyayanam rasayanam*’,

Caraka in his illustrious text *caraka samhita* discusses the concept of ‘*Rasayana*’ in the very first chapter of *cikitsa sthana* (portion of the text dealing with therapeutics). Medicines are categorized into (1) those which invigorate the health of the healthy, (2) those which alleviate the diseases of the diseased<sup>13</sup>. The former group are called ‘*Rasayana-s*, and *vrishya-s*’ and basically are aimed at revitalization and rejuvenation, but also have role subsidiary though, in the alleviation of diseases. The latter group known as *Roganut* essentially is directed at removal of the ailments, but at times can have revigorating properties<sup>14</sup>. *Rasayana* as defined by caraka here is the means by which one achieves the excellence of tissue elements<sup>15</sup>. The scope of *Rasayana* as proposed by caraka operates at two different levels – physical and psychological.

On the physical sphere it’s health, youth, longevity with excellence of luster, complexion, voice and strength that are achieved. On the mental sphere, *Rasayana* aims to promote excellence of intellect, brilliance of memory and extraordinary psychosensory perception. Cakrapanidatta and Gangadhara in their commentaries on the text subscribe to the same view point<sup>16-17</sup>.

Susruta’s definition of *Rasayana* is more or less similar to that of Caraka, but Susruta expands the scope of *Rasayana* to include the management of disease as well<sup>18</sup>. The usage ‘*Vayasthapana*’ is commented upon by Dalhana as the one which extends life beyond hundred years, one which prevents senescence or prolongs youth<sup>19</sup>. susruta evolved a new concept – *Naimittika Rasayana* to target specific diseases with specific *Rasayana* drugs. Susruta also specifies the phase of individual life, for the administration of *Rasayana* therapy – ‘*Purva vayasi madhyeva*’<sup>20</sup>. *rasayana* can be productive only when it is administered during youth and middle age. It is not clear whether *purva* includes childhood in addition to youth. It is an accepted fact that the most ideal time for administration of *Medhya Rasayana-s* – those which promote intellectual faculties, is childhood. Advocating *Swarnaprasana*, ‘*Ashtanga Ghrita*’ etc during the childhood by kasyapa, only supports this view. But commenting on the similar verse *Cakradatta* in his commentary. *Tatwa chandrika* argues that ‘*purva*’ refers only to youth and that *Rasayana* cannot be administered in childhood, because children cannot tolerate the high potency of those drugs<sup>21</sup>. This aspect however needs further exploration. Susruta while referring to ‘*Medhya Rasayana*’ in addition to drug therapy advises four prescriptions worth noting “*Study, Discussion, Inquiry into the allied textual literature, and Service to the experts in the field form the core group enhancing mental faculties*”<sup>22</sup>. Dalhana the authoritative commentator of

*Susruta samhita*, concurs with the Susruta's concept on definition and scope of *Rasayana*. However Dalhana issues one of the most significant statements which gives a new twist to the whole concept of *Rasayana*.<sup>23-24</sup> – *Rasanam bshajasritanam rasaviryavipakaprabhavanam ayanam labhopayo rasayanam*". *Rasayana* is the science of exploiting the inherent pharmacological activities of a drug to make an optimum use of these properties. To be more precise *Rasayana* is a technique by which potentiality latent in the drugs can be exploited to serve a specific purpose. When *Rasayana* technique is not adopted, the drug simply manifests its routine properties. The concept of *Ritu Haritaki*, *pippali Vardhamana Rasayana* it appears, are indicative of such ideology. *Rasayana* Technology, probably also improves the qualitative and quantitative expression of properties specific to the drug.

*Kasyapa samhita*, and *Bhela samhita* the two contemporary works are not available in their full form. Both these texts do not show any comprehensive description of *Rasayana* therapy, though there is scattered description in various contexts. *Bhela* advocates '*pippali vardhamana Rasayana*' in *Rajayakma* (Tuberculosis) while *Kasyapa* prescribes '*Lasuna kalpa*' in the same disease.

The currently available version of *Harita samhita* (presumably another contemporary writing to *Caraka samhita*) whose authenticity is of doubtful significance, has defined *Rasayana* as a measure which strengthens the physique, sensory apparatus and teeth, and the one which annihilates hair fall, Grey hair and degenerative skin changes.<sup>25</sup> The same verse has reappeared as a photocopy in *Ayurvedasoukhyam* of Todarananda (1600AD).

*Ashtanga hridaya*<sup>26</sup> and its two commentaries by Arunadatta and Hemadri have largely adopted the views of *Caraka samhita*<sup>27</sup>. Though Vagbhata has introduced some new *Rasayana* drugs not mentioned in the

earlier works and described the subject in more definitive terms, he has not made any original contribution as such.

Cakradatta a therapeutic text of 11<sup>th</sup> Century AD defines *Rasayana* as the one which offends ageing and disease<sup>28</sup>. *Sharangadhara samhita* (1400AD) defines *Rasayana* on similar lines<sup>29</sup>. The usage *Jaravyadhi vidwamsi* has varied interpretations:

One which destroys, decay and disease (*Jara* and *vyadhi*)<sup>30</sup>

One which offends a disease manifested in the guise of decay (*Jara rupa vyadhi*)<sup>31</sup>.

One which fights diseases of the old age (*Jaraja Vyadhi*).

One which alleviates chronic diseases (*Jirna Vyadhi*)

*Rasaratna sammuchaya's* (1300 AD) definition of *Rasayana* is a direct copyright from *Ashtanga Hridaya.Bhavaprakasa Samhita* (1600AD) defines *Rasayana* as the one, which destroys decay and disease, one that suspends youth, one which is nourishing, good to eyes and which has aphrodisiac properties.<sup>32</sup> *Ayurveda Soukhyam* of Todara in addition to the definition cited earlier gives an interesting definition "*Rasayana is the means of achieving and promoting the corpulence of tissue elements*"<sup>33</sup>. The text also incorporates the factors like health, longevity and mental faculties into the scope of *Rasayana* drugs.<sup>34</sup>

*Yogaratanakara's* (1700AD) version largely resembles that of Cakradatta. It has laid a special emphasis on "*Gandhaka Rasayana* which does not appear in earlier non *Rasatantra* texts (Texts on metallurgy and Alchemy).

*Vangasena samhita*, written by vangasena, with contradicting claims on antiquity ranging from 500 AD to 1700 AD, has also touched upon the concept of *Rasayana* and has largely adopted the views of *Caraka samhita*.

### RASAYANA-LANDMARK DEFINITIONS

दोषमायः स्मतिमधामारोग्य तरुण वयः ।

लाभोपायोहि शस्ताना रसादोना रसायनम । (च; चि-१:१/७-८)

रसायन तन्त्र नाम वयस्थापनमायमधाबलकररोगापहरण समथ च ।(स; स-१/८)

रसादिधातनामयनमाप्यायन अथवा भषजाश्रितानारसवोयविपाक पभावाणामायबलवोयघाणा वयस्थय करणामयन लभोपायो रसायनम वधक स्थापकम-पात्पपापक वत्यथः । (डल्हण-स; चि-२७/)

रसायन त तज्जय यज्जरा व्याधिनाशनम ।

यथामतारुदन्तो च गगलश्च हरोतको ।।(शा; प-४/१४)

### RASAYANA TECHNOLOGY

पिप्पलोना सहसस्य पयोगोय रसायनम ।

बहण स्वयमायष्य प्लोहोदरविनाशनम । (च; चि-१/३/३७-४०)

हरोतको सहस व क्षोराशो वा शिलाजत ।

शिलाजत विधानन गगल वा पयोजयत ।।(च; चि-१३/१५२)

सतताध्ययन वादः परतन्त्रावलोकनम ।

तद्विधाचाय सवा च बद्धिमधाकरो गणः ।।(स; चि-२८/२७)

सत्यवादिनमक्रोध निवत्त मघ मथनम ।

अहिसकमनायास पशान्त पियवादिनम ।।

समजागरण स्वप्न नित्य क्षोरधताशिनम ।  
धमशास्त्र पर नित्य विधान्नित्यरसायनम ॥(च, चि-१/४/३०-३४)

#### COMMON RASAYANA DRUGS

SANSKRIT N.	BOTANICAL N.	USE
AMALAKI	EMBLICA OFFICINALIS	ADAPTOGENEC
YASHTI	GLYCIRRHIZA GLABRA	ACID PEPTIC D.
HARITAKI	TERMINALIA CHEBULA	ANASARCA
ASWAGANDHA	WITHANIA SOMNIFERA	APHRODISIAC
LASUNA	ALLIUM SATIVUM	NEUROLOGICAL D.
PIPPALI	PIPER LONGUM	B. ASTHMA
BRAHMI	BACOPA MONNIERAI	NEUROTROPIC
VACHA	ACORUS CALAMUS	EPILEPSY

#### EFFECT OF RASAYANA (REJUVENATION)

ENRICHES NUTRITION : CURES DISEASE, PROMOTES HEALTH  
[[ CORRECTS METABOLISM : RETARDS AGING, PROLONGS YOUTH  
PROMOTESMICROCIRCULATION : IMPARTS IMMUNITY, REFINES HMF  
ELIMINATES METABOLICWASTES ANTIOXIDENT ADAPTOGENIC ANTISTRESS

#### RASAYANA – OPERATIVE MECHANICS

RASA	AGNI	SROTAS	MALA
ENRICHES TISSUE NUTRITION	CORRECTS DIGESTION- METABOLISM	PROMOTES MICRO CIRCULATION	ELIMINATES METABOLIC WASTES

#### IMPROVED NUTRITIONAL STATUS

SOUND BODY	STEADY MIND
PROMOTES HEALTH	PROLONGS YOUTH
IMPARTS IMMUNITY	DELAYS AGING
ANNIHILATES DISEASES	REFINES MENTAL FACULTIES

#### RASAYANA TECHNOLOGY

DRUG	RASAYANA METHODS	EXPLORES LATENT
INDIVIDUAL	POTENTIALITIES	ACARA RASAYANA PROMOTES RECEPTOR COMPETENCE

#### RASAYANA – SCOPE

PREVENTIVE	PROMOTIVE	CURATIVE
PREVENTS ILL HEALTH	NUTRITION	PHYSICAL
IMPARTS RESISTANCE	POSITIVE HEALTH	PSYCHOLOGICAL
PROLONGS YOUTH	LONGIVITY	SUPPORTIVE
DELAYS AGING	MENTAL FACULTIES	RADICAL

#### THE CONCEPT OF MEDHYARASAYANA

A vertical search through the Ayurveda literature reveals a comprehensive description of a class of drugs called *medhya* drugs used in the management of psychological and psychosomatic disorders. Basically *medhya* drugs promote intellectual faculty and hence promote mental health. However they have a pronounced potency in treating a variety of psychological disorders. Caraka samhita describes four drugs which have specific role in promoting higher mental functions and a term Medhyarasayana was coined by caraka in this context-

मण्डूकपर्ण्याः स्वरसः प्रयोज्यः क्षीरेणयष्टिमधुकस्य चूर्णम् ।  
 रसो गुडूच्यास्तु समूलपुष्याः कलकः प्रयोज्यः खलु शंखुपुष्याः ॥  
 आयुः प्रदान्यामयनाशनानि बलग्निवर्णस्वस्वर्धनानि ।  
 मेध्यानि चैतानि रसायनानि मेध्या विशेषेण च शंखुपुष्पी । Ca.ci 1/3/30.31

The four drugs- *Mandookaparni* – Hydrocotyle asiatica, *Shankhapusphi* (Convulvulus pleuricalis) *Guduchi* (Tinospora cordifolia) and *Yashtimadhu* (Glycerrhiza glabra), have been mentioned to have specific effect on cognitive functions and related disorders.

The same view is subscribed to, by vagbhata.

आयुः प्रदान्यामयनाशनानि बलग्निवर्णस्वस्वर्धनानि ।  
 मेध्यानि चैतानि रसायनानि मेध्या विशेषेण च शंखुपुष्पी ॥  
 मण्डूकपर्ण्याः स्वरसं यथाग्नि क्षीरेण यष्टिमधुकस्य चूर्णम् ।  
 रसं गुडूच्याः सहमूलपुष्याः कल्कं प्रयुञ्जीत च शंखुपुष्याः ॥ A.H.39/44

The drugs that promote ‘*Medha*’ are called ‘*medhya*’ and quite a good number of drugs have been mentioned in Ayurveda texts which are *medhya* by nature. Susruta samhita has devoted a full chapter named – *Medhayushkamiyam Rasayanam*( ci. 28) to discuss a few *medhya* drugs and their compound formulations. The drugs mentioned here are- *Avalguja* (*Sweta*)- *Psoralia corlifolia*, *Mandookaparni*- *Hydrocotyle asiatica*, *Bilwa*- *Eagle marmolus* *Brahmi*- *Bacopa monnieri* and *Vacha* (*Hymavati*)- *Acorus calamus*, *Brahmasuvarchala* *Haridra*- *Curcuma longa*, *Chitraka* – *Plumbago zelanicum*, *Ghritam*- *Ghee* and *Suvarna*- gold Susruta advocates specific methods for the use of these drugs and advised special dietetic regimen during the period of using these drugs.

मेधायुष्कामः श्वेतवल्गुजफलान्यातपपरिगुणकाप्यादाय ...  
 हतवोप एव प्रतिसंभृष्टभक्तो यथाक्रममागारं प्रविश्य  
 मण्डूकपर्णी स्वरसमादायहतदोष एवगारं प्रविश्य ब्राह्मीस्वरसमादाय  
 हतदोष एवागारं प्रविश्य हैमवत्याः वचायाः su.ci 28/3-7

In a significant statement Susruta suggests that the four measures (1) Regular study (2) Scholarly discussions (3) Reading allied literature and (4) Serving the experts in the field – constituted the group-(*gana*) that enhances the intellectual faculties

सतताध्ययनं वाद परतत्रावलोकनम्  
 तद्विद्याचार्य सेवा च बुद्धिमेधाकरो गणः su/ ci/28/26

In view of their potential to promote to intellectual faculties a few more drugs like

*Aswagandha*, (*Withania somnifera*), *Jyotishmati* (*Celastrus panniculatus*) can also be considered to be ‘*Medhya*’.

### Concept of ‘MEDHA’

The expression ‘*Medha*’- Originates from the root- *Medhrosongame*... ‘Where are the faculties converge’. Shabdakalpadruma derives the word ‘*medhya*’ from *medha*. Dalhana the most authoritative commentator on Susruta samhita defines *medha* as knowledge uninterrupted and the one which helps in depth appreciation of even the subtlest of the things in the universe and retention of the vast information received -

मेधा ग्रन्थ अवधारण शक्तिः

बुद्धिः तत्काल विषया Dalhana/Su. sa 1/18

Amarakosha, the famous ancient work on synonyms suggest that ‘*Medha*’ is a type of intellect which is specialized in retaining the knowledge apprehended-

QaIQaa-rNavatI maoQaa Amarakosha 1/5/2

*Mandooka Upanisad* (2/2/8) considers *Buddhi* and *Medha* synonymous. Highlighting the importance of *Buddhi* the Upanisads state that all the factors binding the soul are in *Buddhi* and it is through *Buddhi* that the soul gets connected or entangled with the other world in infinite ways. The ancient Indian literature considers ‘*Medha*’ as a form of *Saraswati*- the goddess of learning. ‘*Medharudhra*’ is an epithet of kalidasa the poet known for his unparalleled excellence. *Medha Atithi* is the name of a learned commentator on Manusmriti the ancient Indian authority on traditional code of law.

Monier Williams equates '*Medha*' to Mental vigour or power, Intelligence, prudence or wisdom. *Medha* also means the juice of a nourishing or a strengthening drink.

The expression '*Medha*' has many synonyms in – *Buddhih, Prajnaa samjnanam Vignanam prajnanam Dhritih Manisaa*, according to Itareya upanisad

सज्ञानमज्ञानं विज्ञानं प्रज्ञानं मेधादृष्टिधृतिर्मतिमनीषाजातिः

स्मृतिः संकल्पः कृतरसुः कामोवश इति सर्वण्येतानि प्रज्ञानस्य नामदेयानि भवन्ति

*Buddhih* is intellect and a type of intellect which is specialized in retentive ability is termed *Medha* by Dalhana. *Prajna* appears to be a functional version of *medha* and carakrapani considers *prajna* as having three versions in- *Dhi- Dhiti* and *Smriti*

*Dhih-* is the faculty of intellect which is concerned with understanding or information processing- i.e. the process of Reception- Perception. However the, expression '*Dhih*' has a wider implication. The following are supposed to be the equalities of the intellect- (*Dhigunah*)-

<i>Susrusa-</i>	Desire to hear/listen
<i>Sravanam-</i>	The act of hearing
<i>Grahanam-</i>	The process of receiving
<i>Dharanam-</i>	The act of retaining/preserving
<i>Uhapoha –</i>	Consideration of pros and cons
<i>Arthavignanam</i>	The knowledge of matter
<i>Tatwajnanam-</i>	Knowledge of true state of the soul.

शुश्रूषा श्रवणं चैव ग्रहाणं धाराणं तथा

उहापौहार्थं विज्ञानं च धीगुणाः Sabdakalpadruma

Thus '*Dhee*' refers to a faculty which not only receives and perceives but also analyses the pros and cons of what has been appreciated. In a metaphysical application *Dhi* refers to knowledge of the ultimate- the true state of the soul.

*Dhriti* refers to the faculty of the intellect which retains the information received or perceived. It applied to mean 'to hold', 'to seize' 'to maintain' or 'to support'. Caraka samhita has referred to *Dhritih* as the faculty which regulates or controls the mind.

धृतिर्हि नियमात्मिका Ca. sa 1/100

'*Smritih*' refers to remembrance recollection or memory. It is the recollective ability of the mental faculty and reproduces what has been received and retained by the mind as and when required. Caraka samhita considers memory as the ability to remember the things that are directly perceived, heard, or experienced earlier.

दृष्टश्रुतानुभूतानां स्मरणात्स्मृतिरुच्यते । ca.sa 1/148

स्मर्तव्यं हि स्मृतौ स्थितम् Ca. sa 1/101

Tarkasangraha has suggested *smriti* as the knowledge attained through the act of refinement (*Samskarah*)- it is done by training, education and cultivation.

संस्कारमात्रजन्यज्ञानं स्मृतिः तद्भिन्नमनुभवः । (Tarkasangraha (Gunaprakarana)

Patanjali considers *smriti* as a modification of mind (*cittam*)

प्रमाणविपर्यय विकल्प त्रिदा स्मृतय

Y.S 1/6

Thus the expression *medha* refers to mental faculties in general and intellectual faculty in particular, more so of retentive faculty. The drugs or measures that promote *Medha* are '*Medhya*'

The addition *Medhya* in the context of *rasayana* suggests that the drugs/measures are promoters of excellence of vital body fluids, in general and vital brain fluids in particular. The '*rasayana* effect' operates at four different levels-

- (1) By promoting the quality of nutritional fluids (like plasma) or acting as direct nutrients.
- (2) By enhancing the absorption, by promoting metabolism and augmenting bioavailability, thus felicitating the tissue nourishment
- (3) By removing obstructive pathology and promoting microcirculation and hence allowing improved tissue perfusion and nourishment
- (4) By facilitating elimination of toxic metabolites

Thus *Medhyarasayana* drugs by virtue of being '*medhya*' and *Rasayana* both end up doing the following—

- (1) Promote qualitative improvement in cerebral fluids (like C.S.F) hormones and other vital secretions

- (2) Promote metabolic activity in the brain and other parts of nervous system and thereby activate enzyme systems, receptor faculty.
- (3) Promote cerebral vasodilatation by removing clots/infarcts and correcting the atherosclerotic changes.
- (4) Promote and facilitate the elimination of toxic metabolites.

Thus the concept of *rasayana* suggests that all *rasayana* drugs promote vital functions of the body including those of brain and nervous system. But *Medhyarasayana* drugs have a specific and emphatic role in the promotion of cerebral nutrition, circulation, perfusion and hence enhancement of intellectual faculties. The concept of '*Medhyarasayana*' of Caraka and '*Medhakamyarasayana*' of Susruta, suggest that these are separate class of drugs among *rasayana* drugs and have special and specific mental effects.

**1 MEDHARASAYANA (CARAKA)**

MANDOOKAPARNI	-	CENTELLA ASIATICA
JYOTHISHMATI	-	CELASTRUS PANNICULATUS
GUDUCHI	-	TINOSPORA CORDIFOLIA
YASHTIMADHU	-	GLYCERZA GLABRA

**MEDHYAYUSHKAMIYA (SUSRUTA)**

BRAHMI	-	BACOPA MONNIERI
MANDOOKA PARNI	-	CENTELLA ASIATICA
VACHA	-	ACORUS CALOMUS
HARIDRA		CURCUMA LONGA
VIDANGA		EMBELIA RIBES
BAKUCHI		PSORALEA CORYLIFOLIA
BILVA		AEGLE MARMOLUS
CHITRAKA	-	PLUMBAGO ZELANICUM
GHRITAM-		GHEE
SUVARNA-		GOLD

**3 MEDHAKARA GANA (SUSRUTA)**

- |     |                     |                           |
|-----|---------------------|---------------------------|
| (1) | SATATADHYAYANAM     | REGULAR STUDY             |
| (2) | VADAH               | SCHOLARLY DISCUSSIONS     |
| (3) | PARATANTRAVALOKANAM | READING ALLIED LITERATURE |
| (4) | TADVIDYACARYASEVA   | SERVING THE EXPERTS       |

**4.MEDHYARASAYANA – CONCEPT**

*MEDHA* = *PRAJNA* = MENTAL FACULTY

*PRAJNA* = *DHI* INTELLECT RECEPTION

*DHRITI* PERSEVERENCE RETENTION

*SMRITI* MEMORY RECOLLECTION

*RASAYANA* = ENRICHES NUTRITION

*MEDHYARASAYANA* – PROMOTES CEREBRAL NUTRITION & ACTIVITY

RECEPTION RETENTION RECOLLECTION

**CLASSIFICATION BASED CURRENT ON RESEARCH**

Anxiolytic	-Aswagandha, Brahmi, Jatamamsi, Dattura.
Antidepressant	-Aswagandha, Brahmi, Jatamamsi, Vaca, Kapikacchu, Puga
Tranquilisi	-Jyotishmati
Sedative	-Shankhapushpi Mandookaparni
Anticonvulsant	-Shankhapushpi, Shighru, Ustukhudus
Anaesthetic	-Aswagandha
Neuroleptic	- Jyotishmati
Antistress	- Aswagandha, Tulasi Lasuna, Dattura,
Psychotropic	- Aswagandha, Brahmi, Shankhapushpi, Mandookaparni
Nootropic	Brahmi, Mandookaparni, Jyotshmati
Neuroprotective	Aswagandha
Adoptogenic	Aswagandha, Jyotishmati
Antipsychotic	Shankhapushpi , Mandookaparni
Antiepileptic	Aswagandha, Jatamamsi, Brahmi, Vacha, Jyotishmati
Antiparkison	Kapikacchu

**MODE OF ACTION OF DRUGS*****Brahmi-B.monniери***

ENHANCES CEREBRAL GLUTAMATE AND GABA  
 INCREASES PROTEIN LEVELS IN HIPPOCAMPUS  
 REDUCES THE LEVELS OF LPO IN HIPPOCAMPUS  
 DEPLETES THE NORADRENALINE AND 5 HT CONTENT OF RAT BRAIN  
 PREVENTS EXPRESSION OF HEAT SHOCK PROTEIN IN BRAIN  
 ENHANCES PROTEIN KINASE ACTIVITY  
 ATTENUATES RETROGRADE AMNESIA  
 IMPROVES ACQUISITION CONSOLIDATION AND RETENTION

***Shankhapushpi-C.pleuricalis***

EXHIBITS ANTICONVULSANT ACTIVITY  
 POTENTIATES BARBITURATE HYPNOSIS  
 PRODUCES CYTOPROTECTIVE ANTISTRESS EFFECTS  
 PREVENTS CHANGES IN NEURONAL CELLS IN SPECIFIC BRAIN AREAS  
 PROMOTES LEARNING, MEMORY

***Jyotishmati-C.panniculatus***

REGULATES METABOLISM OF BIOAMINES-SERATONIN AND GABA  
 DECREASES THE TURNOVER OF CENTRAL MONOAMINE  
 PREVENTS LOSS OF ACETYLCHOLINE IN BRAIN  
 DIMINISHES AMPHETAMINE INDUCED HYPERACTIVITY  
 NOOTROPIC NEUROLEPTIC ADOPTOGENIC

***Mandooki (C.asiatica)***

IMPROVES LEARNING AND MEMORY  
 CONROLS ALTERED BEHAVIOR  
 PROMOTES ATTENTION AND CONCENTRATION

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