

CIRCUMSTANTIAL VIEW ON CLINICAL KNOWING OF MANOVAHA SROTASA & ITS PHYSIOLOGY

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ABSTRACT

In today's world everyone consider the mind to domicile in the brain, in the head and all regards that the brains functions to control the mind and the intellect. But in Ayurveda , the mind is said to domicile in the heart, which makes sense. The heart is the centre of feeling; emotions, love and intellect Manovaha Srotsas are the pathway called channels of consciousness that flow by the mind. Srotsas are important in Ayurveda because they make up a system of channels that works for the body to do well. A detailed study of Manovaha Srotsa not being available in ancient texts of Ayurveda, so it is essential to reconstruct a comprehensive picture by supplementing additional information from modern physiology. The increasing level of stress in today's time calls upon the present day Ayurvedists to have a good working knowledge of this Srotsa. So, this article is on Manovha Srotsa and how to analysis Manovaha Srotsa in modern.

Keywords: Ayurveda, Manovaha Srotsa, Nadi, Psychosomatic Disorders.

INTRODUCTION

Ayurveda is old science but modern way to understand the old concept in new and better way when understanding the matter are little -Manovaha Srotsa concept are one of that topic. Charka has not enumerated Manovaha Srotsa in the fifth chapter of Vimana but he has used the term Manovaha Srotsa in the course of description of Unmada Roga(insanity)¹—

Similarly, Susruta has made use of the term Samjnavaha, Nadis in the context of Murcha Roga (convulsion)². So, these two terms stand for channels or structures through which Manas (mind) and Samjna (sensation) travel vis-à-vis efferent and afferent pathways of the nervous system. Hence, we can safely presume that ancient Acharya of Ayurveda had clearly conceived separate structure for these functions.

AIMS AND OBJECTIVES-

1. To study the concept of *Manovha Srotsa*.
2. To establish the Manovaha Srotsa in modern way.
3. To study Manovaha Srotsa in detail in Ayurveda and Modern in both.
4. To study the Manovaha Srotsa in clinical way its pathogenesis & symptoms and how to analyze its Dusti in detail.

This conceptual study will be helpful in the various progressive survey studies.

MATERIALS AND METHODS-

1. Only textual materials have been used for this study from which various references have been collected from Samhitas.
2. Modern texts and related websites have also been searched.

CONCEPTUAL PART-

Rachna Sharira Point of Manovaha

Srotsa- Ayurvedic texts describe mastulunga (brain, encephalon) as Sirogata Sneha Visesa (fat present inside the head)³. It is a solid mass of fatty material present inside the cranium. Its average weight is 1380gms & 1250 gms in adult male & female respectively. It grows rapidly during the first year of life and by the sixth year 85% of the weight of an adult brain will have been reached. It decreases in weight slowly during old age.

The brain is protected by three layers or coverings called the meninges (Mastulunga Avarana Kala)⁴. The outermost layer known as duramater (Varasika). Is a tough fibrous membrane adhering firmly to the inside of the skull bones in one fold and with another it covers the brain; the middle layer known as arachnoid membrane (Nisarika) Is thin delicate transparent grayish membrane which joins the inner fold of the duramater. The third inner-most layer called the piamater (Chinamsuka) resembles a fine silk-cloth, very delicate and follows every elevation and depression of the brain surface. All these three layers extend downwards and cover the spinal cord also in the same order of position. In between the arachnoid and piamaters there is a small space wherein a little quantity of fluid (CSF) is present.

The brain (Mastulunga) is divisible into five major parts-

1. Cerebrum (Mastika)
2. Cerebellum (Dhammillaka)
3. Pons (Usnisaka)
4. Medulla Oblongata (Susumna Sirsaka)
5. Spinal cord (Susumna Kanda).

The last portion – the Susumna Kanda comes out of cranium like an elongated tail and runs straight inside the bones of the vertebral column (Prastha Vamsa).

1. Cerebrum (Mastika) is largest part of the brain & occupies almost the whole of the cranial cavity. It is grey externally and

white internally. The external grey matter (Dhatu Vastu) is about 1/8 thick and is known as cortex. It is composed of myriads of nerve cells (cell bodies only). The internal white matter (Subhra Vastu) called the medulla consists of innumerable nerve fibers. It is ovoid in shape and divided into two halves (hemispheres) right and left; by a deep fissure running longitudinally (Anudirgha Mahasita). The division is clear at the top and middle portions while at the bottom the two halves remain attached. The external surface of both the hemispheres is molded into a number of irregular eminences or gyrii and depressions or sulcii. This convoluted condition of the surface permits a greater increase of the grey matter. The number and extent of the gyrii as well as the depth of the sulcii appear to bear certain relation with the intellectual power of the individuals. Each cerebral hemisphere is further divided into 4 lobes – a) s- frontal lobes (Agrima Pindaka) situated just behind the forehead, b)- temporal lobes (Sankhika Pindaka) just to the back of the frontal lobes, c)- Parietal lobes (Parswika Pindaka) which are just behind and above the ears and d)- the occipital lobes (Paschima Pindika) which is located at the back of the skull.

2. Cerebellum (Dhammillaka) lies behind and beneath the occipital lobes of the cerebrum. It is somewhat ovoid in shape and weighs about 150 gms. It also has two hemispheres on either side separated by a small strip in the middle. Its surface is not convoluted like that of the cerebrum but is traversed by numerous curved ridges and furrows. 2 deep horizontal furrows divide each hemisphere into three lobes, the anterior (Agrim

Pinda), middle (Madhya Pinda) and posterior (Paschima Pinda). The external layer of the cerebellum is formed by the grey matter and the interior consists of white matter.

3. Pons (Usnisaka)- is a small round shaped mass located in front of the cerebellum and underneath the cerebrum. It is convex from side to side and becomes continuous with medulla (Susumna Sirsaka).
4. Medulla Oblongata- is the beginning of the spinal cord. It is pyramidal in shape and measures 3cm in length, 2 cm in width and 1.25 cm in thickness.
5. The interior of the brain contains 4 small cavities called the ventricles (Mastiska Guha). The first 2 known as the lateral ventricles are found in each of the cerebral hemispheres and consists of 3 limbs (Tripatha Guha). In between the first 2 limbs of the lateral ventricles – in the centre of the inferior part of the brain- is situated the III ventricle (Brahma Guha). Below and behind this- in between the cerebellum and medulla oblongata – is located the IV ventricle, which becomes continuous with the central canal of the spinal cord. All these ventricles have small communicating ducts (channels) and contain a thin watery fluid, the CSF (Mastiska- Sousumnika Jala, Brahma Vari, Sirsa Jala). This fluid is derived from the blood (Rasa- Rakta) just like lymph (Lasika) and is produced by tufts of modified capillaries. It is in constant secretion, absorption and circulation.
6. Medium sized arteries on each side of the neck (internal carotid and vertebral arteries, Antar Matrka and Susumna Matrka Dhamnis) enter into the skull and supply the brain with blood. The inferior surface of the brain with blood. The infe-

rior surface of the brain forms the site of origin of 12 pairs of cranial nerves (Sirsanya Nadis) and also the location of such parts like the thalamus (Ajna Kanda), hypothalamus (Kanda Dharika), pineal and pituitary glands (Trtiya Drk Kandika and Posanika or Piyusa Granthis).

Spinal cord- (Susumna Kanda or Meru Danda)- is a tail like downward projection of the brain. Its upper part (head) is the medulla which descends down through the foramen magnum (Maha Vivara) into the central passage of the vertebral column (Prstha Vamsa) and assumes the name spinal cord. Its average length is about 45 mm, its circumference at the top about 38 mm. and at the tips 3-5 mm only. A central canal runs through its entire length and contains the cerebrospinal fluid. In distinct contrast to the brain, the spinal cord has a layer of white matter externally and grey matter internally.

Nerves (Nadis) are opaque white colored rope like elongated structures, varying in length from a few inches to many feet and in thickness from hair like filaments to about 3-4 cms.

The brain, spinal cord and the nerves are considered as a distinct variety of tissue (Nadi Dhatu). The functional unit of this tissue is called the nerve cell or neuron (Nadi Paramanu). It consists of a spider shaped cell body and many hairs like projections. One of these projections which is long and remains single is called the axon (Aksha Tantu) and the remaining short and branching projections are called the dendrites (Urna Tantu). The dendrites of one cell whereas the axon of many neighboring cells run parallel in bundles of fibers and come to be called nerves. The cell bodies of all the nerves are present in the cortex of the brain and spinal cord. All the nerve cords arise

from the brain and spinal cord, 12 pairs from the former (cranial nerves) and 31 pairs from the latter (spinal nerves). The cranial nerves reach all the sense organs (Jnanendriyas) located in the head and the organs inside the chest and abdomen (Kosthangas); whereas the spinal nerves reach the skin, muscles, joints (karmendriyas) of the entire body. These 2 sets of nerves branch off, mix themselves up and give rise to a separate network of nerves called the autonomic nervous system which is located inside the trunk and attends to the function of the internal organs. There are many plexus (Chakras) of this system in various places inside the trunk.

Jnanendriya (Sense organs)- the eyes, ears, nose, tongue, skin are the 5 sense organs responsible for sight (rupaindriya), hearing (Sabda -sravana), smell (Gandha Ghrana), taste (Rasa jnana)and touch (Sparsana).

Karmendriya (motor organs)- Ayurveda considers Vak (organs of speech), Hasta (arms), Pada(legs), Payu(rectum) and Upastha (generative organs- penis and vagina) as the five Karmendriyas or organs of function.

Manas- though Ayurveda and Darshanas considers Manas (mind) as a material substance (Dravya) as a material substance (Dravya) it is impossible to perceive it by any of our sense organs. Hence we have no Rachna Sarira (Anatomy) for it. The entire nervous system – the central and autonomic- is to be taken as the structural basis for the mind.

KRIYA SARIRA (PHYSIOLOGY)- Ayurveda describes Sarira Vata as formed out of Vayu and Akasha Bhutas⁵, it is sukma (subtle), Avyakta (invisible, imperceptible) but Vayakta Karma (its functions can be seen), Karmanumeya (its existence to be inferred

from its functions), Sighra Gati (possesses swift movement), Achintya Virya (of unthinkable potency), Chala (unsteady)⁶, activator of Indriyas (sense organs), solely responsible for Sparsana (tactile sensation), controller and stimulator of the Manas (mind) and its activity, supporter and co-coordinator of all Dhatus (tissue and their functions), expeller of Kittas(waste products), initiator of speech, responsible for Swasha (respiration), Harsha (joy), Utsaha (enthusiasm), thus supporting life unto the last. In other words it is Vata which is responsible for all activities of the body and mind. It is divisible into 5 anatomical and functional divisions viz- Prana Vata, Udana Vta, Vyana Vata, Samana Vata, Apana Vata. Manas (mind) is described as the mediator between Indriyas (sense organs) and Atma (soul). It is located inside the head, near the sense organs but is always moving swiftly from place to place throughout the body. It understands the Indiryarthas (sense impressions) and causes body activities. It is very much under the control of Vata which coordinates all its functions like Chintana (thinking), Vichara (discretion), Dhyeya (purpose, aim), Sankalpa (determination)etc. These and many other references to Vata and Manas in the texts of Ayurveda make it clear that the former stands for nerve impulse and nervous activity while the latter for the mind. It has now been established beyond doubt that the nervous system forms the structural basis for the mind and its functions. Hence we will be justified in identifying Manovaha Srotsa with Nervous System. It will be advantageous, at this juncture, to make a brief study of functioning of the nervous system as understood today and such a study will be greatly helpful to understand the abnormalities better.

Nervous system comprises of 2 broad divisions viz- 1. CNS, 2. ANS.

The Central Nervous System- also known as cerebrospinal system consists of the brain, the spinal cord and the nerves arising from them. The sense organs, muscles and other tissues spread all over the body are controlled by this system.

Brain- made up of millions of nerve cells works like computer. The cerebrum is the important parts of the brain and every part of the body and every function have a controlling area in the cerebrum. So far about 2 hundred areas have been mapped out but many still remain to be investigated. Most important areas, their location and functions are:

AREAS	FUNCTIONS
Psychical area	Higher mental functions like- thinking, reasoning, foresight, judgments, behavior patterns, personality traits etc.
Motor area	Movement of muscles, joints of extremities, trunk, head and neck etc.
Sensory area	Sensation from the skin, muscles, viscera etc.
Area of speech	Speech centre in the left cerebral hemisphere in right handed persons & in the right hemisphere in the left handed.
Area of taste and smell	Taste and smell sensations
Auditory area	Hearing
Visual area	Sight

Nervous System in Ancient non-medical literature- Some of the Upnisads, book on Yoga philosophy, the tantras and other ancient Indian sciences have dealt with nervous systems in their own peculiar style⁸. It has not been possible for modern medical science to identify the structures correctly, establish the functions and evaluate them while at the same time unable to dismiss it also as impossible or absurd. Hence a short summary of it will not be out of place here. Satchakra Nirupana, Satchakra Vivrti, Trip-

urasara Samuccaya, Hathyoga Pradipika, positive sciences of ancient Hindus- (B.N.SeaL)

Inside Prstha Vamsa (vertebral column) lies the Susumna (also known as Merudanda, Brahma Danda). On its left side runs the Nadi named Ida and on the right the Pingala. There are Sat Chakras (6 plexuses) situated at various levels of the Susumna; starting from the bottom or tip of the Susumna, they are the Muladhara, Swadhisthana, Manipura, Anahata, Visuddha and Ajna Chakras.

CHAKRA	PETALS	LOCATIONS
Muladhara	4(branches)	Inside pelvis, near the side of rectum
Swadhisthana	6	Lies behind root of generative organs
Manipura	10	Behind the Umbilicus
Anahata	12	Lies behind heart
Visudha	16	Region of neck
Ajna	2	Behind eye brows

There are some more minor Chakras also. The Ida and Pingla Nadis along with the Susumna and the branches of these Chakras make up innumerable tracts (about of which 14 are important and have been named) which attend to all the functions of the Sarta, Manas and Atma.

A very potent Shakti (power) called Kundalini lies dormant, like a coiled sleeping serpent at the muladhara Chakra and if aroused from sleep and made to climb up each of the above Chakras in succession, it goes out of the body breaking open the skull, taking with it the Jiva or Atma (Soul) to Paramapada (heaven) thus giving it the

Moksa (liberation) from the cycle of birth and death. The method of raising the Kundalini is by controlling the Chakras, which in turn is achieved by controlling the organs connected to each Chakras; Asana (body posture) Pranayama (control and regulation of breath), Dhyana (meditation) etc; greatly help in this process. Control or mastery over each Chakra gives the person various powers which are unusual (Siddhis) and beyond the capacity of ordinary men.

The above description suffices to identify the structures, provisionally in the following way-

Place	Location
Susumna	Spinal cord along with the brain
Ida and Pingla Nadis	The left and right sympathetic chains of ganglia of the autonomic nervous system
Muladhara Chakra	Sacro Coccygeal plexus- pelvic plexus
Swadhaisthana Chakra	Hypogastric plexus
Manipur Chakra	Solar plexus, caelic plexus
Anahata Chakra	Cardiac plexus
Visuddha Chakra	Carotid plexus, pharyngeal plexus
Ajna Chakra	Cavernous plexus, naso ciliary extensions

Incorporation of the knowledge of these Nadis and Chakras into Ayurveda will be advantageous. Finally, an attempt is made herein to correlate the 5 subdivisions of the Vata with modern anatomical knowledge.

Each sub division has both sensory and motor functions; hence both the central NS and ANS share the work, as can be shown here under;

Vata functions	Structure
<i>Pranavata- budhi, Chitta(manas)(higher psychical activities) siro –hrdaya</i> <i>Indriya Dharana/ Indriyarthha Graha(hana)(sensory work)</i> <i>Sthivana, Ksavathu, Udgara, Niswasa, Annapravesa(motor work)</i>	a)-CNS- frontal lobes of the cerebrum, thalamus & hypothalamus Cranial nerves viz. olfactory, optic, trigeminal, facial, auditory, glossopharyngeal and vagus nerves Trigeminal, facial, glossopharyngeal, vagus, hypoglossal nerves b)- ANS-carotid plexus
<i>Udanavata-uras/Kantha</i> <i>Vak Pravrtti- larynx in throat</i> <i>Uchwasalungs</i> <i>Prayatana, Urja, Bala</i>	a)-CNS-vagus spinal accessory b)-ANS-cardiac plexus

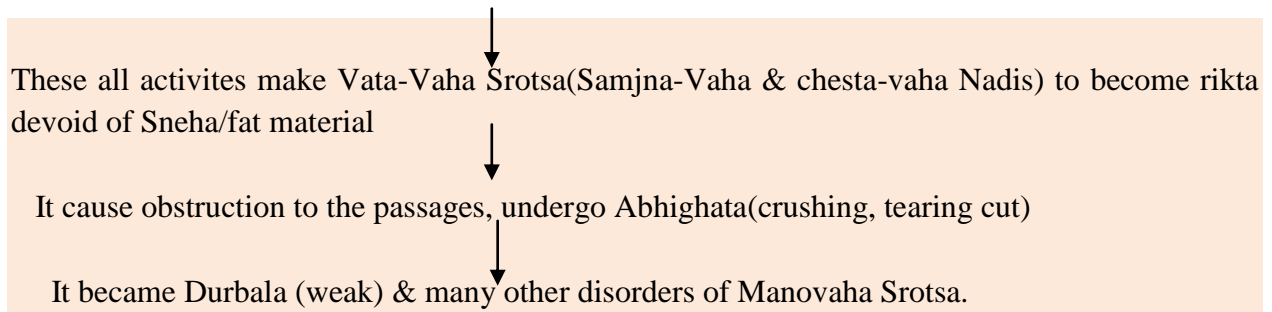
Vyanavata Unmesa-Nimesha Hridaya-Rasa Samvahana- Anga Pratyanga Chesta(gatis), Sarva Chesta(through the Sakhas)	a)-CNS-occulomotor & trochlear nerves vagus nerve 31 pairs of spinal nerves which are both sen- sory b)- ANS.
Samanavata- Kostha, Agni Sanduksana Ahara Paka, Sara KitaVivek Sweda Dosha- Ambu Vahana	CNS- vagus nerve which is mainly responsible for movements of abdominal viscera, produc- tion of secretions & carrying sensation to the brain & spinal cord. b)- ANS-caelic plexus(solar plexus)
Apanavata-Sroni-Basti-Medra. Uru-Sukra- Artva- Sakrt, Mutra- Grabha Visarjana.	a)-CNS- spinal nerves especially II,III,IV sa- cral nerves(b)- ANS- hypogastric & pelvic plexus.

Sroto Dusti Karna (Etiology)-

This Srotas being the structure through which Vata has to function in the body, all factors which tend to cause Vata Vriddhi

should be considered as important causes for disorders of this system⁷. This may be analysed as follow-

AHARA	VIHARA	ANAYA/MODERN
Indulgence over long periods in foods & drinks that contains Gunas- Ruksa,Laghu, Sita, Kasaya,Tikta tastes, Suska Sakas, Suska Mamsa, Simbi Dhanyas. Anasana, Adhyasana, Visamasana.	-Sahasa- Ati- Vyayama/Vyavaya, BharaVahana, Plavana, Langhanadi, -Visama Asana Chesta Ratrijagarana, Vegaro- dhana, Abhighata, Ma- nasika Ksobha, Dhatu Ksaya, Dosha, Asrk Sra- vana, Marga Avarana Ro- dha. Visama Upachrna-im- proper treatment specially sodhana chiktisa.	Causes of disorders of the nervous sys- tem –injury-accidental/surgical. External pressure, compression, Infection by bacteria and inflamma- tion.- tetanus, anthrax, bacilli- tubercular,viral-influenza,polio, diph- theria, rabies,measles,mumps,small pox, pneumoniaetc. Malnutrition,toxins-chemical-alco- hol,arsenic,lead,mercury,copper,uremia, Dioders of metabolism-rheuma- tism,DM, jaundice,gout. Degeneration,dehydration,new growth, heredity etc.



Dosha Vrddhi Lakshana-

VATA	PITTA	KAPHA
Mastulunga-Su- sumna-		

Sosa(dryness), Karsya(Atrophy),Murcha(convulsions), Bhrama(dizziness).	Sopha, Paka, Arbudas, Rakta Srava(haemorrhage), Jalasanchya(increase of moisture), Bhrama(dizziness, vertigo), Mada(toxicity), Smrtibhramsa(loss of memory), Alpa Nidra Nasa	Sotha Oedma, Granthi, Kleda, Murcha, Smrtibhramsa, Tandra, Nidra.
Nadis-Riktata(rarefaction,dryness), Ruja(pain), Sparsa Vikritis/Nasa(sensory disorders)	Sopha, Daha, Osha(localized burning sensation), Davathu(generalized burning sensation)	Sotha(oedma), Snigdha, Granthi, Kathinya(hardness).
Indriyas-Vadha(loss of functions), paralysis	Sopha, Srava(exudations), Tamapravesha	Stambha, kleda, Mandya(diminished activity).
Manas(mental functions)-Chanchala(unsteady), Vyakula(clouded), Visama(erratic)	Arati(restlessness), Atrpti(not feeling contented at all), Klama(debility), Glani(tiresome), Usnadwesa(dislike for hot), Sita iccha	Alasya, Trpti, Usnaicha, Sitadwesa
Bhaya(fear, anxiety)	Krodha	Ajnana(unconsciousness)
Chinta(worry)		

PARIKSHA KRAMA-(Examination of nervous system)-the entire nervous system is thoroughly inaccessible for physical examination being encased inside the skull bones & deeply placed inside the trunk & limbs. Diagnosis of nervous disorders has to be made by indirect means such as history, ex-

amination of vital organs like the heart, lungs, kidney etc, observing the nature of activity of muscles, tendons, etc, involuntary activities, mode of speech, behavior and personality pattern. No neurological diagnosis is said to be absolute.

HISTORY	DETAILS
Simple questioning-	a careful & detailed H/O is very important, the patient, his relative, friend or any other person who can give full information should be questioned for this purpose. The physician should however be on the alert to allow margins for accuracies, exaggerations, & concealing of facts.
Present history	Nature of onset, duration of symptoms, exciting factors, severity, hospitalization or not, drugs taken & their doses, effects of treatment.
Past history-	Difficulties during birth, diseases of childhood(convulsions, whooping cough, rickets, small pox etc.) diseases of the mother during pregnancy(infections), injury to head, back, extremities, emotional stress in the life of the person.
Family History-	Incidence of epilepsy, migraine, stammering, myopathies, idocy, emo-

	tional factors if any.
social history-	Emotional upsets- anxiety, worry, tension, frustration, disappointment, sorrow, anger etc. Mal-adjustment to the society, social habits, stigmas-economic, financial, professional and other types of stress and strain.
Sexual history-	Impotence, frigidity in women, contraceptive methods, unsatisfactory sex life, illegal sex activity, frequent abortions & drugs used for that, if any.

Physical examination- speech, alertness of thought & response to questions, manner of performing routine acts etc, many a time it clinch the diagnosis.
 General- Much can be gained by watching the patient carefully. Facial expressions, bodily or facial asymmetry, gait, posture, Special Parts-

Cranium	Size, shape, symmetry, tenderness, areas,depressions,swellings, frontanelles,postion in space(posture), marks of injury.
Spine	Posture (sitting, standing, walking, lying down), straightness or deviations-curvedures and other deformities –tenderness.
Motor system-	Right handed or left handed –gait on walking-posture-skilled acts- involuntary movements-seizures and convulsions

Manas & its disorders- (psychological affections)- Manas is considered as a Dravya (material substance) which is atomic in size, located in between the Siras(head), and Talu(upper palate), nearest to the Indriyas(sense organs) and attending to their functions⁹It is the mediator between the Indriyas(sense organs) and Atma, receiving information's from the former, analyzing them, deciding the next course of action, placing them before the Atma for final orders and executing such orders quickly. It is thus a Jnanendriya and a karmendriya (an organ of cognition and conation) both in one¹⁰). It is also called an Antrindriya or Antahkarna- an internal sense organ in contrast to the Bahya Karanas(external sense organs).

In executing its work the Man's travels all over the body, through the Samjna Vaha and Ajna Vaha Nadis (afferent and efferent nerves) very swiftly so that no part of the body can be said to be devoid of it at any time. Hence it is present everywhere in the body. It initiates and carries out many functions through the various organs of the body

which are together called as Jivanayoni Karya(life activities).

Manas is influenced to a great extent in its work by Sarta Vata (nerve impulse)¹¹Vata is the Praneta (initiator) and Niyanta(contoller) of Manas. Sadhaka Pitta is responsible for Buddhi (will) Medha (intellect) and Abhimana (self-assertion)¹².The former, that is Vata- is equated to the brain and nervous system while the latter- Sadhka Pitta- represents the various hormones. The normal an abnormal conditions of Vata and Pitta thus determine the normalcy or otherwise of Manas and its functions. Dhi (intelligence), Dhrti (courage, conviction) and Smrti (memory) are the 3 most important functional aspects of the mind, Dhi is the capacity of learning, discrimination and intelligence, Dhrti is the capacity to hold on to the right and abstain from the wrong (courage of conviction) and Smrti is the power to recall past experiences (memory).

These and many other aspects of Manas are influenced by the 3 Mahagunas, the Satwa, Rajas and Tamas- the primary cosmic properties/ qualities – the intelligence, energy and inertia- respectively. In the context of

animal behavior Sata stands for proper understanding and intelligence, Rajas for increased mental and physical activity and Tamas for diminished mental and physical activities. Satwa is considered normal and so is used as a synonym of Manas (mind) itself. Rajas and Tamas are both abnormal and as designated as Doshas (blemishes) of the Manas or mind. Human behavior is a combination of all these 3 kinds of activities but the preponderance among them is said to be due to predominance of any of the above qualities. Thus human beings are classified into 3 Manasika Prakrtis (psychological temperaments) as Sarwika, Rajasa and Tamas, each 1 having many sub-groups called Kayas(personalities). Manasika Prakrtis and Kayas described in the Ayurvedic texts in detail. Rajas and Tamas being considered as the blemishes of the mind, persons belonging to the various subgroups under these Prakrtis are to be considered as mentally unsound and even though all of them may not be actually suffering from any specific disease, they are easily susceptible to mental disorders with trivial exciting causes. A close relationship exists between the 3 Gunas and the 3 Doshas, Satwa is related to Pitta, Rajas to Vata and Tamas to Kapha. Disorders of the one bring about disorders of the other, in greater or lesser degree. There is no distinct dividing line between physical disease and mental disease, both are affected

together hence all diseases are psychosomatic; predominance of any one group of symptoms classifies diseases as either physical or psychological.

Mental diseases are broadly classified under 2 heading- a)- Organic- disorders due to physical deformities of the brain, nerves and all other organs of the body. b)- functional-disorders in the functioning of the mind evidenced by predominance of emotional upsets (affective disorders), profound derangement of thought, feeling, memory, behavior etc. it is to these functional disorders that the term mental disease should apply strictly.

Manas Dushti Karanas(causes of mental diseases)- Manas which becomes engrossed with Rajas and Tamas, loses its balanced working and gets disordered. Its 3 functional aspects, Dhi, Dhrti and Smriti undergo Bhramsa (disorganization). Persons with such a mind understand things differently from what they actually are, act differently because of faulty understanding, fail to recall the past experiences to get benefit out it. Hence all their actions are improper, unusual and even harmful to themselves and to others. These activities constitute what is known as Prajnaparda or Adharma and serve as potent causes for mental disorders. In our daily life, such improper activities which are to be counted as important causative factors for mental disorders may be summed as-

Causes	Details
Ahara-	Excessive indulgence in foods which are Vatakara, intake of unclean, incompatible, unhealthy food and drinks.
Vihara/Chesta	Visama Yoga of Saririka and Manasika Kriyas, especially the latter, as excessive mental work causing strain, disuse or very less use of mental abilities, or improper mental functions dominated by fear,grief,anger,greed,excessive joy,pride,jealousy,lust,worry, etc. which may come upon suddenly or violently or gradually. These all produce injury to mind. Many other improper activities such as showing disrespect to

	elders and Gods,improper Yoga practices, loss of disappearance of the loved & disliked are all under this.
Marmabhighata	Injury to Siras (head) especially the brain and other vital points in body. Frontal lobes of the cerebrum, region of the thalamus & hypothalamus are important sites causing mental disorders when injured.
Bhutabhisanga	Bacterial infection. Many other mental disorders were attributed to the affliction by evil spirits & the term Bhutabhisanga was used in that meaning. These all resembles with bacterial,viral or other parasitic origin.
Purva Karma	Actions of past lives are also considered as an important cause for mental diseases. It resembles with heredity & congenital factors of mental disorders.
Visa	Excessive indulgence in intoxicant poisonous materials such as alcohol, opium, Bhanga, Ganja, Ar,etc, food poisoning,bites of rabid animals etc.
Ousadha Atiyoga	Excessive use or abuse of drugs such as Dhatura, Vtsanabha,cocainne,morphine,bromides, barbiturates etc.
Saririka Vyadhi	Certain diseases
Vardhaka	Old age producing degenerative changes(Dhatu kshaya)

All the above causes bring about both organic as well as functional disorders. Ayurvedic classics have enumerated incidents, moments, circumstances, situations, etc. during which Bhutas or evil spirits attack the individual and cause mental diseases¹³. These are none other than vulnerable moments, weak moments of modern psychiatry, when the mental stamina of the individual s at a very low pace. It will be advantageous to mention a few of such moments-

- At the time of committing sinful acts especially sexual offences.

- At the time of hearing judgments' or receiving punishments.
- At the time of breaking the traditions regarding celibacy, austerities, customs etc.
- At the time of embarking upon unjustified, illegal out-lawed, unsanctioned & improper Bali (offering), Home (sacrifice), Adhyayana (prohibited study) etc.
- These and many more may percipitatae mental disorders.

LAKSANAS OF TRIDOSHA VRIDHI IN RESPECT OF MANAS-

Vata	Pitta	Kapha
Chanchala Chit-ta(unsteady mind)	Amarsa(intolerance)	Ajnana(ignorance)
Bhaya, Soka(grief)	Samarambha(irritabilty)	Alasya(hazyness)
Dainya(despondency)	Krodha(anger)	Tama Pravesha(incomprehension)
Adhrti	Mada(infatuation), Tar-jana(terroring)	Tripti(lack of desire)
Raga(desire)	Atripti(insatiability), Ara-ti(restlessness)	Nari Priyata(desire for women)
Pralapa(excessive talk)	Dravana(running)	Ekanta Priyata(desire for sollitude)
Ati sighra Chesta,	Nagnabhava(nudity)	Alpa chesta/ Achesta(decreased or no movement)
Asthanarahasya, Nrtya etc.(non-recognition)	Nidranasa,	Ati-Nidra

of surrounding)		
Nidranasa, Usnapri- yata(desire for warmth)	Sitapriata(desire for cold)	

Lakshana of Vata and Pitta Vridhi correspond to the Lakshana of Rajo Guna Vridhi while the Lakshan of Kapha Vridhi is the same as of Tamo Guna Vridhi.

Ayurvedic classics have given broad principles of determining the normalcy or otherwise of the various activities of the mind as follows¹⁴

Faculties	Methods of testing
Medha(intelligence)	Grhana(capacity to grasp or understand quickly)
Samjna (recognition)	Namagrahna(naming the things correctly)
Smrti(memory)	Smarana (recollection of things seen, heard, touched, tasted, or smelt earlier)
Vijnana(expertise, solving problems, accomplishment etc)	Vyavasaya (repeating the act again & again, trial & error learning, perseverance)
Saddha(faith,confidence,desire)	Abhipraya(frequently expressing the desire,)
Avasthana(determination)	Avibhrama(steadfastness,firmness,unwavering stand)
Virya(willto conquer, endurance)	Utana(endeavoring constantly in spite of failures)
Dhairya(fortitude,courage)	Avisada(not yielding to sorrow, non-despondent)
Dhrti(control of self)	Alaulya(not being carried away by incentives,rewards, remaining resolute)
Sila(virtue,morality)	Anusilana(constant cultivating even against opposition)
Dwesh(hatred)	Pratishedha(refusal,protest)
Hriyam(modesty)	Apatrapa(shyness, bashfulness)
Priti(love, pleasure,liking)	Tosa(affectionate look)
Harsa(joy, elation)	Amoda(exhilaration)
Rjas(lust, passion)	Sanga(inseparable association)
Moha(delusion)	Avijnana(improper knowledge, misunderstanding)
Upadhi(cunningness)	Anubandha(secret following,spying)
Krodha(anger)	Abhidrodha(infllicting injury)
Vasyata(obedience)	Vidheyata(submission,subjugation)
Amala Satwa(purity of mind)	Avikara
Sreyas(magnanimity,compassion)	Kalyanabhinivesa

Modern psychology has devised many tests to determine the various mental capacities of human beings, normal & abnormal –behavior, aptitude, suitability to jobs, and predilection to diseases which all become common.

General Psychiatric examination- is carried out-

History- keeping an open mind on the problem, all information's regarding the family

H/O, previous health, personal, social, & professional H/O causative factors, predisposing incidents, changes of behavior etc.

Observation at the interview-

Attention should be paid to-

- Facial expression, manner of dress, movement & manners.
- Conversation- method of talk, delivery of words, way of expression, emphasis on any issue, overexertion's etc.

- c) Response- quick or slow, relevancy, expression off emotions like anger, sorrow, joy, etc.
- d) Cognizance of time, place, persons, memory defects, level of general understanding, common sense, etc.
- e) Activities- involuntary or intentional, lack of self-control, cooperation etc.

Having made a preliminary observation, it is advisable to seek the help of specialist or a specialized hospital for confirmatory diagnosis, where special tests like-EEG, psychoanalysis, intelligence tests etc, are done to arrive at correct diagnosis.

Vikrti Lakshana-

Disorders	Details
Disorders of Perception(Indriyarth Grahana)	-illusion/ <i>Bhrama</i> , - Hallucination/ <i>Asat Jnana</i>
Disorders of thoughts/ Vicharna Vikriti	Delusion(<i>Moha</i>),-Obsession(<i>Masti Bhramsa</i>)
Disorders of ideas of reference/ Samsaytma Nihilistic Idea/Sunya Bhavya-	The patent assumes that all things happening around he is for his own sake. Person feels that he is dead, he has no body and the World has ceased to exist etc.
Disorders of Memory(Smrti Vikrti)-	Amnesia (Smrti Nasa) it is very common in physical & functional disorders. Hyperamnesia/Ati Smrti- abnormally acute memory is rare but seen in some prodigies.
Disorders of Emotions-/Bhava Vikriti-	Apathy/ Nirutsaha Anutsaha Nirvanna Bhava-lack of feeling of either pleasure or sorrow, poor response to such stimuli.
Disorders of Behaviour/ Chesta Vikrti-	Hyperactivity/ Atipravrtti-in respect of all activities.
Disorders of Consciousness/ Samjna Vikrti	Normal conscious is awareness of oneself, his environment in respect of time, place, and relationship with other. Confusion/ Vyakulatwa- are impaired attention leading to perplexity and bewilderment. Disorientation/ Sthana Ajnatwa- is inability to appreciate his position in respect of time,place and relationship with others. Delirium/ <i>Moha</i> , <i>Pralapa</i> Dreamy state/ twilight sleep/ <i>Nidra Vikrti</i> Stupor/ <i>Tandra</i> Unconsciousness/ <i>Sannyasa</i> -deep stupor where in even vital activities may fail.
Disorders of Personality/ Prakrti Vikrti	De-personation/depersonalisation/ <i>Vyakitwanasa</i> -the patient ceases to believe his own existence,external thing appearing strange or unreal to him. Split personality/ <i>Bahu Vyakitwa</i> Dissociation/ <i>Bhudhi Bhramsa</i>

DISCUSSION

Mana is counted under the Padartha. Manas (mind) are described as the mediator between Indriyas (sense organ) & Atma (soul). It is located inside the head, near the sense organ but is always moving swiftly from place to place throughout the body. It understands the Indiryarthas (sense impression) & cause body activities. It is under control of Vata Dosha of person. That is correlates in body function- Chintana(thinking), Vichara(discretion), Dhayeya(purpose,aim), Sankalpa(determination) etc. Manas is also called as Ati-Indriya and Manas action is observable and inferable.

CONCLUSION

Manas is also known as Triguna. Manovaha Srotsa is useful in study in the Psychiatric disorders. Manas include brain, Indriya (sense organs), sensory and motor part of nerves and neurons part. To study all these in detail is helped in psychosomatic functioning of body. In today's environment of stressful condition it is very essential for us to know the normal functions of Mana and Manovaha Srotsa in detail it gives huge understanding to Mana condition, and reliving symptoms of depression and stress and other psychiatric diseases.

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