

CLINICAL TRIAL OF "VERDUSOL"
Evaluation of the efficacy of "VERDUSOL" Syrup in the management of
Cough, cold, Sore Throat, Bronchitis and other Kapha Janya complications.

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Reason: (HETU)

Ayurved is a science that considers any disease from its origin to its treatment. It is to prevent disease from its recurrence. This is the need of today's mankind suffering from various psychological and physical problems to get treated by natural way of healing. So is our step further to use modern technology, knowledge available, diagnostic help combine with Non Toxic, Non Narcotics, Non Metallic, Non Animal ingredient, purely Herbal Ayurvedic formulations to achieve this goal.

Vivechan (Introduction):

Cough is a mixed reaction of throat and lungs. Sore throat, inflammation in throat, allergy, dust particles, smoking, cold foods such as ice cream, curd etc cause cough. If cough & cold is not treated for a long time, it becomes chronic cough. Cough can be classified as Dry Cough & Wet Cough. To treat cough, ayurvedic medicines could be of great use since it includes medicines in the form of chewable tablets and syrups which reduces the velocity of cough and helps to treat sore throat.

Utpatti (Metabolic transformation):

KAPHA DOSHA AND ITS WHOLE CONCEPTS:

Kapha is the conceptual equilibrium of water and earth. Kapha is structure and lubrication. One can visualize the Kapha force as the stirring force to keep the water and earth from separating. For example, if we take a pot, fill it to the half with water and then add sand to it, the sand will gradually sink to the bottom of the pot. (It separates from the water). The only way to keep the sand in equilibrium with the water is by stirring the mixture continuously. The Kapha force can be visualized as this stirring force in our body.

Kapha cements the elements in the body, providing the material for physical structure. This dosha maintains body resistance. Water is the main constituent of kapha, and this bodily water is responsible physiologically for biological strength and natural tissue resistance in the body. Kapha lubricates the joints; provides moisture to the skin; helps to heal wounds; fills the spaces

in the body; gives biological strength, vigor and stability; supports memory retention; gives energy to the heart and lungs, and maintains immunity. Kapha is present in the chest, throat, head, sinuses, nose, mouth, stomach, joints, cytoplasm, plasma, and in the liquid secretions of the body such as mucus. Psychologically, kapha is responsible for the emotions of attachment, greed, and long-standing envy. It is also expressed in tendencies toward calmness, forgiveness, and love. The chest is the seat of kapha.

Vyutpatti : (Derivation)

Kapha refers to promotion or growth brought about by secretions of different types by the Organs. It is of 5 types.

1. Kledak
2. Avlambak
3. Bodhak
4. Tarpak
5. Shleshak

- 1) Kledaka: Kledaka refers to secretions by the mouth, stomach and intestines, which dissolve the food and destroy bacteria.
- 2) Avalambaka: Avalambaka refers to secretions by the respiratory tract from the nose to the lungs and facilitates passing of air and flushes out foreign substances.
- 3) Bodhaka: Bodhaka is the watery secretion of the glands around the taste buds of the tongue, which help in perceiving the taste.
- 4) Tarpaka: Tarpaka refers to the cerebrospinal fluid which is a secretion surrounding the brain, and spinal cord. It provides nutrition to the brain and protects it from toxic substances.
- 5) Shleshaka: Shleshaka is the fluid lying in the bones and joint spaces called as synovial fluid producing movements of bones and joints with ease. The watery fluid surrounding and, protecting the heart and lungs are also referred to as shleshaka Kapha.

The diseases caused by disorders of Kapha are as follows: Common cold, Infection of the lungs and other parts of respiratory system, Diarrhoea due to infection, Jaundice, Eczema, Pimples and other skin infections, Arthritis (painful joints)/ Rheumatic heart disease, Swelling and infection of the kidneys, Peritonitis, Swelling of abdominal cavity, Encephalitis, Meningitis and other infections of the Brain and, Benign tumours of different parts of body.

Types of common Kapha Disorders

Coughing is a natural body reflex

- It keeps the lungs, throat and airway clear of foreign material
- But constant coughing causes discomfort

Some common causes and diseases are as under

- **Laryngitis**
- **Sore Throat**
- **Dry Cough**
- **Wet Cough**
- **Whooping Cough**
- **Bronchitis**
- **Flu (Influenza)**
- **Chest Congestion**

SYMPTOMS:

Symptoms of Kapha due to Various Disease

Symptoms of Laryngitis:

- Loss of voice
- Hoarse voice
- Irritation in the throat
- Fever
- Chest congestion
- Cough

Symptoms of Sore Throat:

- Pain while swallowing
- Hoarseness of Voice
- Irritation in the throat
- Fever or chills

Symptoms of Dry Cough:

- Absence of phlegm
- Itchy and dry throat
- Exhaustion
- Irritability
- Fatigue
- Weak immune system

Symptoms of Wet Cough:

- Pain in the throat and chest
- Cough is accompanied by mucus or phlegm
- Exhaustion

- Fatigue
- Irritability
- Weak immune system which make one vulnerable to other diseases

Symptoms of Whooping Cough:

- It usually affects children between the ages of 1-5 years
- This disease is contagious
- Severe coughing
- Recurrent vomiting
- Runny nose
- Sneezing
- Nasal congestion
- Fever
- Dry cough

Symptoms of Bronchitis:

- Bronchitis is a condition which refers to the inflammation of the bronchi
- Bronchi are the passage through which the air we breathe reaches the lungs
- Difficulty in breathing
- Constant cough
- Pain in the chest
- Abdominal pain
- Nasal congestion due to excess phlegm
- Hoarse voice

Symptoms of Flu (Influenza):

- The influenza virus attacks the respiratory tract
- Severe weakness
- Body pain
- Fever
- Headache
- Chills
- Sore throat
- Cough
- Running nose
- Watery eyes
- The body temperature touches 104°F

Symptoms of Chest Congestion:

- Chest congestion refers to a feeling of heaviness and pressure in chest
- It occurs when there is an obstruction to the flow of oxygen into the lungs

- If neglected, it may lead to pneumonia or asthma
- Pressure in the chest
- Difficulty in breathing

Causes of Kapha due to Various Disease

Causes of Laryngitis:

- Bacterial, viral or fungal infection
- Prolonged cough
- Tuberculosis
- Syphilis
- Allergies
- Bronchitis
- Sinusitis
- Yelling, talking or singing for a long period
- Smoking
- Alcohol

Causes of Sore Throat:

Sore throat is a viral infection generally caused by

- Cold
- Flu
- Sinus
- Measles
- Diphtheria

Causes of Dry Cough:

- Viral infection of the respiratory tract
- Sinus infections
- Pneumonia
- Allergy to smoke or dust

Causes of Wet Cough:

- Common cold
- Climatic change
- Infections

Causes of Whooping Cough:

- It usually affects children between the ages of 1-5 years
- This disease is contagious
- Bacterial infection in the respiratory system
- Transmitted from the infected person

Causes of Bronchitis:

- Bronchitis is a condition which refers to the inflammation of the bronchi
- Acute bronchitis is caused by the common cold virus and is accompanied with high fever
- Chronic bronchitis is caused due to airborne allergens like cigarette smoke and environment pollution.
- It is accompanied with chronic cough

Causes of Flu (Influenza):

- The influenza virus attacks the respiratory tract
- It is a highly contagious condition which can spread via:
- Coughing or sneezing of the infected person
- Sharing handkerchiefs or other common items with the patient

Causes of Chest Congestion:

- Deposit of excess mucus and fluid in the lungs
- Common cold
- Respiratory infections
- Flu or viral infections
- Heart diseases

NIDAN: (Predisposing factors)

- Ati sheet sevan : excessive exposure to cold weather and food
- Dhoom sevan : excessive exposure to dust, fumes
- Ati vyavay : excessive physical indulgence
- Ati madhur guru ahar : excessive sweet and heavy diet
- Manasthap : Mental stress
- Vega avrodha : suppression of natural urges, urine, stool.
- Snigdhaalpata : Lack of protein.
- Ras dhatu kshaya : Lack of Vitamins
- Ras dhatu vikar : excess cough formation
- Dhumrapan: Smoking

Investigations: (PARIKSHAN)

RADIOLOGY

- X RAY
- C T SCAN
- M R I

BLOOD

- C B C
- E S R
- M T
- CULTURE

SPUTUM

- A F B

Prevention: (NIDAN PARIVARJAN)

- Stop or reduce consumption of products that provokes cough
- Chocolates, coco products
- Orange and other artificial colours in the food
- Curd, Butter Milk, Ice cream, and Ice cubes, Gola, etc.
- Avoid Pollution
- Keep the premises clean
- Clear house dust
- Stop smoking
- War mask
- Avoid contact with infected person

GENERAL TREATMENT: CHIKITSA

- Make lifestyle changes such as diet and exercise
- Use medication
- Monitor food intake
- Regular walk and exercise
- Yoga
- Pranayam
- Getting distressed
- Ayurvedic Medications are very effective at treating BRONCHIAL SYMPTOMS, Reducing the symptoms and Controls long-term effects of the condition.

Treatment types : (Chikitsa prakar)

- ✓ 1.Daiva vyaprashraya Chikitsa (Chanting of Mantras, Homas, Spiritual healing,Religious rites etc.)
- ✓ 2.Yukti vyaprashraya Chikitsa (Medicines {Shodhana & Shamana } & Diet)
- ✓ 3.Satwaavajaya Chikitsa (Psychotherapy)

Yukti Vyapashraya:

(A) Antah Parimarjana-

- ✓ (a)Shodhana: Cleansing (Panchkarma as per the predominance of Doshas like Ghrita Pana & Mild purgation in VaTaj a type,
- ✓ therapeutic Emesis & Purgation in Pitta & Kaphja type).
- ✓ (b)Shamana:Palliative (Medhya Rasayanas,Diet etc.)

(B) Bahir Parimarjnana

- ✓ Murdha Taila, Ahyanga, Shirodhara etc.
- ✓ Shastra Pranidhana-Use of Instruments & Surgical interventions.

Daivavyaprashya Chikitsa:

- ✓ Mantra- Chanting of Hymns.
- ✓ Aushadha- Sacred Herbs.
- ✓ Gems- Auspicious Stones.
- ✓ Mangala- Auspicious offerings.
- ✓ Homa- Yajna
- ✓ Niyama - Regulations.
- ✓ Prayaschita-Atonement.
- ✓ Upavasa-Fasting etc.

3. Satwaavajaya (Psychotherapy)

- ✓ When the underlying condition is treated the symptoms do not returns.
- ✓ Aachara Aachara Rasayana Rasayana Physical & Mental Conduct.
- ✓ No involvement of Drugs.
- ✓ Maintains total life process.
- ✓ To speaks truth, free from anger, abstains from alcohol & Over indulgence.
- ✓ Maintains Hygiene,
- ✓ Regular Sleep,
- ✓ Wholesome Diet.
- ✓ Controls over his Sense organs etc for Physical,Mental & Spiritual Wellbeing. (Cha.Chi 1/30)

- **Medication:** Drugs used to reduce the symptoms of COUGH and Lungs symptoms disorders include anti-depressants and COUGH and Lungs symptoms -reducing drugs.

- Dietary and lifestyle changes.
- Relaxation therapy.

Be prevented; however, there are some things you can do to control or lessen symptoms:

- Stop or reduce consumption of products that provokes cough like, curd, ice cream, gola, etc.

Ayurvedic treatment: (CHIKITSA)

Apart from various drugs available in Ayurved we have selected a patented Ayurvedic herbal medicine named “VERDUSOL”, manufactured by “Veer Health Care”, Ahmedabad, India.

Drug review: (AUSHADHI VIVECHAN)

Ajma (Carat Copticum)	:	18.72 mg
Saunth (Zingiber officinale)	:	3.13 mg
Variyali (Foeniculam vulgare)	:	15.63 mg
Jethimadh (Glycyrrhiza glabra)	:	3.13 mg
Tulsi (Ocimum sanctum)	:	31.25 mg
Ardusa (Adhatoda vasica)	:	31.25 mg
Mari (Piper nigrum)	:	3.13 mg
Pipal (Pipar Longum)	:	3.13 mg
Taj (Cinnamomum zeylanicum)	:	15.63 mg
Kateli (Solamum xanthocarpum)	:	62.50 mg
Som Kandi (Ephedra gerardiana)	:	62.50 mg

Hindi Name	Weight	Botanical Name	Properties
Ajma	18.72 MG	Carat Copticum	AJMA seeds been used for various ailments. Antibacterial, Aromatic, Carminative, flatulence and indigestion. Its germicide and antiseptic properties helps in the preparation of cough often used to ease asthma.
SAUNTH	3.13 MG	Zingiber officinale	Sheetal Balances Vata and Kapha. Useful in chronic respiratory conditions leading to emaciation. Useful in people with injuries, improves strength and immunity used in anorexia, emesis, loss of appetite, indigestion, flatulence, pain in abdomen and worms.
VARIYALI	15.63 MG	Foeniculam vulgare	Being an expectorant, VARIYALI is used in cough, dyspnoea and hiccough. Analgesic, alleviates

			swelling, hence it is used in pain in abdomen, flatulence, hemiplegic and rheumatic diseases. It is an appetite stimulant and digestive. Laxative and vermicide, used in anorexia, emesis, loss of appetite, indigestion, flatulence, pain in abdomen and worms.
JETHIMADH	3.13 MG	Glycyrrhiza glabra	It acts as an expectorant, used in hoarseness of voice and cough. Fever, tuberculosis, chronic fever, cough and chest pain.
TULSI	31.25 MG	Ocimum sanctum	TULSI has anti bacteria activity and with its aroma it cleanses the environment, supports the respiratory system. Because of its anti microbial, anti inflammatory and expectorant activities it is very useful in respiratory infections, works well in respiratory stress.
ARDUSA	31.25 MG	Adhatoda vasica	It is useful in bleeding tendencies; been used to control both internal and external bleeding such as peptic ulcers, piles and bleeding gums, exhibits antispasmodic, expectorant and blood purifying qualities. It is a good heart tonic also.
MARI	3.13 MG	Piper nigrum	Mari Powder expels out the excessive Kapha, Aama and other toxins from the body so it can be used effectively in all metabolic disorders.
PIPAL	3.13 MG	Pipar Longum	It encourages bronco-dilation and improves blood circulation in lungs, works in burning of extra fats and Cough, of great use in liver and splenomegaly. It is an excellent medicine for cough, asthma and hiccoughs. expectorant and prevents the production of mala kapha, a tonic for tuberculosis.
TAJ	15.63 MG	Cinnamomum zeylanicum	Taj is an expectorant and anti-tubercular drugs. Taj antiprotozoal action is seen in enteric fever. Its

			antioxidant potential helps prevent oxidative stress of blood cells and lowered LDL cholesterol levels. offer therapeutic benefits to treat chronic metabolic and heart diseases.
Kateli	62.50 MG	Solamum Xanthocarpum	It is a drug of choice for the conditions like bronchitis because it dilutes the mucus, Kapha and relaxes the air passages. is a rejuvenating Ayurved herb for the respiratory system. It liquefies the deposited mucus and helps in its comfortable expulsion from the respiratory system.
Som Kandi	62.50 MG	Ephedra gerardiana	It is Kapha Vata shaman, Shoth Hara, Vedna shamak, Shwaskas Hara, Mutral and Gharbhashay Sankochak. Used to control wheezing. Relaxes the lungs and bronchioles and is useful in affections of respiratory passage

Method:

The clinical study was planned by VAIDYA VINOD C MEHTA, BAMS (MUMBAI UNI) and DR MANAN V MEHTA, MBBS (MUMBAI UNI), in and around Mumbai and Ahmedabad.

Plan of Study:

The study was planned by the doctors and volunteers to evaluate the clinical efficacy of “VERDUSOL” SYRUP in the management of cough.

Inclusion criteria:

Patients suffering from at least one of the following

Sore throat, Cough, Hoarseness of Voice, Bad breath, Bronchitis, Sore Throat, etc. At least from 1 or more months.

Exclusion criteria:

Patients with severe dehydration, Toxic symptoms, Renal failure, sever hyperglycaemia, Mouth Ulcers.

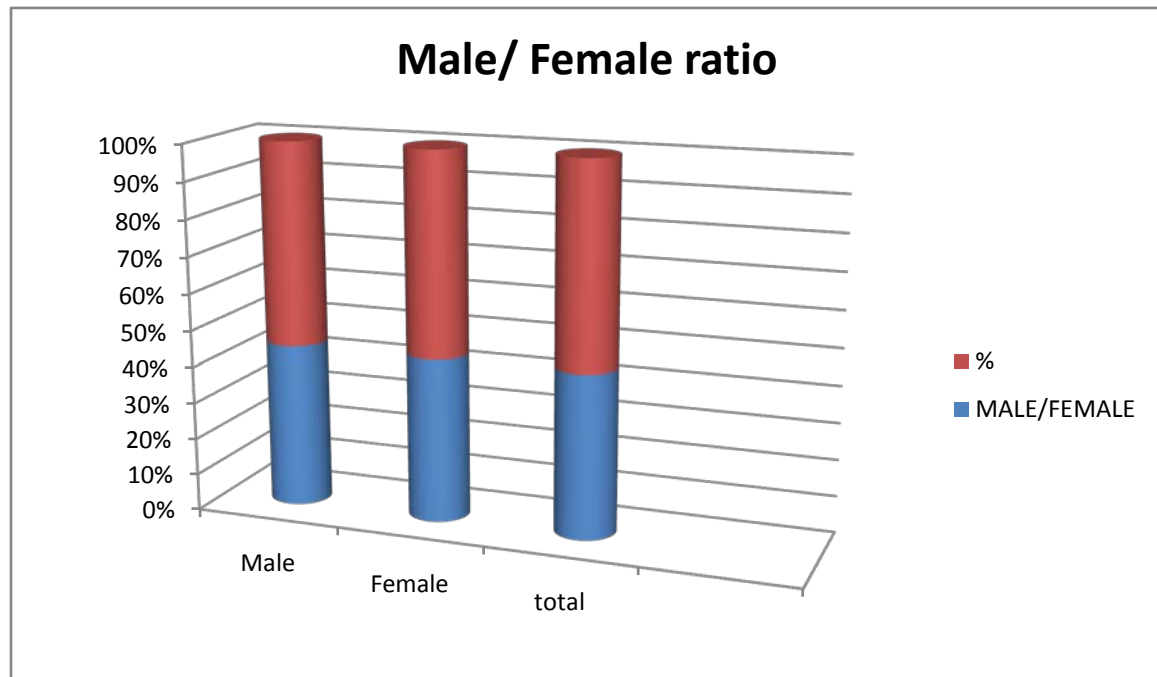
Study procedure:

Total 81 patients were selected for the study.

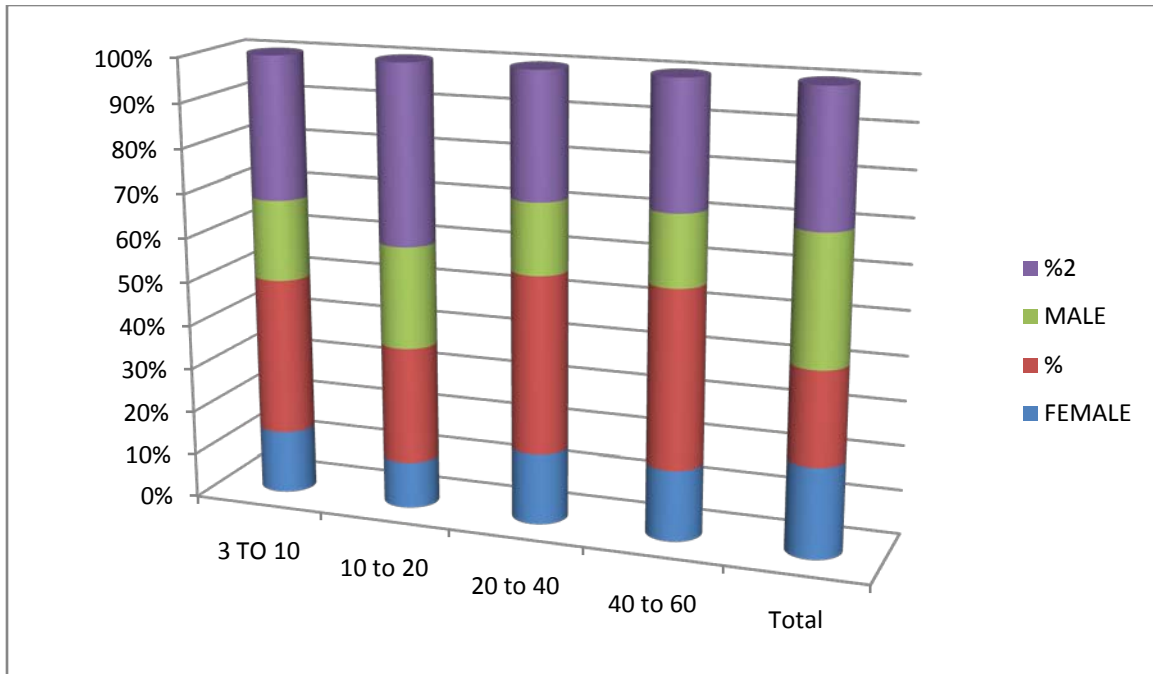
Each patient's complete medical history including personal data, a description of symptoms was taken. All the patients underwent a thorough clinical and pathological examination.

Gender:

Male	50
Female	31
Total	81

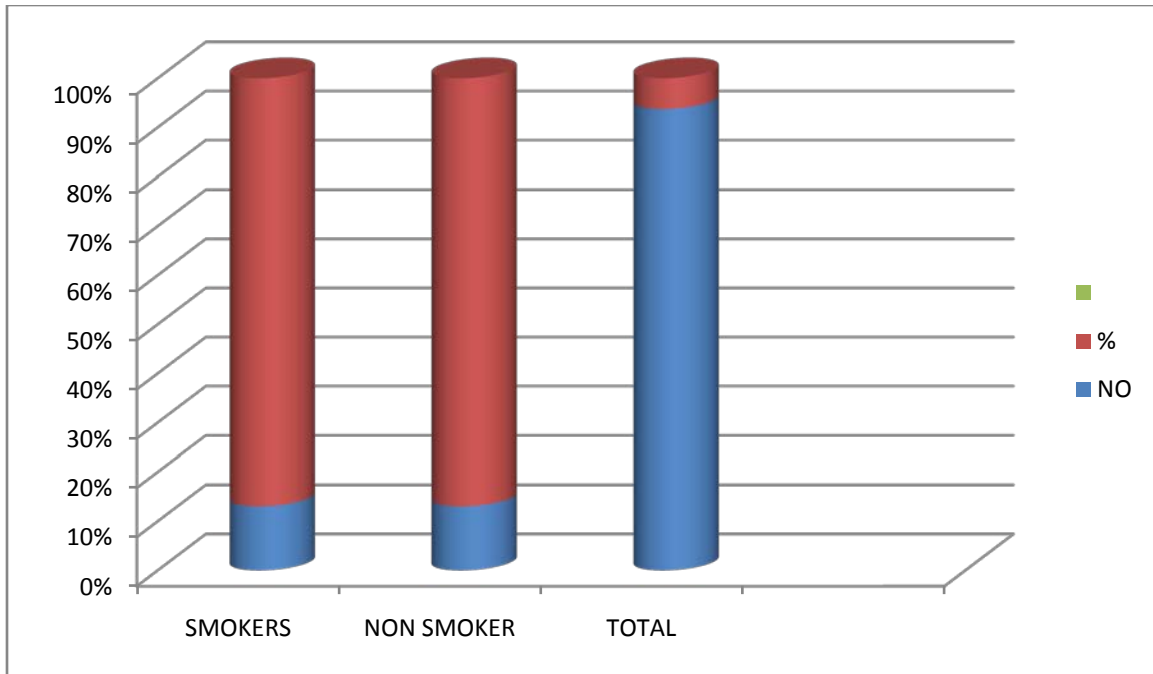
**Age Ratio:**

AGE	FEMALE	%	MALE	%	TOTAL	%
3 TO 10	14	35	18	31.7	32	33
10 to 20	11	27.5	24	42	35	36
20 to 40	8	20	8	14	16	16.5
40 to 60	7	17.5	7	12.3	14	14.5
Total	40	41.25	57	58.25	97	100



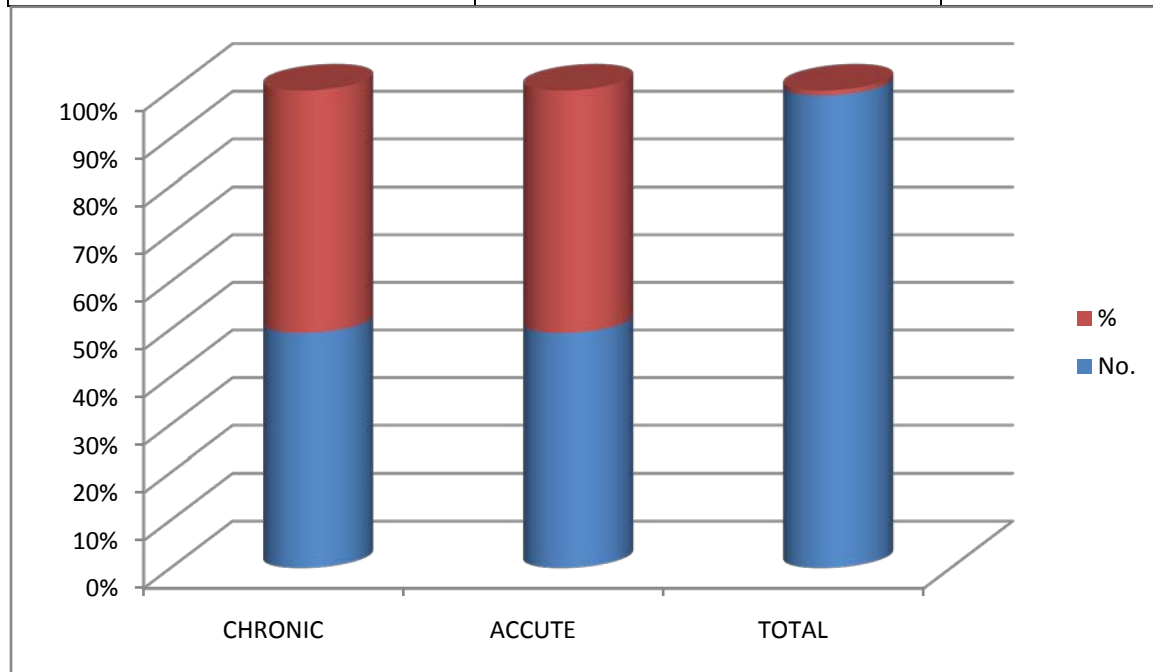
No. SMOKING:

SMOKERS	4	26.66
NON SMOKER	11	73.34
TOTAL	15	100 %



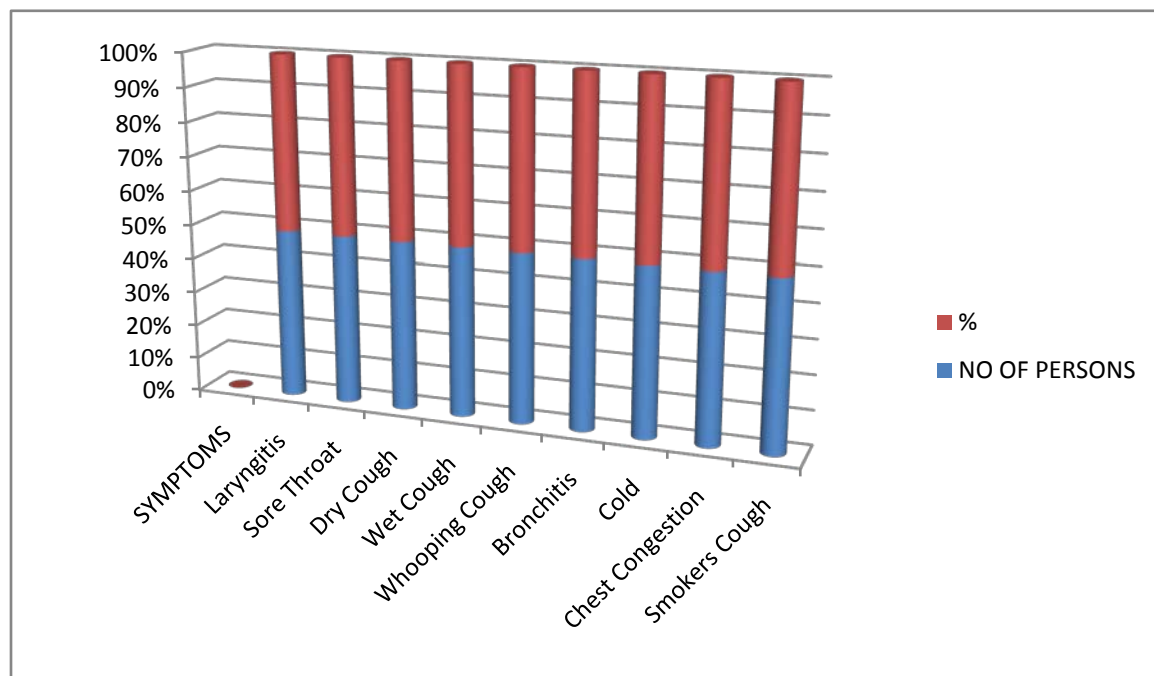
COUGH : Chronic // Acute

CHRONIC	37	38.14
ACCUTE	60	61.86
TOTAL	97	100 %



SYMPTOMS:

SYMPTOMS	NO OF PERSONS	%
Laryngitis	18	18.55
Sore Throat	14	14.43
Dry Cough	20	20.61
Wet Cough	22	22.68
Whooping Cough	9	9.27
Bronchitis	12	12.37
Cold	19	19.58
Chest Congestion	9	9.27
Smokers Cough	4	4.12



Dosage:

1 Tea spoon SYRUP of "VERDUSOL " was given to every one 3 times a day , specially during the episode of cough or otherwise any time they like.

Health Plan: (VIHAR)

STRICTLYNO SMOKING

- Physical activity Is crucial for a person with any type of Cough symptoms

Pranayam

Yoga

Regular exercise

Warm water intake

Warm water gargle

Steam inhalation

Proper meal timings

Not to sleep in day time

Proper counselling

Vaman

(AHAR): To have: (PATHYA)

Three things were explained to patients.

What they eat

How much they eat

When they eat

A diet plan was tailored according to patients diet habit, working condition, daily routine, weight, age and gender.

At the base there are foods rich in carbohydrates, such as grains, fruit and vegetables, Fibre, Dark green leafy vegetables was suggested.

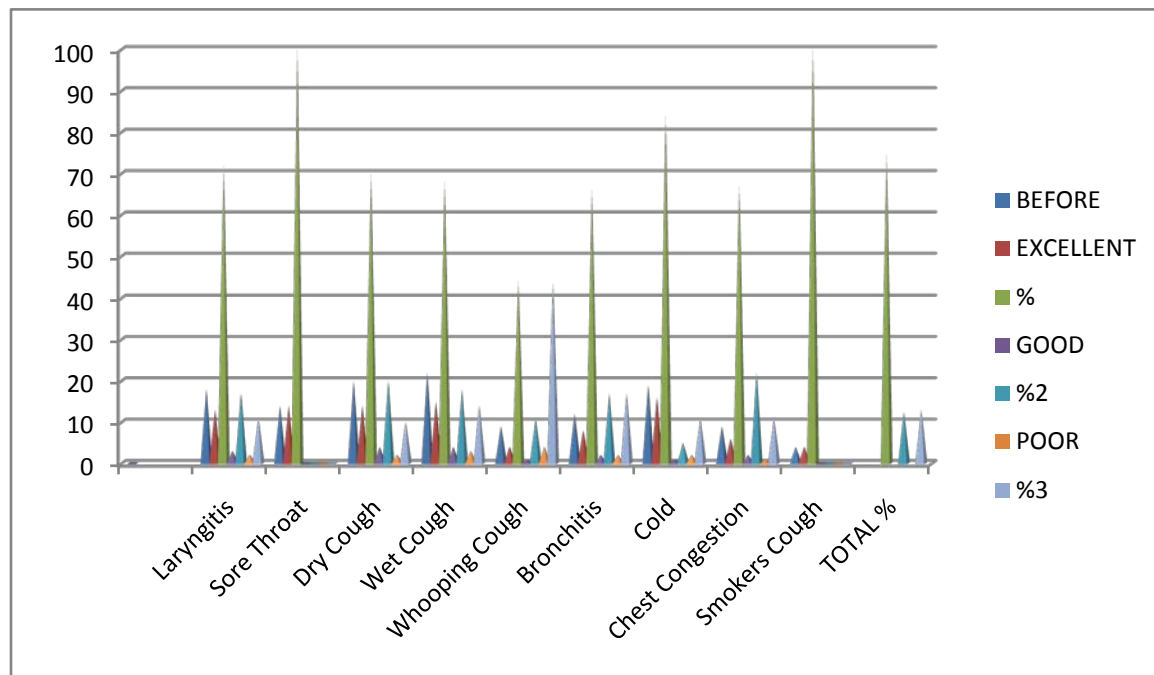
Diet not to have: (APATHYA)

- × Fried food
- × Excess chillies
- × No onion , garlic, green chillies
- × No Chutney, papad, Pickles
- × Eggs, Fish, Mutton, Chicken
- × Fried, stalled food
- × ICE CREAM, Slush, Curd, Butter Milk, Cheese
- × Outside eatables
- × Late night diner

Assessment of result: (UPSHAY) After administration of VERDUSOL for 60 days, the following result was achieved.

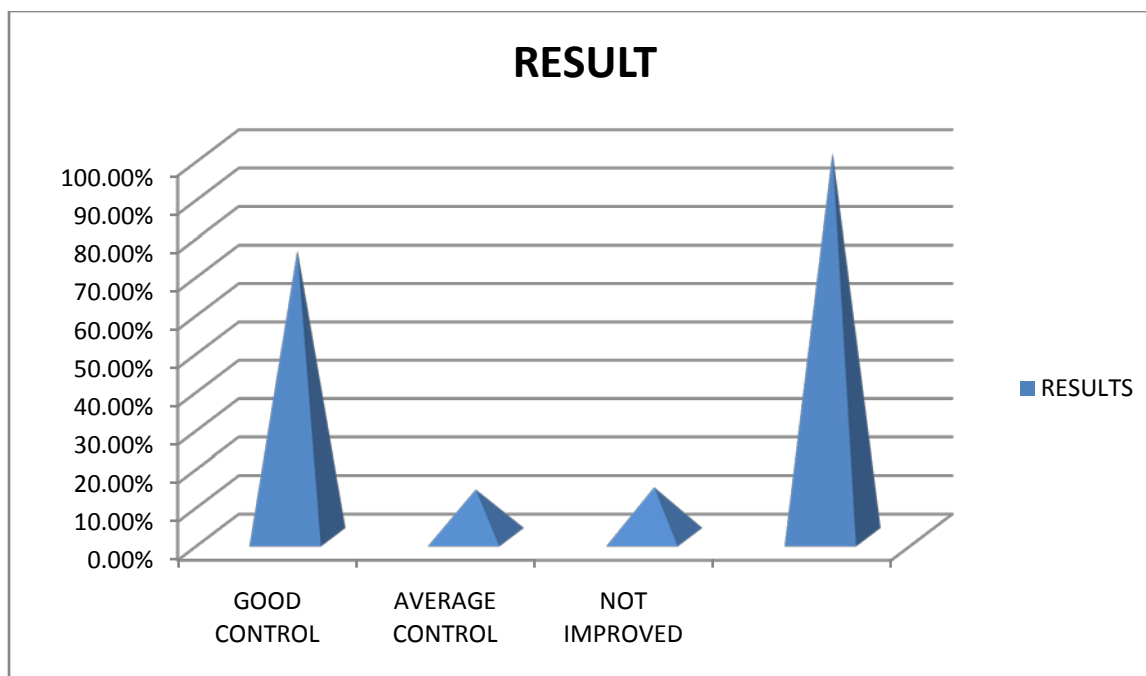
RESPONSE OF THE TREATMENT

SYMPTOMS	BEFOR E TREAT	EXCE LLEN T	%	GOO D	%	POO R	%
Laryngitis	18	13	72	3	17	2	11
Sore Throat	14	14	100	0	0	0	0
Dry Cough	20	14	70	4	20	2	10
Wet Cough	22	15	68	4	18	3	14
Whooping Cough	9	4	44	1	11	4	44
Bronchitis	12	8	66	2	17	2	17
Cold	19	16	84	1	5	2	11
Chest Congestion	9	6	67	2	22	1	11
Smokers Cough	4	4	100	0	0	0	0
TOTAL %			74.6		12.4		13



RESULT

GOOD CONTROL	74.6 %
AVERAGE CONTROL	12.4 %
NOT IMPROVED	13 %
Total	100 %



Conclusion:

Principles of Sadvritta & Achara Rasayana laid down in Ayurveda highlights the importance of Socio Cultural factors in the maintenance of Mental & Social health. A stable & harmonious equilibrium between Man & his Enviornment is needed to reduce man's vulnerability to various cough disorders & to permit him to lead a more productive & satisfying life. By Ayurvedic line of treatment of VERDUSOL with diet and self care therapy one can able to treat cough and its complications effectively.

According to result data it is established that "VERDUSOL "

Is effective in curing cough disorders in 63 % of patients, shown average control in 19 % and was not found effective in 18 %

Reference:

Text Reference :

Charaka Samhita-Sutra, Nidana,Chikitsa sthan.

Ashtanga Hridaya-Uttara Sthan.

Ashtanga Sangraha,

SushrutaSamhita

Dr.KM Nadkarni, The Indian Materia Medica, Vol.I, pg 486

Prof P.V Sharma, Dravya Guna Vigyana, Vol II, pg 302

British Pharmacopoeia 1980, page 172, Vol I

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**Arya Bhishak – Hindustan No Vaidraj-
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Som Kandi (Ephedra gerardiana) @ * (Sarcostemma brevistigma)	609	462

@ Anonymous (1986): The Useful Plants of India. New Delhi, Council of Scientific and Industrial Research, Publications and Information Directorate, 550-551.

*Vyas HB (1978): Aryabhishak of a Hindustan's Vaid. Ahmedabad, Sastu Sahitya Printing Trust, 462-463.