• 4th International Ayurveda Research Day, 9 March 2014
• 'Dolce India' (Madhur Bharat) Festival, Ashram Joylinat, Italian Ayurveda Open University, Corinaldo, Italy
• SiPKA(Societa Italiana Prof. Kulkarni Ayurveda), Rimini, Italy
• Inauguration of new center for Ayurveda treatments and education in Pune
Overseas Ayurved Propagation Dr. Chandrakant Pawar & Overseas Director Maria Ojeda

Conference on Food, Spices & Nutrition to Balance Body, Mind & Soul in Madrid, Spain - March 2015
by Dr. Chandrakant Pawar & Maria Ojeda

Felicitating with Diploma’s on Occasion of Seminar on Spices to Balance Body, Mind & Soul in Spain - March 2015
by Dr. Chandrakant Pawar & Maria Ojeda

Dr. Chandrakant Pawar giving Demonstration of Ayurveda Cooking Seminar in Valencia - Nov 2014

Dr. Chandrakant Pawar with Eva Franklin Mexico Maria Ojeda, Barcelona on Occasion of Ayurveda Conference

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Research in Ayurveda has come a long way. From Rishis to scientists, from Gurukus to Universities and from India to all the continents. The journey of Ayurveda especially in last few decades has been overwhelming. The gates of newer geographical, social, economical avenues are opening to newer generations of Ayurveda enthusiasts and experts. Ayurveda and Yoga have changed the way to look at the very concept of ‘health’.

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The International Ayurveda research day conference is our 63rd International event organized by Deergahyu International, International Ayurveda Association and sister concerns.

Our earlier seminars, workshops and symposia were based on various ‘strotasas’, evidence based Ayurveda and result oriented futuristic Ayurveda topics. This conference is the third in a row, among the three conferences dedicated to each of the ‘bruhad trayee’ -the legendary Ayurveda texts. This one, dedicated to Sushruta Samhita.

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‘The systematic investigation into and study of materials and sources in order to establish facts and reach new conclusions is called research.’

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I wish, and hope, through focused and honest research, Ayurveda will provide a sustainable, affordable and safe way of healthy and happy living for generations to come.

This will bring a breakthrough not only for the medical fraternity, but society and humanity as a whole.

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ABSTRACT:

Vaata is responsible for all the movements of body. A normal daily life without moving legs is almost impossible. The most common disorder which affects the movements of the legs, particularly in the most productive period of life (30-50yrs) is backache and 1/3rd of these cases turns to be Gridhrasi (Sciatica). Modern management of Sciatica is by NSAID’s, steroids, surgical correction of the vertebral bodies, etc. In Ayurveda, there are several approaches towards the management of Gridhrasi, which include oral medication, local treatment, panchakarma and Agnikarma (Heat therapy). In the present case study, Ghridrasi has been treated with oral administration of Shefali Patra Kwath for 30 days. The clinical trial revealed that this classical preparation significantly improves the Ghridrasi.

KEYWORDS:
Ghridrasi, Sciatica, Shefali Patra Kwath. Straight Leg Raising Test. (SLR Test)

INTRODUCTION:

As the day passes the life of a person is becoming more and more hectic this added with the changed life style of the patient that had made the human more dependent on various facilities like travelling on the vehicles. Because of the improper sitting postures, jerky movements during traveling increases the prevalence of this disease. That leads to compression of the sciatic nerve and causes sciatica, this is the outlook of the high standard or the middle standard population of our country but if you see the other side of the coin the poor people who are the laborers and carry heavy weight can also lead to this disease.

A variety of Vatavyadhi described in Charaka Samhita are divided into Samanyaja (common diseases produced by vitiation of vata, pitta and kapha or in combination of two of these dosha) and Nanatmaja (Purely either Vataj, Pittaj or kaphaj diseases) group. Gridhrasi comes under 80 types of Nanatmaja Vatavyadhi though, occasionally there is Kaphanubandha (association with kapha). The name itself indicates the way of gait shown by the patients due to extreme pain just like a Gridhra (vulture).
It not only creates severe pain but also difficulty in walking to the patient. Though, the disease is present in leg, it disturbs the daily routine and overall life of the patient. The cardinal signs and symptoms of Gridhrasi (Sciatica) are Ruka (pain), Toda (pricking sensation), Stambha (stiffness) and Muhuspandana (twitching) in the Sphika (pelvic region), Kati (lumbar region), Uru (femoral region), Janu (knee), Jangha (groin region) and Pada (leg) in order and Sakthikshepa Nigraha i.e. restricted lifting of the leg. In Kaphanubandha (with kapha dosha), Tandra (Dizziness), Gaurva (Heaviness), Arochaka (Anorexia) are present.

The symptoms seen in Gridhrasi can be well correlated with sciatica in modern terminology. Sciatica is a very painful condition in which pain begins in lumbar region and radiates along the postolateral aspect of thigh and leg. Hence the movement of the affected leg is restricted and the patient is not able to walk properly.

For sciatica modern management is by NSAID’s, steroids, surgical correction of the vertebral bodies, etc. In Ayurveda, there are several approaches towards the management of Gridhrasi, which include oral medication, local treatment, panchakarma and Agnikarma. But proper cure is not found. So an attempt has been made to make the patients relief from their pain with Shefali Patra Kwath.

AIM AND OBJECTIVE:
Evaluate the efficacy of Shefali Patra Kwatha (Decoction of Nyctanthus arbor-tristis leaves) in the management of Ghridrasi.

MATERIAL AND METHODS:
Randomized single blind clinical study with pre and post design was adopted. 30 patients of Ghridrasi fulfilling the criteria for the inclusion were selected randomly for the study from O.P.D. and I.P.D, irrespective of their sex, age, religion etc.

DIAGNOSTIC CRITERIA:
The diagnostic criteria are based on classical symptoms like Ruka, Toda, and Stambha in sphik, kati, prushtha (Buttock), uru, janu, jangha and pada region. Straight Leg Raising test was considered for sciatica.

MATERIALS:
All raw drugs were purchased and where subsequently authentified and standardized as per standard procedure before put to use.

METHODS:
Treatment protocol:
Patients were administered Shefali Patra Kwath for 30 days, the Shefali Patra Kwath was prepared according to the Kwath kalpana (Decoction procedure) as explained in Sharangadhar samhita. Patients were kept on routine diet and advised to avoid spicy, pittakaraahar (food which increases acidity). And weekly assessment was done.
Dose:

Drug - Shefali Patra Kwath

Matra (Dose) - 40 ml

Sevankal (Time of administration) - Pragbhaktakala (Before food), twice a day

Anupan (Adjuvant) - Lukewarm water

Duration - 30 Days.

Assessment:

Assessment were done initially before intervention of medicine and there after a period of 30 days on the following criteria.

1) Ruka
2) Toda
3) Stambha
4) Spandana
5) Tandra
6) Gaurava
7) Aruchi
8) SLR Test.

RESULTS:

Ruka: (Pain)
The mean score of Ruka was reduced by 58.73%, which was statistically significant. (P-value < 0.001) at 5% level of significance.

Toda: (Pricking sensation)
The mean score of Toda was reduced by 57.14%, which was statistically significant. (P-value < 0.001) at 5% level of significance.

Stambha: (Stiffness)
The mean score of Stambha was reduced by 56.86%, which was statistically significant. (P-value < 0.001) at 5% level of significance.

Spandana: (Twitching)
The mean score of Spandan was reduced by 56.33%, which was statistically significant. (P-value < 0.001) at 5% level of significance.

Tandra: (Dizziness)
The mean score of Tandra was reduced by 62.50%, which was statistically significant. (P-value < 0.001) at 5% level of significance.

Gaurava: (Heaviness)
The mean score of Gaurava was reduced by 60.87%, which was statistically significant. (P-value < 0.001) at 5% level of significance.

Aruchi: (Anorexia)
The mean score of Ruka was reduced by 59.26%, which was statistically significant. (P-value < 0.001) at 5% level of significance.

SLR Test:

The mean score of SLR Test was reduced by 60.71%, which was statistically significant. (P-value < 0.001) at 5% level of significance.

Table no.1.: Changes in the Parameters of Ghridrasi.

<table>
<thead>
<tr>
<th>Lakshana</th>
<th>No. of Patient</th>
<th>Mean Score</th>
<th>% Relief</th>
<th>SD</th>
<th>Wilcoxon signed rank test (T*)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>BT</td>
<td>AT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ruka</td>
<td>30</td>
<td>2.1</td>
<td>0.87</td>
<td>58.73</td>
<td>0.568</td>
<td>406</td>
</tr>
<tr>
<td>Stambha</td>
<td>30</td>
<td>1.83</td>
<td>0.87</td>
<td>56.86</td>
<td>0.183</td>
<td>435</td>
</tr>
<tr>
<td>Toda</td>
<td>30</td>
<td>1.97</td>
<td>0.90</td>
<td>57.14</td>
<td>0.365</td>
<td>435</td>
</tr>
<tr>
<td>Spandana</td>
<td>30</td>
<td>1.97</td>
<td>0.93</td>
<td>56.33</td>
<td>0.320</td>
<td>435</td>
</tr>
<tr>
<td>Gaurava</td>
<td>14</td>
<td>0.87</td>
<td>0.40</td>
<td>60.87</td>
<td>0.571</td>
<td>91</td>
</tr>
<tr>
<td>Tandra</td>
<td>15</td>
<td>0.90</td>
<td>0.40</td>
<td>62.50</td>
<td>0.630</td>
<td>91</td>
</tr>
<tr>
<td>Aruchi</td>
<td>13</td>
<td>0.77</td>
<td>0.23</td>
<td>59.26</td>
<td>0.681</td>
<td>91</td>
</tr>
<tr>
<td>SLR Test</td>
<td>30</td>
<td>1.97</td>
<td>0.83</td>
<td>60.71</td>
<td>0.346</td>
<td>465</td>
</tr>
</tbody>
</table>

DISCUSSION:

Patients of Ghridrasi with Shefali Patra Kwath showed that 58.73% relief in ruka, 57.14% relief in toda, 56.86% in Stambha, 56.33% in Spandan, 62.50% relief in tandra, 60.87% relief in Gaurava, 59.26% relief in Aruchi and 60.71% relief in SLR test.

Probable mode of action of Shefali Patra Kwath:

The ingredient of this kwath is Shefali. This drug having ushna virya (Hot potency) which acts as vata and kaphahara (Reduces vata and kapha). Also having tikta rasa (bitter taste) and katu vipak (pungent taste after digestion) acts as kaphahara. Along with deepana (Appetizer) and pachana karma (function of proper digestion) brought by this kwath helps in the pachana of the ama (Undigested food) and thus helps in relieving the symptoms of both types of Gridhrasi.

Probable mode of action of Shefali Patra Kwath on subjective and objective parameters:

Ruka, toda and spandana - Due to the ushna virya helps in pacifying pain. As the formulation has vatahara karma (vata reliving function) it reduces toda and spandana.

Gourava - Due to the tikta rasa (bitter taste) and katu vipaka (pungent taste after digestion) of the formulations, it suppresses kapha and relieves gourava.
Aruchi - The properties like laghu (Lightness), ruksha (Dryness) gunas (Property) helps to promote the quality of jathara agni (Digestive power), helps in the shaman (Suppression) of ama and thus helps in rectifying Aruchi.

Stambha-Due to katu vipaka and ushna virya it acts antagonists to kapha dosha and therefore reduces stambha.

SLR test - The formulation has given positive response in the above objective parameters but the way through which it has acted cannot be explained.

CONCLUSION:
Shefali Patra Kwath showed good results on vatakaphaj lakshanas of Gridhrasi and also significant results on vataj lakshanas. In this present study Shefali Patra Kwath gives overall 59.05% relief from the sign and symptoms of the Ghridrasi.

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Abstract

To carry out the daily activities, normal movements of joints are very essential. Osteoarthritis acts as main hurdle in performing daily activities, in which joints are mainly affected leading to pain, immobility and discomfort.

Non-pharmacological management is the foundation of treatment of osteoarthritis. Therefore, naturopathy gives a hope of treating this condition with different techniques used externally. The naturopathy likes derivative massage, wax bath, alternate hot and cold pack, exercises, mustard pack etc. also constitute non-pharmacological interventions, which are harmless, cheap and said to be effective. Hence a study is planned to study their efficacy along with JanuBasti as control in Sandhivata patients.

Key words :
Osteoarthritis, SandhigataVata, Naturopathy techniques, janubasti, non-pharmacological interventions.

Introduction :

In our body, bones form the arms of the lever and fulcrum is at a joint where movement takes place. To carry out the daily activities, normal movements of joints are very essential. Sandhi-Vata acts as main hurdle in performing daily activities, in which joints are mainly affected leading to pain, immobility, and discomfort. Sandhi-vata described in Ayurveda can be correlated with osteoarthritis mentioned in modern science.

‘Arth’ means joint and ‘itis’ means inflammation. Osteoarthritis is the most common type of arthritis; occurs due to the breakdown of cartilage in the joint. Among the elderly and obese persons Osteoarthritis is a leading cause of chronic disability especially affecting the knee joints. Since knee is the weight bearing joint it is more susceptible to wear and tear. Other factors like heavy journey, agriculture, housework is also contributing.

In the age group of 45-65 years 30% of population is suffering from this disease. More than 355 million people around the world today are suffering from chronic pain of arthritis. W.H.O. estimates that within the growing population the number of people over 50 years of age will be doubled by the year 2020. Hence, it has declared 2001-2010 as the ‘Decade of bone and joint diseases’.
Early diagnosis, aggressive resuscitation of the patient, administration of proper non-pharmacological interventions are the key for success to treat the conditions.

Objectives:
1. To evaluate the effect of Janu-Basti in the management of SandhiVata.
2. To evaluate the effect of Naturopathy techniques in the management of SandhiVata.
3. To compare the efficacy of JanuBasti and Naturopathy techniques.

Materials:

Selection of Patients:
The patients were selected from OPD and IPD of S.D.M. College and Hospital of Ayurveda, Hassan irrespective of age, sex, religion, occupation, marital status etc. The detail clinical history was taken and examination was done as per case proforma prepared for this purpose.

Inclusion Criteria:
1. Patients complaining of pain, swelling, and restricted mobility of knee joints.
2. Patients between the ages of 40 to 60 yrs.
3. Patients with unilateral or bilateral knee joint involvement were included.

Exclusion Criteria:
1. Patients with deformities in knee joints.
2. Patients suffering from other systematic disorders such as obesity (BMI above 30), infective arthritis, injury to joints etc.

Methods:
It is a comparative study with pre-test and post-test design with two groups consisting of 15 patients each.

Group A- Patients of this group were advised Janu-Basti with TilaTaila for 7 days.
Group B- Patients of this group were given Naturopathy techniques externally for 7 days.

RESEARCH DESIGN
For a scientific trial, proper design is required so as to assess the efficacy of the therapy, in turn to achieve the objectives. 30 patients of SandhiVata were randomly divided into the following two groups each group consisting of 15 patients.

JanuBasti (A) Group
The patients of this group were given Janu-basti with TilaTaila in the morning for 30 minutes. For this purpose the patient was asked to lie down on the table and then with the help of a paste made from black gram (Masha) flour by adding little water, a two inches high wall was
erected around the knee joint. Then tolerable hot oil was poured in this artificial cavity and the oil was changed to maintain the temperature. The process was done once daily continuously for 7 days.

**Naturopathy(B) Group**

The naturopathy techniques were given externally to the patients of this group. Morning-Naturopathy technique of derivative massage with Tilatala followed by infrared therapy was done.

Afternoon- Wax bath with molten wax and flexion and extension exercises with and without resistance of knee joint was done.

Evening- Mustard pack, Alternative hot and cold knee pack and hot footbath were done. The temperature of taila and these techniques was of tolerable heat. The total duration of these techniques was of approximately 60 min.

The patients were allowed to take their routine light diet during the period of the study. No other medicine was given internally.

**ASSESSMENT CRITERIA**

Efficacy of therapy was assessed in the reduction of signs and symptoms before and after the course of study. Following symptoms were mainly considered for assessing the effect of the therapies.

**Symptoms -**

- Shoola
- Kriyaalpata
- Shotha
- Atopa

Variations in the intensity of symptoms were observed.

For assessing functional improvement, following criteria was considered.

1. Flexion movement at the knee joint.
2. Extension movement at knee joint.
4. Time taken to cover 50-meter distance in walking.

**Grading**: Following scoring scale was adopted for signs and symptoms assessment.

1. Shoola :
   - No Shoola - 0
During movement - 1
During rest - 2

2. Kriya Alpata :
   Normal functioning - 0
   Can do mild to moderate work -1
   Cannot do any work -3

3. Crepitus :
   No crepitus - 0
   Palpable crepitus - 1
   Audible crepitus - 2

FOLLOW UP

After completion of 7 days course, the patients were asked to report for the follow up study every 15 days for the next one-month period.

Discussion on observation

Age incidence: Majority of the patients belongs to the age group of 55–60 years (56.66 %). The prevalence of Osteoarthritis of knee is more common in age group of 45 – 65 years -30 %, more than 65 years -68 %. Sex incidence: Majority of the patients (63.33%) were females. The universal data also says prevalence of Osteoarthritis is more in older women.

Viharamtaka incidence: Majority of patients shows (60%) Bharvahana as viharatmakanidana as over weight is one of the contributing factors in the disease. Occupational incidence: Most of the patients registered in the study were housewife (53.33%), who was accustomed to moderate work.

Results

Naturopathy techniques provided significant relief in Shoola (34.64%) in 53.33% of patients, Shotha (3.83%) in 66.66% of patients, Kriyaalpata (43.13%) in 66.66% of patients, Flexion angle of knee joint (7.20%) in 73.33% of patients, Time taken to cover 50m distances (17.66%) in 100% of patients of SanhiVata. Janu-Basti with Tilataila provided significant relief in Shoola (32.85%) in 46.66% of patients, Shotha (2.65%) in 43.33% of patients, Kriyaalpata (39.16%) in 46.66% of patients, Flexion angle of knee joint (5.19%) in 73.33% of patients, Time taken to cover 50m distance (12.08%) in 73.32% of patients.

Interpretation

By Naturopathy techniques blood circulation increases to joints due to vasodilatation, relieves congestion, improves nutrition of the joint, reduces muscle spasm and inflammation; soften adhesions, improves the range of motion and lubrication.
Janu-Basti acts as an effective BahyaShamanaChikitsa and relieves symptoms like Stambha, Gaurava and Sheetata.

Conclusion:

Clinical study has proved that non pharmacological management in the form of external treatments gives significant relief in osteoarthritis.

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Introduction -
The remedial measures may be grouped under four subheads, namely the employment of active medicinal remedies, the application of an alkalis, actual cauterization and surgical operations respectively Bhaishaj- medicine , Kshar - application of kshar, Agni karma- cauterization and Shastra karma-surgery.

Treatment given in Sushrut Samhita -
A large pile mass appearing in strong person should be clipped off (with a knife) and cauterized. As regards an external pile mass full off extremely aggregated dohas no instruments should be used, but the treatment should consist of fomentation, anointing, poulticing, immersion, lepa chikitsa, vishravan, cauterization, kshar and operation. Measures laid down under the head of Raktapitta should be resorted to in cases of hemorrhage. Remedies mention in connection with Atisar should be employed in cases of looseness of the bowel where as in cases of constipation of the bowels oily purgatives should be administered or the remedies of Udavarta should be adapted. These rules shall hold good in the cases of treating a pile mass occurring any part of the body what so ever.

A pile mass should be caught hold of and an alkalis should be applied there with Dravi or an indicator i.e. Shalaka. In a case of prolapsed of anus, cauterization should be made without the help of speculum. This is the procedure which Sushruta adopted.

This consideration click to our mind that to adopt minimum invasive treatment for Haemorrhoids-
1. Internal
2. External

Materials and Methods
Clinical trials in G. S. Gune Ayurved Hospital Ahmednagar and Yogdan Hospital Ahmednagar

Methodology
Sample size and grouping of patients
Exclusion criteria
1. Asthmatic patients including hypertension
2. Pregnancy, cancer, tuberculosis
3. Conclusive disorders, psychotic conditions, non co-operative patients
4. Alcoholic and addicted

Inclusion criteria
1. Age between 10 to 70 yrs
2. Male or female no caste and creed bar
3. Co-operative and obedient
4. Having non complicated Arsha

Duration of Illness – 1 year – 40 years
Duration of Project - 05 June 2011 to 05 September 2015 (4 years 3 months)

Selection criteria of symptoms
Bleeding, Burning, Itching, Constipation and anymore symptoms told by patients

No. of patients - 1565 (male and female)

Procedure -

Examination of patients
Per rectal, Blood pressure, Pulse, CBC, ESR, Urine, Tri-dot, HBSAg, B.T. & C.T. and if required more investigation (as per the need) If fit for the procedure

Pre-operative -
N.B.M. 8-10 hours.
Preparation of part.
Written consent of the patients and relatives.

Operative Procedures -
In G.A. / Spinal – Patient should be in a Lithotomy position – apply Betadine and Spirit to Anorectal region. Cover the patient with hold sheet. After inducing anesthesia drugs Lords dilation 3-4 fingers and then catch the piles mass respectively by pile holding forceps and transfix- ligate the pile mass with Barber linen no. 40 thread . After that withdraw the pile mass holding forceps and again catch by Alley’s and Cauterize the Pile mass above the thread. In this way excise the pile mass, do the same procedure for another Pile mass. After ligation, cauterizations apply Jatyadi tail to cauterized pile mass. Dressing should be done.
Post Operative Procedure -
N.B.M. for 5-6 hours
Advice – Liquid diet 2 days.

Oral medicine

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Medicine</th>
<th>Dose</th>
<th>At the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sukshma Triphala</td>
<td>250 mg.</td>
<td>2 T.D.S.</td>
</tr>
<tr>
<td>2</td>
<td>Gandhak Rasayan</td>
<td>250 mg.</td>
<td>2 T.D.S.</td>
</tr>
<tr>
<td>3</td>
<td>Swadhistha Virechan Churna</td>
<td>2 tsf</td>
<td>H.S. with Luke warm water</td>
</tr>
</tbody>
</table>

- If not responding by this medicine we are using Antibiotics and Analgesics and Purgatives - laxative drugs
- Patient is advised discharge on the same day (without any complications)
- Follow up after 8 days
- Recurrence - Mostly there is no recurrence observed due to cauterization

Observation & results

Sexwise distribution

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Male</th>
<th>Female</th>
<th>Total no. of Patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>In Numbers</td>
<td>981</td>
<td>584</td>
<td>1565</td>
</tr>
<tr>
<td>Percentage</td>
<td>62.68%</td>
<td>37.32%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Agewise distribution

<table>
<thead>
<tr>
<th>AGE GROUP</th>
<th>Total no. out of 1565</th>
<th>In percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-20</td>
<td>39</td>
<td>2.49%</td>
</tr>
<tr>
<td>21-30</td>
<td>253</td>
<td>16.16%</td>
</tr>
<tr>
<td>31-40</td>
<td>430</td>
<td>27.47%</td>
</tr>
<tr>
<td>41-50</td>
<td>438</td>
<td>27.98%</td>
</tr>
<tr>
<td>51-60</td>
<td>335</td>
<td>21.40%</td>
</tr>
<tr>
<td>61-70</td>
<td>70</td>
<td>4.47%</td>
</tr>
</tbody>
</table>
Doshwise distribution

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Type of Dosha</th>
<th>No. of patients out of 1565</th>
<th>% of the patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Vataja</td>
<td>241</td>
<td>15.39%</td>
</tr>
<tr>
<td>2.</td>
<td>Pittaja</td>
<td>303</td>
<td>19.36%</td>
</tr>
<tr>
<td>3.</td>
<td>Kaphaja</td>
<td>431</td>
<td>27.53%</td>
</tr>
<tr>
<td>4.</td>
<td>Vatakaphaja</td>
<td>590</td>
<td>37.69%</td>
</tr>
</tbody>
</table>

Relief in Symptoms

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Symptoms</th>
<th>Relief</th>
<th>Cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Bleeding</td>
<td>No Bleeding</td>
<td>-</td>
</tr>
<tr>
<td>2.</td>
<td>Burning</td>
<td>No Burning</td>
<td>-</td>
</tr>
<tr>
<td>3.</td>
<td>Itching</td>
<td>Itching remains 1+</td>
<td>Itching remained due to surgical procedure.</td>
</tr>
<tr>
<td>4.</td>
<td>Constipation</td>
<td>No constipation</td>
<td>-</td>
</tr>
</tbody>
</table>

Relief in Patients -
Almost there is relief for patients within 7 days.

Discussion and conclusion -

Action of the procedure
After application of Barber linen thread no.40 at the base of pile mass necrosis appears and automatically after shrinking the pile mass it pass with stool while defecation. The fitted knot of the pile base naturally withdraws with stool. There is minimum half centimeter wound which doesn’t bleed and not gives pain at all. Naturally it will subside within seven days. This is action of ligation of the pile mass.

Second action of Cauterization -
Agnikarma is the best treatment for Arsha. \textit{Na tesham punaruddhava} is the sutra for Arsha treatment. This is given in the text of Susrut samhita of Uttaratantra, by this single line consideration come in mind that why not to apply on ligated piles so we discussed each other and start the procedure on 5th June 2011. After cauterization of pile mass we found that the catched pile mass after cauterization reduced, at this reduction gives no pain at all for defecation. As we know external sphincter expands 1 cm while defecation so the obstruction of piles after procedure is of very little but size. According to our knowledge the anorectal junction is free from piles so patients have no any difficulty to pass the motion. We use the kauri machine having the cauterized probe gold and silver. As we know gold and silver have the property of Vishaghna and Krimighna guna. These cauterizations have no any complication. There is no need of higher antibiotics and analgesics as we prescribed here a post operative
medicine like Sukshma triphala 250 mg, Gandhaka Rasayana 250 mg. and according to Koshta and Agni we given the Anulomana (Laxative) at night with lukewarm water.

There is Multimodality Treatment for Piles -
1. Injection Asckerol/Piladocanal injection- Sclerotherapy.
2. Rubber band ligation.
3. Closed Hemorrodectomy.
4. Open Hemorrodectomy.
5. Infrared Coagulation (IRC)
6. DGHAL (Doppler gaga haemorridal artery ligation)
7. Laser Hemorrodectomy.
8. Stapler Hemorrodectomy.

Our group saw the result of the above procedure but according to patient they are not satisfied by this procedure so for the society we invent this type of procedure which is very economical and having no recurrence at all. We wish to give entire satisfaction to the patient by applying this procedure.

Susrutacharya described 8 diseases which are non curable, Arsha is one of them. Though he had given four remedy Bhesaja, Shastra, Kshara and Agnikarma in Susruta Samhita Chikitsa Sthana. After prolonged discussion and interrogation to each other we came to conclusion that we can cure this disease so we had taken the combination of the treatment namely Viz. Para surgical method that ligation and transfixation of pile mass and cauterization by golden probe for pile mass. Now this treatment gives piles (Arsha) curable for almost lifetime.

References:
Case Study

The Role Of Sira Vyadh
With Application Of Ksharsutra
In The Management Chronic Wound

Dr. Gupteshwar Sonavane, K.V.T.R. Ayurved Mahavidyalay & Rughalaya, Boradi, Dist. Dhule, Maharastra University of Health Sciences.

ABSTRACT : A Chronic wound is a wound that does not heal in an orderly set of stages and in a predictable amount of time the way most wounds do. Wounds that do not heal within the three months are often considered chronic. Chronic wounds seem to be detained in one or more of the phases of wound healing. For example chronic wounds often remain in the inflammatory stage for too long. In acute wounds, there is a precise balance between production and degradation of molecules such as collagen, in chronic wounds this balance is lost and degradation plays too large a role. Chronic wounds may never heal or may take years to do so.

In Ayurveda it can be co-related with Dushta Vrana(chronic wound). Acharya Sushurta had exhaustively studied the subject of Wound Management and explained Wound Management in Shashti Upkrama to treat Vrana. The Wound Healing is a natural phenomenon unless the wound is healthy and clean when it gets infected it may lead to life threatening condition like sepsis such a rare and life threatens condition of Chronic Wound treated with the help of some measures. I have treated / cured a case of chronic Wound, 30 years / M in Shalya Tantra Department of K.V.T.R. Ayurved Mahavidyalaya and Rugalaya, Boradi, Tal.Shirpur, Dist.Dhule.

KEYWORDS : Chronic Wound, Dushta Vrana, Sira Vyadh and Ksharsutra.

INTRODUCTION :

Dushta Vrana is common and often encountered problem faced in surgical practice. The presence of Dushta Vrana worsens the condition of patient with complication and may become fatal. These wounds also cause patients severe emotional and physical stress and create a significant financial burden on patients and the whole healthcare system.

Local factors of wound like Slough, infection and foreign body affect the normal process of healing. A healthy wound in normal body heals earlier with minimal scar as compare to contaminated wound. Therefore in a present concept all efforts are directed to keep the wound clean during the various stages of its healing. Good wound healing with minimal scar formation with least pain effectively is the prime motto of every surgeon.

Sushruta, Charaka, Vagbhatta, Madhavkar and Sharangdhar have clearly mentioned the lakshanas of Dushta Vrana as foul smelling, continuously flowing pus along with blood and
cavity since long time which can be correlated to non-healing or contaminated or Chronic Wound.

There have been many studies on Vrana prakashalana, Pichu, lepa, Ghrita, Taila, Raskriya, Avachurnan for Dushta Vrana by various research centers in India. But till now no study has been carried out on Sira Vyadh with application of Ksharsutra which are not included in Shashti upakrama, so there is need to evaluate effect of Sira Vyadh with Ksharsutra on Dushta Vrana.

Clinical Features :-
1) Chronic Wound patients often report pain as dominant in their lives, pallor and pyrexia at first only affected part is involved, but if unchecked, the cellulitis spreads until the entire periphery coverings slough, it is most common feature.
2) Patients can present with varying signs and symptoms including fever greater than 98°F, swelling and erythema, purulence or wound discharge, crepitations or flatulence.
3) Crepitus of the inflamed tissue is a common feature of the disease due to the presence of gas forming organisms. As the subcutaneous inflammation worsens, necrotic patches start appearing over the overlying skin and progress to extensive necrosis.

Dushta Vrana :-
An excessively narrow or wide mouth, excessively indurated or soft ulcers, excessively elevated or depressed very cold or very hot, having one of these colors black, red, fierce looking vessels, ligaments etc, associated with putrefying pus, having an unpleasant appearance and with severe pain, having a burning sensation.

Dushta Vrana is associated with the discharge of putrefying pus and sloughing muscles, vessels, ligament it is excessively indurated, elevated with excessive discharge of vitiated doshas, foul smelling according to severity of vitiation of doshas.

Material and Methods :-
1) Triphala Kwath - For wound cleaning
2) No.18 (Bore Needle with IV set) :- For Sira vyadh.
3) Ksharsutra :- For removing slough leading to granulation tissue for better healing.
4) Gauze pieces and cotton bandages for dressing.

Case study - Chronic wound.
- Patient name – XXX, 30 years / M
- Occupation – Farmer
- Monthly income – less than 10,000/-
· Date of 1st visit – 12/07/2012.
· Date of recovery – 02/08/2012.
· Duration of treatment – 22 days.

**Chief Complaints:** Chronic Wound from last three month with

- Swelling (shopha)
- Pain (Vrana Vedana)
- Bleeding discharge (Shonit Srava)
- Fever (Jwara), Burning sensation (Daha)

**History of Present illness:**

a) Folliculitis at Rt. index finger near joint and he selfly punctured the site by nail, false assumption of abscess.

b) Suddenly develop pain and inflammation on (Rt.) index finger.

c) Associated symptom – fever and drowsiness (lethargy)

**Past History:**

- No H/O systemic HT, DM, TB, Asthma or any other Major illness / any major Surgery.
- No H/O. any type of allergy.

**General Examination:**

- G.C. moderate, febrile.
- Pulse – 84 / min.
- BP – 130 / 80 mm of Hg.
- CVS – S₁ S₂ normal.
- CNS – Conscious well oriented.
- RS – Chest Clear on both sides.
- R/R – 18 / min.
- Digestive system: Regular bowel habit.

**Vrana Examination:**

1) As per Trividhapatikasha: (Inspection) – Darshan pariksha.

1) Site :- Rt. Index finger.

2) Size and shape: - Length – 10 cm. Breadth – 8 cm.
3) Color - Dark reddish.
4) Edges - Edematous Blackish.
5) Base :- Leathery Sloughy, non-healing, pale yellow colored.
6) Discharge :- Muco purulent.
7) Surrounding skin :- Inflamed.

II) Sparshan Pariksha :- (Palpation)
1) Edges (Margins):- Indurated, Edematous, blackish.
2) Local Temperatures: - Raised.
3) Tenderness :- +++
4) Inflammation :- Present.
5) Odour :- Foul smell.
6) Regional Lymph node :- Axillary lymph nodes palpable.

III) Prashna Pariksha (Question)
1) Pain :- Cyclical or persistence.
2) Burning sensation :- present.
3) Movement: - Restricted movement of hand and finger.

** Laboratory Investigations :-
- Hb – 12.6 gm %,   BSL – 108 mg %
- WBC – 10400 / Cu.mm., HbsA9 Non-Reactive H1v I and II Test
  Neutrophills – 70 %, Lymphocytes – 26 %, Eosinophills – 4 %
- ESR – 34 mm, Serum creatinine: - 1.28 mg/dl.
- Urine R – Normal study BT – 3.30 min.
- CT – 6.10 min.

** Causes :-
1) ? Unhygienic condition leads to infective focus.
2) Obliterative arteritis of the arterioles due to infection.

Diagnosis :- Chronic Wound / non-healing / contaminated Wound.
Treatment and Observations :-

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>On Ist Day 1) Debridement</td>
<td>Slough : +++</td>
</tr>
<tr>
<td>Clean and uninfected without much loss of tissue removing devitalized tissue</td>
<td>Foul smell :- present.</td>
</tr>
<tr>
<td>2) Vranadavwana :- With triphala Kwath</td>
<td>Inflammation :- +++</td>
</tr>
<tr>
<td>3) Sira Vyadha of affected site by 18 no bore needle at interval of 3 days strictly.</td>
<td>Edges : Induration +++</td>
</tr>
<tr>
<td>4) Local application :- Ksharsutra application at site alternate day strictly.</td>
<td>Tenderness :- +++</td>
</tr>
<tr>
<td>** Oral Medication :-**</td>
<td>Base: - Leathery, Sloughy, non-healing, pale yellow colored.</td>
</tr>
<tr>
<td>1) Tab Gandhak Rasayan – 2 TDS</td>
<td>Discharge: - Muco-purulent Axillary lymph nodes-palpable.</td>
</tr>
<tr>
<td>(Each tab 250 mg) for 15 days.</td>
<td></td>
</tr>
<tr>
<td>2) Tab Amrit Guggulu 1 TDS for 30 days.</td>
<td></td>
</tr>
<tr>
<td>3) Tab Kaishar Guggulu 1 TDS for 30 days.</td>
<td></td>
</tr>
<tr>
<td>4) Avipatikar Churna 1 gm for 30 days.</td>
<td></td>
</tr>
<tr>
<td>From 2nd to 10th Day. :-</td>
<td></td>
</tr>
<tr>
<td>- Slough Removed</td>
<td>Slough ↓ ie ++ Foul smell ↓</td>
</tr>
<tr>
<td>Sira Vyadha – 3Times</td>
<td>Foul smell↓</td>
</tr>
<tr>
<td>Ksharsutra application – 4Times application</td>
<td>Edges Induration ↓ ++</td>
</tr>
<tr>
<td>Dressing done</td>
<td>Inflammation : ↓++</td>
</tr>
<tr>
<td>From 11 to 15 days -</td>
<td>Tenderness - ↓++</td>
</tr>
<tr>
<td>Sira Vyadh - 2times -</td>
<td>Discharge – pus</td>
</tr>
<tr>
<td>Ksharsutra - 3times application -</td>
<td>Lymph node enlargement</td>
</tr>
<tr>
<td>Dressing done</td>
<td></td>
</tr>
</tbody>
</table>

(24)
**From 16 to 20 days**

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sira Vyadh – 2 times</td>
<td>Slough – absent</td>
</tr>
<tr>
<td>Ksharsutra – 2 times application</td>
<td>Foul smell – No smell.</td>
</tr>
<tr>
<td>Dressing done</td>
<td>Edges – Sloping.</td>
</tr>
<tr>
<td></td>
<td>Tenderness +</td>
</tr>
<tr>
<td></td>
<td>Discharge – Slight Serum</td>
</tr>
<tr>
<td></td>
<td>Axillary lymph node – Not palpable.</td>
</tr>
</tbody>
</table>

**Onwards 20 days (upto healing)**

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Sira Vyadh – 1 time</td>
<td>No Foul smell</td>
</tr>
<tr>
<td>- Ksharsutra – 1 time</td>
<td>Edges :- Soft surrounding skin</td>
</tr>
<tr>
<td>- Dressing done</td>
<td>Color :- Grayish to Normal</td>
</tr>
<tr>
<td></td>
<td>Tenderness :- Gradually</td>
</tr>
<tr>
<td></td>
<td>Decrease and finally absent.</td>
</tr>
<tr>
<td></td>
<td>Base: - production of healthy granulation tissue depth gradually decreased and finally it was healed completely.</td>
</tr>
<tr>
<td></td>
<td>Discharge : absent.</td>
</tr>
</tbody>
</table>

**Result**: Chronic Wound was cured completely.

**DISCUSSION :-**

- **DISCUSSION OF CONCEPT :-** The shashti Upakramas (described by Sushruta) are divided broadly in 3 major groups - a) Vrana shodhana b) Vrana Ropan c) Vaikritapaham.

Out of these three types first upakrama is shodhana is must for management of Dushta Vrana. The present study is also attempt in the same direction.

- **Discussion on topic selected**: Without getting the wound debridement, it is not possible to get granulation tissue developed. So such a method selected which has following properties.

1) Debride the slough.
2) Increase granulation and thus enhance wound healing.
3) Easily available.
4) Cheap and affordable.

So methods sira vyadh and ksharsutra application is selected for management of Dushta Vrana.
Discussion on mode of action :-

Triphala Kwath :- Vrana Shodana, Vrana Ropna and Kriminghna (bactericidal)

Sira Vyadha :- Here Sushruta mention that,

According to above reference the shodhana and ropana effect of sira vyadh with application of Ksharsutra is significant than the routine conservative management of modern medicines / methods with no need of ulcer healing agent, also, less use of higher antibiotics orally due to the synergetic action of Sira Vyadh with Ksharsutra\(^5,7\).

- **Ksharsutra** :- Kshar is that substance which cuts the devitalised tissue and it has also property of shodhana and Vaikritapaham. Kshar is alkaline in nature and according to pH-
  - pH 8.4 - Mrudu kshar
  - PH 9.2 – Madhyam kshar.
  - PH 9.4 – Tikshna kshar.

In this case use of madhyam kshar is proper result. In tikshna kshar there is damage to granulation tissue results in hampering the wound healing.

Latex of Snuhi :- Chemical irritant smooth cutting take’s place. Apamarga caustic action lysis of tissue takes place. Haridra is a best antibacterial, antifungal, anti-inflammatory, antioxidant, antiepatotoxic and anticoagulatory in nature, hence the granulation tissue formation is faster and which helps in wound healing as compare to routine modern management\(^8\).

**Discussion on Achievement of Therapy :-**

Most necessary steps in wound management are debridement and removing slough from Wound. In this present study Sira Vyadh with application of Ksharsutra provided better relief in pacifying almost all cardinal symptoms of dushta vrana.

In modern medicine Wound cleaning is done by Hydrogen Peroxide, Povidine iodine, normal saline. The slough is removed by mechanical debridement method. Mechanical debridement is useful for slough which is not firmly adherent with the floor. Only the loose slough can get separated. This hinders healing. Here Sira Vyadh with application of Ksharsutra are working effectively. The internal medicine also contributes to maintain the harmony of dosha which decreases the healing period.

**Conclusion :-** In present study Results of Sira Vyadh with application of Ksharsutra are very encouraging, cheap, effective and easily available with no need of skin grafting, analgesics and antibiotics.

**Acknowledgement :-**

Special thanks to Guru Shri. Samarth Kashinath Bapuji who inspired me, and also my staff members.
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2. Sushrut Samhita, chikitsa sthan Edited by Ambikadutta Shastri – Published by Chaukambha Sanskrit Sansthan in 2010.
5. Sushrut Samhita, Sutrasthan Edited by Ambikadutta Shastri – Published by Chaukambha Sanskrit Sansthan in 2010.
7. Sushrut Samhita, Sharirsthan Edited by Ambikadutta Shastri – Published by Chaukambha Sanskrit Sansthan in 2010.

ON FIRST DAY
a) Before treatment -

b) Debridement
ABSTRACT -

Amavata is a disease caused due to the vitiation or aggravation of Vayu associated with Ama. Vitiated Vayu circulates the Ama all over the body through Dhamanies, takes shelter in the Shleshma Sthana (Amashaya, Sandhi, etc.), producing symptoms such as stiffness, swelling, and tenderness in small and big joints, making a person lame. The symptoms of Av are identical to rheumatism, which include rheumatoid arthritis and rheumatic fever. It is observed that rheumatism is an autoimmune disorder, which is among the collagen disorders having strong and significant parlance with Av. Various drug trials were already carried out on Amavata, yet there is a lacuna in the management of Av.

Keywords - Amavata, Dhamanies, Rheumatoid arthritis, Rheumatic fever.

INTRODUCTION -

Amavata is one of the crippling diseases claiming the maximum loss of human power. It is not only a disorder of the locomotor system, but is also a systemic disease and is named after its chief pathogenic constituents, which are, Ama and Vata.

The main causative factor, Ama, is caused due to malfunctioning of the digestive and metabolic mechanisms. The disease is initiated by the consumption of Viruddha Ahara and simultaneous indulgences in Viruddha Ahara in the pre-existence of Mandagni[1]. Although Ama and Vata are chiefly pathogenic factors, Kapha and Pitta are also invariably involved in its Samprapti.[2] Ama and Vata being contradictory in their characteristics, there is difficulty in planning the line of treatment. Derangement of the Kapha dosha, especially Shleshak kapha in the Amavata, which produces joint pain and swelling with tenderness, can be correlated with rheumatoid arthritis and derangement of the Pitta dosha along with Ama taking shelter in the Avalambak Kapha sthana, which can be correlated with rheumatic fever because of the cardiac involvement, due to repeated fever, resulting in rheumatic heart diseases.[3]

Several dreadful diseases are prevalent in medical science. The scope for therapeutic measures is limited even after extreme advancement of the modern bio-medical science. The rheumatological disorder is a group of diseases that has no specific medical management in any type of therapeutics. Amavata is a particular type of disease that is mentioned in Ayurveda
since the period of Madhavkar, under the category of Vata – Kaphaja disorder. In spite of the description of multiple drug therapy on Amavata in different classics of Ayurveda, potential and durable results are not found due to non-removal of the basic cause. Hence, special emphasis should be put into searching for a standard and suitable drug for Amavata.

BRIEF RESUME OF INTENDED WORK :

1) Need for the study :

Ayurveda is the timeless and unbounded knowledge of holistic approach to perfect health for every individual and society, contained in the Vedic Literature. This is the system which has been proposed with the dual objects of keeping each and every person healthy as well as to root out diseases. Hence, every individual has the real opportunity to achieve long life through this knowledge.

The changing life style of human being by means of dietetic and behaviour pattern plays a major role in the manifestation of several disorders. Thus, such type of pattern may also lead to the development of the disease like Amavata.

Amavata was first described as an independent disease in Madhava Nidana[1]. Amavata is the disease affecting Asthi and Sandhis. The disease is a product of vitiation of Tridosha though Ama and Vata are the initiating factors in its pathogenesis, the exacerbation makes the disease more Kashtasadhya[2] which reflects the equal role of both Dosha (Vata) and Dushya (Ama) in the causation of this disease. Moreover, the chief pathogenic factors, being contradictory in nature poses difficulty in planning the line of treatment. Hence, the management of this disease is merely insufficient in other system of medicine and patients are continuously looking with a hope towards Ayurveda to overcome this challenge.

2) Review of Literature :

In Charaka Samhita, Sushruta Samhita & Astangha Hridaya there is no description regarding Amavata as a separate disease. In Madhava Nidana[5] Amavata is mentioned as a separate specific disease entity and described its etiology, pathogenesis, signs, symptoms, classification and the prognosis. In Harita Samhita[6] a separate chapter on Amavata in which Nidana, Rupa, Bheda, Sadhyata, Asadhyata has been described in detail and the description is totally different to that of Madhava Nidana. Description of Amavata and its treatment aspect is mentioned in Yogaratnakara[7], Chakradatta[8], Bhaisajya ratnavali[9].

DIAGNOSTIC CRITERIA :

As per the clinical features of Amavata mentioned in classics, cases are diagnosed based on the following lakshanas.

· Angamarda

· Aruchi

· Trishna
PARAMETERS OF STUDY:
The improvement provided by therapy will be assessed on the basis of classical signs and symptoms. The signs and symptoms will be assigned score depending upon the severity to the effect of drugs objectively.

SUBJECTIVE PARAMETERS

Angamarda
Aruchi
Trishna
Alasya
Gauravata
Jwara
Apaka
Shunatangam
Sandhishoola

OBJECTIVE PARAMETER

C - Reactive Protein.

SUBJECTIVE CRITERIA

On the basis of scoring of classical lakshanas.

<table>
<thead>
<tr>
<th>Angamarda</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Angamarda</td>
<td>0</td>
</tr>
<tr>
<td>Occasional angamarda but patient is able to do usual work</td>
<td>1</td>
</tr>
<tr>
<td>Condition</td>
<td>Score</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Continuous angamarda but patient is able to do usual work</td>
<td>2</td>
</tr>
<tr>
<td>Continuous angamarda which hampers routine work</td>
<td>3</td>
</tr>
<tr>
<td>Patient is unable to do any work</td>
<td>4</td>
</tr>
<tr>
<td><strong>Aruchi</strong></td>
<td></td>
</tr>
<tr>
<td>Normal desire for food</td>
<td>0</td>
</tr>
<tr>
<td>Eating timely without much desire</td>
<td>1</td>
</tr>
<tr>
<td>Desire for food, little late, than normal time</td>
<td>2</td>
</tr>
<tr>
<td>Desire for food only after long intervals</td>
<td>3</td>
</tr>
<tr>
<td>No desire at all</td>
<td>4</td>
</tr>
<tr>
<td><strong>Trishna</strong></td>
<td></td>
</tr>
<tr>
<td>Normal feeling of thirst</td>
<td>0</td>
</tr>
<tr>
<td>Frequent feeling of thirst but quench with normal amount of liquids</td>
<td>1</td>
</tr>
<tr>
<td>Satisfying quench after increased intake of fluids but no awakening during nights</td>
<td>2</td>
</tr>
<tr>
<td>Satisfying quench after increased intake of fluids with regular awakening during nights</td>
<td>3</td>
</tr>
<tr>
<td>No quench after heavy intake of fluids</td>
<td>4</td>
</tr>
<tr>
<td><strong>Alasya</strong></td>
<td></td>
</tr>
<tr>
<td>No Alasya</td>
<td>0</td>
</tr>
<tr>
<td>Starts work in time with efforts</td>
<td>1</td>
</tr>
<tr>
<td>Unable to start work in time but completes the work</td>
<td>2</td>
</tr>
<tr>
<td>Delay in start of work and unable to complete the work</td>
<td>3</td>
</tr>
<tr>
<td>Never able to start the work and always likes rest</td>
<td>4</td>
</tr>
<tr>
<td><strong>Gauravata</strong></td>
<td></td>
</tr>
<tr>
<td>No feeling of heaviness</td>
<td>0</td>
</tr>
<tr>
<td>Occasional heaviness in body but does usual work</td>
<td>1</td>
</tr>
<tr>
<td>Continuous heaviness in body but does usual work</td>
<td>2</td>
</tr>
<tr>
<td>Continuous heaviness which hampers usual work</td>
<td>3</td>
</tr>
<tr>
<td>Unable to do any work due to heaviness</td>
<td>4</td>
</tr>
<tr>
<td>Jwara</td>
<td>Score</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>No jwara</td>
<td>0</td>
</tr>
<tr>
<td>Occasional low grade fever once or twice/week</td>
<td>1</td>
</tr>
<tr>
<td>Occasional fever in range of 99.4 to 101F with frequency 3 to 5 times/week</td>
<td>2</td>
</tr>
<tr>
<td>Rise in temperature atleast once/day</td>
<td>3</td>
</tr>
<tr>
<td>Continuous low or hight grade fever</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Apaka</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Apaka at all</td>
<td>0</td>
</tr>
<tr>
<td>Occasional indigestion once or twice/week in one meal</td>
<td>1</td>
</tr>
<tr>
<td>Occasional indigestion 3 to 5 times/week in one meal</td>
<td>2</td>
</tr>
<tr>
<td>Indigestion 3 to 5 times/week in both meals</td>
<td>3</td>
</tr>
<tr>
<td>Indigestion after every meal</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Shunatanga</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>No numbness</td>
<td>0</td>
</tr>
<tr>
<td>Occasional numbness once or twice/week after long immobile periods</td>
<td>1</td>
</tr>
<tr>
<td>Numbness 3 to 5 times/week after long immobile periods</td>
<td>2</td>
</tr>
<tr>
<td>Numbness 3 to 5 times/week after short immobile intervals</td>
<td>3</td>
</tr>
<tr>
<td>Numbness throughout the day</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sandhi shoal</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>No pain</td>
<td>0</td>
</tr>
<tr>
<td>Mild pain</td>
<td>1</td>
</tr>
<tr>
<td>Moderate pain but no difficulty in moving due to pain</td>
<td>2</td>
</tr>
<tr>
<td>Slight difficulty in morning due to pain</td>
<td>3</td>
</tr>
<tr>
<td>Much difficulty in moving the bodily parts</td>
<td>4</td>
</tr>
</tbody>
</table>

TREATMENT MODALITIES IN RHEUMATOLOGICAL DISEASES
- Langanam
- Swedanam
- Tikta deepanaani katuni
- Virechana, snehapaana vastayah
- Kshara vasthi

(32)
TREATMENT MODALITIES IN RHEUMATOLOGICAL DISEASES

<table>
<thead>
<tr>
<th>Antiinflammatory &amp; analgesics</th>
<th>Antibiotics</th>
<th>Immuno modulators</th>
<th>Disease modifying drugs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yogaraj G.</td>
<td>Loha souvera</td>
<td>Narasimha lehya</td>
<td>Mahanarayan T.</td>
</tr>
<tr>
<td>Kaishora G.</td>
<td>Gandaka</td>
<td>Ashwagandadi lehya,</td>
<td>Danwantara T.</td>
</tr>
<tr>
<td>Simhanada G.</td>
<td>rasayana</td>
<td></td>
<td>Kshira bala T.</td>
</tr>
<tr>
<td>Vatari G.</td>
<td>Arogyavardini</td>
<td>Panchatikta guggulu grita,</td>
<td>Prasarini T.</td>
</tr>
<tr>
<td>Lashuna paka</td>
<td>Amavatari ras</td>
<td></td>
<td>Balashwagandadi T.</td>
</tr>
<tr>
<td>Eranda taila</td>
<td></td>
<td></td>
<td>Nirgundi T.</td>
</tr>
</tbody>
</table>

PANCHAKARMA IN RHEUMATOLOGICAL DISEASES

SNEHANA: Bahya
- Abhyangam—bhrihat saidavadi T.,
- kati vasti
- Griva vasti
- Jaanu vasti
- Shiro vasti

SNEHANA: Abhyantara
- Sneha paana—Tiktaka grita, panchatikta guggulu ghrita, Danwantara T, Balashwaganda
- Anuvasana vasti—Danwantara T,
- Matra vasti
- Kshara vasti

Observations and Results

The collected data has been distributed in the following tables.

From the Table 1, it can be observed that a maximum number of patients were in the age group of 11 – 50 years. The maximum number of patients were female (53.55%). Out of 28 patients of Amavata, most of the patients were laborers 10 (35.72%), followed by 09 (32.14%) farmers [Table 2]. Out of 28 patients of Amavata, 12 (42.86%) patients had a sudden onset and 11 (39.28%) patients had a gradual onset [Table 3]. The present clinical study reveals that the majority of the patients (57.14%) had Mandagni, whereas, 12 (42.86%) patients had Vishamagni [Table 4].

(33)
Discussion

- In amavataSwedanam
- TikLanganam
- ta deepanaani katuni
- Virechana, snehapaana vastayah
- Kshara vasthi

LIST OF REFERENCES:

Review:

Survey study to explore contemporary relevance of Siravedhan method described by Sushruta

Dr. Rupaji J. Kadam, Assistant professor (RachanaSharir), rupajik@gmail.com
Dr. S.V.Pandit, Professor (RachanaSharir), drpanditsanjay@gmail.com
Bharati Vidyapeeth Deemed University, College of Ayurved, Pune-43.

ABSTRACT:

While learning Anatomy with Ayurvedic perspective, students encounter number of controversial concepts which has to be clarified e.g. Srotas, Snayu, Sira, Kala etc. Sira is one of the intricate and essential concepts. Vedhan of Sira (Puncturing of veins) i.e. Siravedhan is one of the modality in practice in the management of various diseases. Hence a survey study was designed to explore contemporary relevance of Siravedhan method described by Sushruta.

During survey study it was observed that, all the locations indicated for Siravedhan in different diseases by Sushruta are not used currently in practice. The practicing Vaidyas use a very few locations indicated for Siravedhan. It was also observed that Siravedhan as a modality is less in practice may be due to lack of first hand information as well as experienced Vaidyas or due to lack of confidence.

Key word: Raktamokshan, Siravedhan, Vedhya Sira.

INTRODUCTION:

Sira is one of the intricate, controversial but essential concepts that is encountered while learning Anatomy with Ayurvedic perspective. Siravedhan is one of the important modality in practice in the management of various diseases like Grudhrasi, Unmad, Apasmar etc. However, nowadays Siravedhan is found less in practice, may be due to lack of first hand information as well as experienced Vaidyas or due to lack of confidence. Sushruta has mentioned specific sites for Siravedhan and he also mentioned sites for Avedhya Siras. Vedhan of Avedhya Sira leads to either grievous deformity or death. Sushruta has stated Siravedhan as a half (prime) the Chikitsa in Shalyatantra like Basti in Kayachikitsa. Hence considering its importance survey study was carried out all over India amongst Vaidyas to find out prevailing practices.

AIM -

To see relevancy of Siravedhan method described by Sushruta with Siravedhan methods of different schools in vogue.
OBJECTIVES: -
To explore whether, the Siravedhan method described by Sushruta and in practice are same or not.

MATERIALS: -
1) Literature : Bharhuttraiges, Previous Research work.
2) Survey sheet in form of Questionnaire-A. To identify Siravedhan practicing Vaidyas.
3) Survey Sheets in form of Questionnaire-B. To collect information from Siravedhan practicing Vaidyas.

METHODOLOGY: -
a) Literature study
b) Survey study

a) Literature study: -
1. Thorough study of Siravedhan method and sites of Siravedhan from the Sushruta Samhita was done.
2. Review of previous work done regarding Siravedhan method. Two dissertations observed but these were not relevant with our topic.
1) Conclusive differentiation of Shushrutokta Sira.
2) Anatomical location of Shakhasthita Avedhya Siras with special reference to Lohitaksha & Aurvi Sira.

b) Survey study: -
1) After completion of literature study, survey sheet was prepared for survey of Vaidyas.
2) Survey Sheet in form of Questionnaire-B:
   Survey sheet in form of Questionnaire-B was developed by incorporating the following points as per Sushruta:
   a. Specific sites for Siravedhan in particular Vyadhi.
   b. Sites for Avedhya Siras.
   c. Whether Siravedhan method described by Sushruta are used in practice or not? If not then which method was followed by Vaidyas for Siravedhan was also mentioned in survey sheet.

The Vaidyas practicing Siravedhan were identified from the information collected through Questionnaire-A for identification of Siravedhan practicing Vaidyas from staff, students and Vaidyas.
Questionnaire - A for identification of Siravedhan practicing Vaidyas:

a) Do you know Siravedhan Practicing Vaidyas? Yes /No

b) If yes, give name, address and contact number.

Survey Sheet in form Questionnaire-B was sent to 54 Vaidyas all over the India who are practicing Siravedha.

3) We have personally communicated with the different Vaidyas who are routinely practicing Siravedhan for different diseases.

4) The study of various Siravedhan methods and their effects on different diseases has been carried out by retrospective method.

5) Practical sites of different type of Vedhya Siras were confirmed with the help of both above studies viz. Literature and survey.

6) Consequently, comparative study of these practical sites was carried out with the help of description available in Sushruta Samhita

OBSERVATIONS OF SURVEY STUDY:

Observation Table No.1.

(No. of sites used by Vaidyas out of 26 sites mentioned by Sushruta)

<table>
<thead>
<tr>
<th>S. NO.</th>
<th>No. of sites used by Vaidyas out of 26 sites</th>
<th>Total no. of Vaidyas</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>24</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>13</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>6</td>
<td>1</td>
</tr>
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<td>8</td>
<td>8</td>
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<td>9</td>
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</tr>
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<td>10</td>
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<td>2</td>
</tr>
<tr>
<td>11</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td>12</td>
<td>14</td>
<td>1</td>
</tr>
<tr>
<td>13</td>
<td>21</td>
<td>1</td>
</tr>
<tr>
<td>14</td>
<td>22</td>
<td>2</td>
</tr>
</tbody>
</table>

Total = 54
Inference of table No. 1:

From the above table it is observed that none of the Vaidyas has used entire 26 sites for Siravedhan. Only 2 Vaidyas has used maximum 22 sites in their practice. While other Vaidyas are doing Siravedhan at limited sites.

Observation Table No. 2.

(No. of Vaidyas practicing Siravedha in particular Vyadhis among 54 Vaidyas)

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Vyadhi</th>
<th>No.ofVaidyas doing Siravedh</th>
<th>No. of Vaidyas using Sushrutoka sites</th>
<th>No. of Vaidyas not using Sushrutoka sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Padadaha, Padaharsha, Avabahuka</td>
<td>17</td>
<td>13</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>Shlipada</td>
<td>11</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>Koshtukashirsha, Khanja</td>
<td>14</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>Apachi</td>
<td>7</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Grudhrasi</td>
<td>29</td>
<td>24</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>Galganda</td>
<td>5</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>PlihaVriddhi</td>
<td>11</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Yakrutadkhya</td>
<td>12</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>Kasa – Shvasa</td>
<td>8</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>Visvachi</td>
<td>12</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>11</td>
<td>Shulayukta Pravahika</td>
<td>4</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>Parivartika, Updamsha, Shukadosa, Shukradosa</td>
<td>5</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>13</td>
<td>Mutravirdhi</td>
<td>6</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>14</td>
<td>Jalodar</td>
<td>8</td>
<td>8</td>
<td>-</td>
</tr>
<tr>
<td>15</td>
<td>Antra-Vidradhi &amp; Parshva-Shula</td>
<td>6</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>16</td>
<td>Bahushosha &amp; Avabahuka</td>
<td>10</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>17</td>
<td>Trityaka Jvara</td>
<td>4</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>18</td>
<td>Chaturthaka Jvara</td>
<td>4</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>19</td>
<td>Apasmar</td>
<td>7</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>20</td>
<td>Unmada</td>
<td>10</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>21</td>
<td>Jivha&amp;Dantaroga</td>
<td>6</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>22</td>
<td>TaluRoga</td>
<td>6</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>23</td>
<td>Kama Shula &amp; Karnaroga</td>
<td>9</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>24</td>
<td>Nasaroga</td>
<td>6</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>25</td>
<td>Timira, Akshipaka, Netraroga</td>
<td>10</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>26</td>
<td>Shirorhoa, Adhimantha</td>
<td>12</td>
<td>8</td>
<td>4</td>
</tr>
</tbody>
</table>
Inference of table No. 2:
From the above table it is observed that most of the Vaidyas are doing Siravedhan in Grudhrasi, Padadaha, Padaharsha, Avabahuka & Krostukshirsha Vyadhis.

THE OVERALL OBSERVATIONS SEEN AFTER COMPLETION OF SURVEY STUDY:

a) Nobody has filled entire information asked in survey sheet proforma about Vedhya and Avedhya Siras.

b) None of the Vaidyas is doing Siravedhan at all sites.

c) In survey study of 54 Vaidyas from all over India, 44.44 % are doing Siravedhan at one site, 24.07 % at two sites, 20.37 % at 3-10 sites and 11.11 % at 13-22 sites.(Among 26 sites as mentioned by Sushruta).

d) The commonly used sites for Siravedhan are nearby Kurpar, Janu, Gulpha, Manibandh, & Lalat.

e) There is no any information available regarding the instance of complications due to puncture of Avedhya Sira in the practice from this survey feedback.

f) Instead of Siravedhan, most of the Vaidyas are using alternative method of Raktamokshan like Jalaukaucharan at specified sites.

ACKNOWLEDGMENT: We are thankful to Bharati Vidyapeeth deemed University, Principal-B.V.D.U. College of Ayurved, Pune. For their support to promote us.

REFERENCES:


ABSTRACT -
Growing population is the main concern as per its demand for fruits and vegetables. Fruits and some vegetables are consumed raw and some vegetables are cooked. Nowadays, for better acceptance of fruits, artificial chemicals like Calcium carbide (CaC2) are commonly spread on fruits and vegetables to enhance organoleptic properties of fruits and vegetables. Grapes, Banana Papaya, Dates, Tomato, Sapota (chiku) are few common fruits which are consumed throughout the year, so demand is high. When such fruits and vegetables are consumed, residues of these chemicals may tend to retain in the body, producing various hazardous ailments. These residues retain in body can be correlated with the concept of Dooshivisha elaborated in Ayurved compendia. Hence in this article, efforts are taken to correlate the hazardous effects of artificial chemicals used for fruit ripening with symptoms of Dooshivisha. These efforts will certainly help as a guideline for treatment of the diseases occurred due to residues of artificial chemicals that is Dooshivisha in body.

(Total reference no.-9)

Key words - Agadtantra, Dooshivisha, Artificial Fruit ripening chemical, Ayurveda.

INTRODUCTION -
Agadtantra (Toxicology) is one of the eight branches of Ashtanga Ayurveda. It deals with the study of toxicological plants, animal, metal, their poisoning, emergencies and their management with the help of Ayurvedic medicine1.

In Ayurvedic compendia, types of poisons are described as Herbal poisoning (sthavara visha), Animated poisoning (jangama visha), Metal poisoning or poisoning due to poisonous and non poisonous drugs (kritrim visha)2. In Modern text, poisons are classified based upon their Action on different system and according to their Medico legal importance3.

Acharyas also mentioned fourth types of poison that is Dooshivisha. In Ayurved compendia. They had mentioned various factors which are directly and indirectly responsible for their formation. But these factor, their mechanism that how they affect are not clearly mentioned.
AIM
To Elaborate the concept of Dooshivisha i And its correlation between the chemicals used for artificial fruit ripening of fruits and vegetables.

OBJECTIVES
2. Effects of Dooshivisha and their interpretation.
3. Correlation between Dooshivisha and chemicals used for artificial ripening of fruits and vegetables.
4. Correlation between the symptoms of Dooshivisha with symptoms produce due to artificial ripened fruits and vegetable

MATERIAL AND METHODOLOGY
Effects of Dooshivisha can be correlated with artificial ripening chemicals because modernization and progress has had a share of disadvantage and one of the main aspects of concern is increase in the global population and the rising demand for food and other essentials. There has been tremendous exposure to chemicals contamination in food, and though fruits are one of the most natural foods usually consumed raw, now a days are deliberately being ripened with chemicals causing hazardous to human health. Among the pretreatment, which are mostly followed for fruit for better consumer acceptance and fascinating better marketing is artificial fruit ripening. Artificial fruit ripening is done to achieve faster and more uniform ripening characteristic.

Fruits produce plant hormone called as Ethylene gas that is important for fruit ripening process. Fruit ripens naturally after attainment of proper maturity by a sequence of physiological and biochemical changes and make the fruit soft, color of fruit changes and it adds aroma and color to fruit, this process is irreversible. Colour, Aroma, Flavour of any fruits and vegetables are known as organoleptic properties. Here are some artificial or unsaturated hydrocarbons can promote the ripening and maintain the associated changes. Some of these are banned and under PFA (Prevention of Food Adulteration) rules 1995 and also food safety and standard,[prohibition and restriction on sale]. These chemicals have cancer causing properties specially calcium carbide which is widely used as fruit ripening agent.

In daily life intake of fruits /vegetables is maximum knowingly and unknowingly we are taking in small amount of these chemicals with food which is going to stored in body as a residue, which are not excreted from the body.

DOOSHIVISHA….Comprises of following aspect.
Poison which is not potent to cause enough toxic effect but residues of which retain in the body due to incomplete elimination is called as Dooshivisha.
Poison which cannot produce enough poisonous effect due to low potency is also called as...
Dooshivisha.

Poison which has become very old (Jeerna) is also called as Dooshivisha.

Poison which has been consumed and treated with their respective antidote and due to this antidote their poisonous effect get reduced, then such low potency poisons due to partial treatment retain in the body is called as Dooshivisha.

Dooshivisha has tendency to get aggravated in extreme rainy, cold, windy weather.

**As per Sushruta features caused by Dooshivisha**

<table>
<thead>
<tr>
<th>Purisha</th>
<th>Diarrhea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bhinnavama</td>
<td>Discolouration of skin</td>
</tr>
<tr>
<td>Vigandha</td>
<td>Halitosis</td>
</tr>
<tr>
<td>Vairasyamukha</td>
<td>Loss of taste</td>
</tr>
<tr>
<td>Pipasa</td>
<td>Polydypsia</td>
</tr>
<tr>
<td>Moorcha</td>
<td>Unconsciousness</td>
</tr>
<tr>
<td>Vamana</td>
<td>Emesis</td>
</tr>
<tr>
<td>Gadgad vaka</td>
<td>Stammering speech</td>
</tr>
<tr>
<td>Vishanna</td>
<td>Depression</td>
</tr>
<tr>
<td>Dushyodara</td>
<td>Ascitis</td>
</tr>
</tbody>
</table>

**As per Vg bhata features caused by Dooshivisha**

<table>
<thead>
<tr>
<th>Bhinnavama</th>
<th>Discolouration of skin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vigandha</td>
<td>Halitosis</td>
</tr>
<tr>
<td>Vairasyamukha</td>
<td>Loss of taste</td>
</tr>
<tr>
<td>Pipasa</td>
<td>Polydypsia</td>
</tr>
<tr>
<td>Moorcha</td>
<td>Unconsciousness</td>
</tr>
<tr>
<td>Vamana</td>
<td>Emesis</td>
</tr>
<tr>
<td>Gadgad vaka</td>
<td>Stammering speech</td>
</tr>
<tr>
<td>Vishanna</td>
<td>Depression</td>
</tr>
<tr>
<td>Dushyodara</td>
<td>Ascitis</td>
</tr>
</tbody>
</table>
Features according to retaining site...

<table>
<thead>
<tr>
<th>When it gets lodge in the Amashaya</th>
<th>When it is lodge in the Pakwashaya</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suffers with disease of Kaphavata</td>
<td>Suffers with disease of vatapitta</td>
</tr>
<tr>
<td></td>
<td>dhwasta shiro vihangah LOSS of hairs and</td>
</tr>
<tr>
<td></td>
<td>loss of strength vilunpakshastu Flaccid paralysis</td>
</tr>
<tr>
<td>Moorchha (fainting)</td>
<td>Daha (burning sensation)</td>
</tr>
<tr>
<td>Chhardi (vomitting)</td>
<td>Moorchha (fainting)</td>
</tr>
<tr>
<td>Atisara (diarrhoea)</td>
<td>Atisara (diarrhea)</td>
</tr>
<tr>
<td>Adhmaan (fullness of abdomen)</td>
<td>Daha (burning sensation)</td>
</tr>
<tr>
<td></td>
<td>Trushna (thirst)</td>
</tr>
<tr>
<td>Indriyana ch vaikrutya (debility of sensory and motor organ)</td>
<td>Indriya vaikrutam (debility of sensory and motor organ)</td>
</tr>
<tr>
<td></td>
<td>Atop</td>
</tr>
<tr>
<td></td>
<td>Pandu (anemia)</td>
</tr>
<tr>
<td></td>
<td>Karshya (Emaciation)</td>
</tr>
</tbody>
</table>

Impact of Dooshivisha on the body².

<table>
<thead>
<tr>
<th>Annamada</th>
<th>Sense of Intoxication after meal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avipaka</td>
<td>Indigestion</td>
</tr>
<tr>
<td>Arochaka</td>
<td>Anorexia</td>
</tr>
<tr>
<td>Mandala Kotha</td>
<td>Annular patches on the skin ,Urticaria</td>
</tr>
<tr>
<td>Moha</td>
<td>Mental confusion due to debility of sensory organ</td>
</tr>
<tr>
<td>Dhatukshaya</td>
<td>Wasting of Dhatus</td>
</tr>
<tr>
<td>Padakarasys shopha</td>
<td>Edema on face and limbs</td>
</tr>
<tr>
<td>Dakodar</td>
<td>Ascitis/Liver disorder</td>
</tr>
<tr>
<td>Chhardi</td>
<td>Emesis</td>
</tr>
<tr>
<td>Atisara</td>
<td>Diarrhea</td>
</tr>
<tr>
<td>Vaivarnya</td>
<td>Hypoor Hyper pigmentation</td>
</tr>
<tr>
<td>Moorchha</td>
<td>Fainting</td>
</tr>
<tr>
<td>Vishamjwara</td>
<td>Type of pyrexia</td>
</tr>
<tr>
<td>Prabal trusha</td>
<td>Unquenchable thirst</td>
</tr>
<tr>
<td>Unmaad</td>
<td></td>
</tr>
<tr>
<td>Anaha</td>
<td>Fullness of abdomen</td>
</tr>
<tr>
<td>Shukrakshay</td>
<td>Oligospermia</td>
</tr>
<tr>
<td>Kushta</td>
<td>Dermatitis</td>
</tr>
</tbody>
</table>
As per Charaka Dooshivisha can cause:

<table>
<thead>
<tr>
<th>Shonita dushti</th>
<th>Vitiation of Rakta dhatu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kitibha</td>
<td>Psoriasis</td>
</tr>
<tr>
<td>Kotha</td>
<td>Urticaria</td>
</tr>
<tr>
<td>Dosha dushya dushti</td>
<td>Vitiation and aggravation of Dosha</td>
</tr>
</tbody>
</table>

In today's era Dooshivisha which has tendency to retain in the body, should be given a different approach or thought as every person is consuming variety of artificial chemicals immediately after getting up in the morning.

Artificial chemicals are used to make fruits and vegetables more attractive and to make them in market prior to its natural maturity.

**Most commonly consumed artificially ripened fruits are as follow:**

1. Grapes
2. Banana
3. Papaya
4. Date
5. Chiku (Sapota)
6. Mango
7. Tomato
8. Spinach
9. Cucumber
10. Potato

**Artificial ripening chemicals for Fruits and vegetables are as follows:**

1. Calcium carbide
2. Acetylene
3. Ethylene
4. Ethanol
5. Etherel
6. Glycol
7. Calcium Ammonium nitrate
8. Calcium sulphate
9. Calcium chlorite
In modern era Dooshivisha which has tendency to retain in the body as residues should be given a different approach or thought as every person is consuming variety of artificial chemicals after getting up in the morning.

Artificial chemicals are used to make fruits and vegetables more attractive and to make them in market prior to its natural maturity.

**CALCIUM CARBIDE**

Popularly known as 'Masala', banned under Prevention of Food Adulteration (PFA) rules 1995 and also under food safety and standard (prohibition and restriction on sale). Calcium carbide contains the traces of Arsenic and Phosphorous hydride which has chronic toxicity and its residue remain in skin and hair for a long term in a body.

Calcium carbide has cancer causing properties...... here are some clinical features caused by acute and chronic poisoning.

1. Vomitting
2. Diarrhoea
3. Acidity and Gastritis
4. Fatigue
5. Dysphagia
6. Irritation of eyes and skin.

**ETHERAL**

Ethereal is used as alternative to Calcium carbide, as it is less toxic allowed by Indian government. Fruit seller either deep the fruits in the mixture or they pass fumes of this chemicals over it. Fruits ripened with Ethereal have more acceptable color.

**ETHYLENE**

As expensive developing countries used low cost calcium carbide. We risk of short term as well as long term health effects,

1. Damaged to neurological system
2. Affect the skin, eyes, lungs, memory
3. Prolonged hypoxia

**CARBON MONOXIDE**

When Carbon monoxide Combine with hemoglobin it producing corbosy hemoglobin which affect oxygen carrying capacity. In acute toxicity level at 50% Carboxyhaemoglobin result in

1. Neurological disorders (seizure, comma, fatality headache),
2. Gastrointestinal track Disturbances
3. Dizziness
4. Fatigue, weakness
5. Effects on Heart and CNS
6. Severe effects on fetus of pregnant women.

**ACYTYLENE**

Acytylene is the end product of Calcium carbide also known as Carbide gas. Acytylene containing trace amount of Ethylene which is sufficient to be used in fruit rekening. It contain traces of Arsenic and Phosphorous hydirde. Txicity of Acetylene include the symptoms
1. Vomitting
2. Diarrhea
3. Acidity and Gastritis
4. Excess Thirst
5. Fatigue
6. Dysphagia
7. Numbness in legs and hands, cold and dump skin
8. Hypotension

Discussion

After taking review of Dooshivisha and chemicals used for artificial rekening, Common symptoms and impact of Dooshivisha are shown in the following table.

**Comparative table showing symptoms due to consumption of applied fruits and its correlation with symptoms of Dooshivisha.**

<table>
<thead>
<tr>
<th>Calcium Carbide</th>
<th>Dooshivisha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vomitting</td>
<td>Chhardi</td>
</tr>
<tr>
<td>Diarrhea</td>
<td>Atisara</td>
</tr>
<tr>
<td>Acidity and gastritis</td>
<td>Amashayastha vyadhi</td>
</tr>
<tr>
<td>Fatigue</td>
<td>Debility</td>
</tr>
<tr>
<td>Irritation of eyes</td>
<td>-</td>
</tr>
<tr>
<td>Irritation of skin</td>
<td>-</td>
</tr>
<tr>
<td>Dysphasia</td>
<td>-</td>
</tr>
<tr>
<td>Acetylene</td>
<td>Dooshivisha</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td>Vomitting</td>
<td>Chhardi</td>
</tr>
<tr>
<td>Diarrhea</td>
<td>Atisara</td>
</tr>
<tr>
<td>Acidity and gastritis</td>
<td>Amashayastha vyadhi</td>
</tr>
<tr>
<td>Fatigue</td>
<td>Debility</td>
</tr>
<tr>
<td>Dysphasia</td>
<td>-</td>
</tr>
<tr>
<td>Excess thirst</td>
<td>Trushna</td>
</tr>
<tr>
<td>Numbness in both</td>
<td>Indriya</td>
</tr>
<tr>
<td>Extremities</td>
<td>vaikrutyam (sparshendriyam)</td>
</tr>
<tr>
<td>Cold and dump skin</td>
<td>-</td>
</tr>
<tr>
<td>Hypotension</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ethylene</th>
<th>Dooshivisha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Damaged to neurological</td>
<td>Vilun pakshastu (flaccid</td>
</tr>
<tr>
<td>System</td>
<td>paralysis)</td>
</tr>
<tr>
<td>Affect the skin</td>
<td>Mandala and Kotha</td>
</tr>
<tr>
<td>Affect the eyes</td>
<td>-</td>
</tr>
<tr>
<td>Affect the lungs</td>
<td>-</td>
</tr>
<tr>
<td>Affect the memory</td>
<td>-</td>
</tr>
<tr>
<td>Prolonged hypoxia</td>
<td>-</td>
</tr>
</tbody>
</table>

Form the above table, word to word correlation of effects of chemicals applied to fruits and vegetables is not possible for example Hypotension mentioned in the Modern text can be due to Chhardi (Vomitin) and Atisara (Diarrhea). Loss of fluids due to Chhardi and Atisara many times leads to Hypotension.

There are many symptoms mentioned in modern text which are similar to the effects of Dooshivisha.

1. Definition of Dooshivisha described in Charaka, Sushruta, Vagbhata are almost same which emphasize the Dooshivisha has tendency to retain in the body.

2. According to Sushruta Dooshivisha get aggravated due to unsuitable weather conditions or unsuitable habitat. Unsuitable weather or region may lowers immunity so that Dooshivisha can lead to allergic condition.
3. Dooshivisha retain in the body and when get favorable condition like climate, place it get aggravated and exhibit many symptoms like Mandala (circular patches over skin) and disease.

4. Dooshivisha may produce antibodies against immune system leading to Autoimmune disease.

5. According to Ayurveda wrong eating habit and lifestyle are the main etiological factor of skin diseases but fruits and vegetables which are suppose to be most nutritious are not so healthy as they are grown and ripen with artificial chemicals for commercial benefits. Artificial chemicals like Calcium carbide, Acetylene, Ethylene are not homologous to body constituents hence they produce poisonous effects immediately or after some period. These chemicals may vitiate Raktadhatu which may give rise to skin diseases like Psoriasis and Urticaria.

6. Diseases like Kitibha (psoriasis) and (urticaria) which are caused due to Dooshivisha are Autoimmune disorders which indicates that Dooshivisha may produce antibodies against bodies own tissue.

7. Shukrakshaya (Oligospermia) is a effect of Dooshivisha mentioned by Sushruta is a major concern of today’s era which ultimately leads to infertility hence Dietary history should be carefully ruled out for better diagnosis.

8. Moha (Metal confusion) Shitapitta (Urticaria) shows dermatological involvement.

10. According to Ayurveda Rakta, Pitta, Mansa, Laseeka are the main constituent which get dearanged in skin diseases. Charaka has mentioned that Dooshivisha vitiate Rakta Dhatu, as Ushna Tikshna properties of Visha tend to vitiate not only Rakta but almost all body constituents like Dhatu Upadhatu and Mala.

11. Literary meaning of Vilunpakshastu (Flaccid Paralysis) is bird without wings. But without wings cannot fly in the same manner Dooshivisha manages all Dhatus consecutively anf finally damages Nervous system which may result in Muscle paresis and paralysis or Myopathy.

12. Ethylene damages the neurological system which is nothing but Gaggad vaka or Vilunpakshastu mentioned in Ayurvedic compendia.

Some symptoms of Dooshivisha are acute and some are chronic.

<table>
<thead>
<tr>
<th>Acute Effects</th>
<th>Chronic Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chhardi</td>
<td>Dhatu-kshaya</td>
</tr>
<tr>
<td>Atisara</td>
<td>Kitibha</td>
</tr>
<tr>
<td>Trushna</td>
<td>Kotha</td>
</tr>
<tr>
<td>Acidity</td>
<td>Indriya vaikrutyam</td>
</tr>
<tr>
<td>Gastritis</td>
<td>Doshu dushya dushti</td>
</tr>
</tbody>
</table>
Chronic effects of Artificial Chemicals can be learned as Cumulative (slowly growing) Toxicity which is nothing but slow poisoning caused by Dooshivisha.

Conclusion:
Concept of Dooshivisha explained in Ayurvedic compendia shows depth of development of Toxicology in Ancient era. Knowledge about Dooshivisha written in compendia must be interpreted with the help of modern toxicology for advancement of Ayurvedic branch of Toxicology.
Calcium carbide, Acetylene etc. are the poisonous chemicals which are now a day's applied to fruits and vegetables. Indirectly everyone is consuming these poisonous chemicals along with fruits.
Quantity of Poisonous chemicals consumed along with fruits and vegetables are may be negligible but they have capacity to damaged body system very slowly.
Slow damaging by these chemicals can be compared with the concept of Dooshivisha mentioned by Charka Sushruta Vagbhata.
Same ill effects caused by these chemicals can be compared with effect of Dooshivisha but some symptoms like Irritation of Eyes, Lungs, Dysphasia, Cold and Damp skin, Hypotension, Gradual loss of memory, prolonged Hypoxia cannot be comapare as they are not mentioned in Ayurvedic Compendia. But for development of Toxicological branch of Ayurveda these symptoms should be incorporated in the concept of Dooshivisha.
Medicines advised for the treatment of Dooshivisha can be administered for chronic dermatological diseases, for unexplained myopathies and neuropathies and also to control increasing prevalence Dymensia, So dietary history of every patient is immensely important to advice proper diet and to avoid consumption of wrongly cultivated and ripended fruits.
Though Research based evidences are not available and proved about hazardous effect of chemicals used for ripening of fruits and vegetable can be fit in the concept of Dooshivisha.
This article certainly gives a thought to correlate Dooshivisha with etiological factors symptoms due to consumption of artificial chemicals applied to ripened fruits and vegetables.

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ASHRAF-UR-RAHMAN¹, FAZLE RABBI CHOWDHARY² MD. BILLAL ALAM³.
Review:

**Review of Nyaya And Its Practical Applicability In Ayurveda**

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Abstract:

Maxim signifies a moralistic aphorism which pertains to a philosophical principle. In Sanskrit, maxim is recognized under the realm of Nyaya. It is basically seen by the general public as a more logical proposition. Nyaya enfeebles a host of classical Sanskrit ideologies in a greater detail. During course of development of Sanskrit literature most of texts in Classical Sanskrit seem to have consisted of maxims in variegated circumstances. Ayurveda being the Upaveda of Atharva Veda and having the background of philosophy, also depict many of the Nyayas to express its concepts and principles.

Key words: Ayurveda, Maxims, Nyaya, Veda

Introduction:

Maxim signifies a didactic statement which pertains to any dogma or philosophy in a context. In Sanskrit, maxim is recognized under the term of Nyaya which captures a situation in life, usually with a nugget of words. A Nyaya or maxim is defined as “an expression of general truth or principle”. It is basically seen by the general public as a more logical proposition. They are specifically used when characterizing a situation. By the midst of Sanskrit development, most of texts in Classical Sanskrit seem to have consisted of maxims in variegated circumstances. The genesis of this evolution was the influence of Rig-Veda and related Vedic books and post Vedic scriptures like Puranas, Upanishads, Kavya, Nataka, Darshanas and so on. Ayurveda, being the Upaveda of Atharvaveda, also explains various maxims to enlighten their treatise and for the easy understanding of the topics. As these maxims are commonly used by the people, Ayurvedacharys found it as an easy tool for the clarification of the views what they want to put forth in their lexicon. Later the commentators of these lexicons integrated a number of Nyayas to explore the exact meaning of the actual verses.

The Nyayas are of two types

1) LoukikaNyaya 2) ShastriyaNyaya.

LoukikaNyayas are the one which are used by the common public in day today life where as
Shastriya Nyayas are the one which are used by the authors of the treatise to explore their concepts. Most commonly by using the meaning and gist of Loukika Nyaya, the Shastriya Nyayas were put forth by the Granthakaras. The Nyayas like Dandapoopa Nyaya, Munjadisheekoddharana Nyaya, Simhavalokana Nyaya, Sthalipulaka Nyaya, Shakhachandra Nyaya, Kupamanduka Nyaya etc are commonly used in literature as well as day to day life.1,2

The purpose of Nyaya in Veda, Upanishad, Darshana or in Sanskrit is to beautify the literature but in Ayurveda their utilization is mainly to comprehend the concealed concepts easily, to resolve different diseases and to understand the treatment aspect.

Definition 3, 4, 5, 6

From various references, the Nyaya can be defined as a method or general rule or logical explanation or a principle through which various concepts are understood or explained.

Some important Nyayas in Ayurvedic Classics:

Kakadanta Pareeksha Nyaya

It refers to finding of the teeth of the crow. Crow does not have the teeth. But still if we search for it, then it is of no use. Thus, whenever a work is done which is useless, not helpful for our self and also for society, this maxim is used. Doing the work whole day but at the end of the day if we feel it is of no use, at that time this Nyayas utilized. Work with a definite aim is always praised. Ayurveda has a definite aim (Pravrutti) of attaining long and healthy life. This is the main reason of including all the factors related to human being and health in Ayurveda. Not even a single factor is explained without any particular aim. It can also be considered in the field of research. Initiation of any kind of research either clinical, literary or any other form should be for the benefit of a large group of the population. Otherwise, it is just like Kakadanta Pareeksha Nyaya. One has to administer the medicine which helps in curing that particular disease. Otherwise, it is of no use.[7]

Ghunakshara Nyaya

Here, Ghuna refers to Keeda (insect) Vishesha/woodcutter. A woodcutter when cuts the wood there occurs some design/Akshara. Its main purpose is not to produce any design, or it does not know about the design, but due to Daivayogait happens, and a beautiful design will be in front of us. This is called Ghunakshara Nyaya.[8] It is applicable, when a physician gives the treatment blindly without knowing the disease properly or the properties of the drug in detail, sometimes accidentally the disease gets cured. To fulfill the two main aims of Ayurveda, Oushadha(drug) plays an important role. Similarly, physician is also important as like drug. Both drug and physician are equally significant to cure or prevent disease. A physician who does not know about judicious use of the drug at that time, even that drug is having nectar like qualities is of no use. Any kind of drug and its action entirely depends upon the thoughtful utilization of the physician. He can convert a poisonous drug into medicinal drug by his attentive knowledge. This indicates the
key role of a physician in the treatment field. But sometimes, a bad physician who has no knowledge regarding the judicious use of drugs when gives the treatment sometimes the disease may get cure. This is not because of the physician rather it is an accidental cure. Without any effort by that physician, there is a result. This is the GhunaksharNyaya.

**UtsargaApavadaNyaya**

When a general rule is broken due to some special reason, this Nyaya is utilized.[9] Here, Utsargameans a general rule and Apavada denotes exception. For example, it is mentioned that in KaphajaRoga, Swedana is indicated, but in KaphajaTimira Roga there is an exception for this rule

**ShringaGrahikaNyaya**

In a crowd of many cows, when it is necessary to denote a particular cow, by touching the horn of a cow we can denote it. This is called ShringaGrahikaNyaya.[10] Most of the diseases mentioned in Ayurveda are having much common signs and symptoms. At that time, we have to find out the special symptom which is helpful in the differential diagnosis. Thus, to mention the PratyatmaLakshana of the disease or for the pinpoint explanation of the subject, this Nyaya is used. When we tell to do Pathyapalana in general, patient cannot understand what to do. But if we explain to take Shadangapaniya in Jwara it is the utilization of this Nyaya.

**BhuyasaAlpamAvajiyateNyaya**

The strong people will overpower the weak person; this is the meaning of this Nyaya.[11] In Ayurveda, the relation of Deha, Bala, DoshaBala, and OushadhiBalawill be explained by this Nyaya. When the strength of a person is less than the aggravated Doshas, they over power and produces disease in that person. Similarly, the Oushada, which we are administered to cure the disease, should overpower the Dosha. Otherwise, it would not have any effect on the disease. For example, when we administer Sneha, the SamyakSnehaLakshana appears in some people on 3rd day, in some on 5th day while in some on 7th day. This shows the strength of the aggravated Doshain either less or more. Thus, while explaining both VyadhiUtpatti and vyadhiShamana this Nyaya is utilized.

**ArdhashouchaNyaya**

When the given principles are implemented in half, this Nyaya is utilized. It is explained while mentioning the Anaditvaand Nityatva of Ayurveda as it is not completely agreed by all. Similarly, when we suggest the Pathyapathya of Ahara, Vihara, and Oushadha, if patient not follows it completely this Nyaya is applied. ChhatrinogachchhantiNyaya

This is the maxim of ‘the people with umbrellas are going. A crowd is moving with most of them having umbrellas up and so all seem to have umbrellas. Thus the men who don’t have umbrella are also consideredas having umbrella. This Nyaya is taken in many instances by Chakrapaani. In TasyaashiteeyamAdhyaaya, during AdhyaayaUpasamhaara (C.S. 6/51)[12] this Nyaya is referred. The Apathya in HemantaRitu is not told actually. But from other Shlokason
can have an idea about the Apathyaike Alpabhojana, etc. As Shishira and Hemantaaresimilar, it can be understood from ShishiraRitucharyaitsel. Thus as almost all the Ritu’s Apathyaiare explained, the Apathyain Hemantaais also understood, thus justified for its no mentioning. In GrhaniChikitsitam Adhyaya, while explaining Dhatvagnivyapara (C.Ch.15/15), this Nyaiay quoted.[13] There are two typesof DhatvagniVyapara, Kittaand Prasada. But Shukradhatu is not having Kitta. Even if Shukradhatu is not having Kitta, as all other Dhatus are having Kitta, it is not considered. This is understood with the help of ChhatrinoGachchhantNyaya. Thus the Dhatvagni Vyaparas is accepted as two. But Shukradhatu is not having Kitta, and all other Dhatus are having Kitta, it is not considered. This is understood with the help of ChhatrinoGachchhantNyaya. Thus the Dhatvagni Vyaparas is accepted as two only. In Shreerasthana, Katidhaa Purusheeyam Adhyaa (C.Sha.1/28), while explaining the Bhootaantara Pravesha of Gunain Bhoota, this Nyaiay referred[14]. Poorvagunain poorvabhoota enter the next Bhoota. In Akasha, Shabdaas there. In Vayu, Shabda and Sparshaare there, thus there occurs the addition of Poorvagunain the coming Bhoota. In Prithvi, there are Shabda, Sparsha, Roopa, Rasa and GandhaGuna. But as other Bhoots are not with GandhaGuna, it can’t be considered as Poorvaguna. With the help of ChatrinoGachchhantNyayawe can understand that it is also considered under Poorvaguna.

Discussion & Conclusion

We find usage of a lot of Nyaya – Maxims since from Vedic period continuing to later era. The purpose of these Nyayas in Veda, Purana, Kavya, Nataka, Darshana and Sanskrit literature is to beautify their transcript but in Ayurveda they are used for clear understanding of the concepts. Understanding of these Nyayas is very essential for the Ayurvedic scholars for the better implementation of the concepts of Ayurveda practically. By reading the verses in the Ayurvedic texts we can get the superficial knowledge but the hidden information of those verses can be assessed by using various Nyayas. In the original texts of Ayurveda we find mentioning of some of the Nyaya but the commentators of these treatises used various maxims while writing their commentary for the clarification of the main verse in the text. Thus these Nyayas help in exploring the hidden concepts of Ayurveda, helps for understanding the diseases, its diagnosis methods, differential diagnosis, how and when the medicines are to be used etc. In total a thorough knowledge of these Nyayas mentioned in Ayurveda helps in various fields of researches like literary, clinical, drug and so on.

References


Research Abstract - Ayurveda Galaxy

Ice-Know the Price!

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ABSTRACT As we need fire to cook the food in our kitchen, the same way we need the fire principle in the form of digestive acids/enzymes in GI tract to cook the food inside us. In Ayurveda this fire principle is called “Agni”. Life = Agni. As long as Agni resides within us, we are warm and alive. Death = extinguished Agni. Dead body is cold.

We need to protect and preserve Agni in order to stay alive and healthy. Ice being extremely cold, weakens my Agni and I fall easy prey to most of the diseases. Most of the diseases enter my system through this big gate –GI tract that I am trying to guard.

So, friends, please special order your drink “with no ice please” when you go to the restaurants. If you are one of many with no label of the disease yet, but who suffer with digestive issues and spends hundreds of dollars on pills, then STOP! This simple tip will change how you digest your food. Digestion should just happen. You don’t have to know that. And this is a possibility by avoiding ice and respecting “Agni”.

Assessment of effect of air pollution on MVV (functional capacity of Respiratory system) in different Sharir Prakruti individuals.

By - Dr. Mrs. Dhanorkar Akalpita MD Kriya Sharir

ABSTRACT Air pollution occurs due to the presence of undesirable solid or gaseous particles in the air in quantities that are harmful to human health.

Whole world is facing the problem of pollution

So an attempt was made to study the effect of air pollution on MVV (functional capacity of Respiratory system) in different Sharir Prakruti individuals

In Ayurveda references about air pollution are found in various Samhitas. There is definite effect of air pollution on MVV. It is observed that Vata Pradhan Prakruti is more affected.

The most important thing is the preventive and curative major. In ancient time people used to do Agnihotra for the prevention as well as remedy on the air pollution. Plant Tulasi is useful for purification of the atmosphere. It is also useful on Pranavaha Srotas.

Recent researches also proved the good effect of Agnihotra. There is a need to do the further research on this topic.

Ayurveda counselling for total Health
ABSTRACT

The ancient authors such as Charaka, Sushruta, Vagbhata clearly indicate the link between emotions and mind and doshas and how the alteration of a dosha causes a modification of the function of an organ.

For this purpose special herbs have been selected, studied in all details in order to have the evidence of their efficacy in treating and healing certain pathologies.

This uniqueness deserves respect and need to be studied. We cannot change the prakruti but we can use it in the appropriate way.

This is the foundation of Ayurvedic Conselling. Through our studies we shall find the capacity to help people to get into body, mind and spirit in order to help the process of healing and act a way to prevent discomfort and unhappiness in the everyday living.

Rasayana- enlightenment throughsamhita’s

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ABSTRACT

Maintenance & promotion of health is an utmost desire of mankind, consisting evolution of health care knowledge and practices along with personal hygiene methods, organized interventions for preserving health.

The Rasayana therapy enhance the qualities of rasa, enriches it with nutrients so one can attain longevity, memory, intelligence, free from disease, youthfulness, excellence of luster, complexion and voice, optimum development of physique and sense organs, mastery over phonetics and brilliancerasayana is a specialized type of therapy influencing the fundamental aspect of body i.e. Dhatu, Agni and Srotasa.

The most unique & important classics of Ayurved known as Bhruhatrayee (the three classics i.e. charak Samhita, Sushruta Samhita &Vagbhatta Samhita) elaborated the concept of Rasayana in detail with its applicability in healthy & diseased. The following explanation highlights the understanding of Rasayana through this three samhita’s.

Acoustic analysis of voice of an individual with different Prakruties

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ABSTRACT The voice of an individual gives an impression of individuals physical as well as psychological attribute.

The Tidoshas Vata Pitta and Kapha are responsible for Prakruti and the voice changes according to Prakruti.

This study was done to investigate whether there is any change in the acoustic characteristics in the voice of an individual according to Prakruti.

20 participants were randomly selected between the age ranging from 18 to 21 years.

Acoustic evaluation was done with the help of parameters such as Jitter Shimmer FO and SPI. It was observed that the voice differences in different Prakruties are not acoustically identified. This study can be done with large sample size and with more such objective parameters.

Aptitude of Ayurveda to restrain lifestyle disorders.

Dr. Vasudha. G. Asutkar - Assistant Professor Samhita Siddhanta Dept. BVDUOA, PUNE.

Dr. Amit. A. Paliwal - Assistant Professor Shalyatantra Dept. BVDUOA, PUNE.

ABSTRACT The present era is engulfed in a number of such diseases that hinder in the physical as well as mental potential of human generations. Named as lifestyle disorders. Lifestyle disorder also known as diseases of civilization, as the name suggests, result from the way we live our lives. The principles of Ayurveda play a vital role in preclusion of lifestyle

The prime principle of Ayurvedic system of medicine is preventive aspect, can be achieved by Opting for correct ways described in the teachings of Ayurveda
disharmony in the Doshas-Vatu, Pitta, and Kapha results in Roga (disease). And aim of the science of Ayurveda is to maintain the harmony. With changes in diet and lifestyle, there are changes in the state of Tridosha, which is bound to affect us, resulting disharmony, causing lifestyle diseases as all the lifestyle disorders find their latent cause in avoidance of following the teachings of Ayurveda glimpsed in the article.

Etiological and preventive aspect of cancer

Dr. Deepa Anserwadekar, C.O.A., B.V.D.U., PUNE

ABSTRACT Cancer is stated as abnormal growth of tissues. In Ayurved, Arbuda is explained under the topic of list of diseases containing abnormal growths like Granthi, Apachi, etc. Arbuda (abnormal growth of tissues) is developed owing to deviation in Tridosha. Such anomalous Tridosha (Fundamental Functional Elements in Ayurved) combines with body elements (Dhatu) to develop various deformities in body due to biochemical variations that leads to cause development of diseases. In abnormal growths, there is variation in permutation-combinations of Tridosha with Rakta- Mamsa-Meda Dhatu in uncharacteristic form (structural and functional). Arbuda and all other abnormal growth related diseases have commonness of Meda dhatu and Kapha dosha dominance in creation of disease. In Ayurved, Arbuda (abnormal
growth of tissues) has been mentioned under Mamsa-Pradoshaja Vyadhi in which Causes of
disease i.e. etiological factors and list of disease (Vyadhi) related to each Dhatu has been
indicated. (Charak. Samhita Vimansthana 5)

According to Ayurved, Functional Building Blocks (Tridosha) in body are vital factors in
maintaining normalcy of body. Most of the compounds i.e. food or medicines (Dravya) consumed
or taken into body undergo a variety of chemical changes brought about by metabolic action
i.e. biotransformation process by Pitta Dosha. Biotransformation process is key factor in this
process which leads to abnormality of body elements i.e. structural (Dhatu) and functional
(Tridosha).

HRUDAYA AN AYURVEDIC VIEW”

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ABSTRACT : Hrudaya is an important organ of human body. It plays essential role in various
activities in human body. Hrudaya is one of ten Prayantamas. Hrudaya is one of three essential
Marmas. Hrudaya is the origin of important Dhamani,Strotas,Pranvaha & Rasavaha Strotas etc.

Hrudaya governs all the sharira bhavas like :Mana, Atma & their functions, functions of
various organs etc (Cs.Su.30.).

Hrudaya is the seat of three doshas and three gunas related to body and mind derives its
driving force from these basic organizations of life. Vata in the form of Vyana Vata imports
moving force; Pitta in the form of Sadhaka Pitta protects it from inertia and fatigue and
gives power to match the situations, alertness and consciousness; Kapha in the form of
Avalambaka Slesma prevents wear and tear, conserve its tone and force.
Lessons learnt in Africa

Sharduli Terwadkar

Still I remember that day when I first visited National Botanical Garden in Pretoria….I was so happy to see the Indigenous South African Trees those I wanted to study for my Thesis. My topic of study was, ‘The critical study of South African Medicinal Plants in view of Ayurveda with special reference to medicinal plants in Southern Africa’. My goal was to study morphology and pharmacology of every plant that I shortlisted.

“Hey, Young Lady, you are not allowed to touch the trees”, a guard came running, just when I was about to touch a leaf of a plant. I was scared to see that guard. I told him that I am here to study indigenous African Plants and my husband, Rajiv, told him that we have taken permission from the authorities. But still his face was stiff and we understood that he was unhappy about the idea that these foreigners are here to pluck the leaves. This was my first encounter with keen sense of nature conservation in South Africa.

To love and respect our culture and heritage is a part of loving our ancestors and thanking them for what they have given us. A person can respect different cultures and sciences only when he loves and respects his own. That African guard was not just following the rules of that garden but as an African, he was protective towards the natural resources there. Otherwise who would have noticed if I had plucked few leaves from that huge tree.

I experienced this respect and love towards culture and heritage quite frequently throughout my stay in South Africa.

I visited South Africa first time in 2002, when we shifted there for Rajiv’s Job. My curiosity to learn more about South Africa in different aspects has led to my study. My stay in South Africa, gave me a new perspective about my life, knowledge, culture, beliefs, mostly about my quest and role of Ayurveda.

I started getting a strange feeling that there is so much for me to learn if I can clean previous impressions on my mind about culture and knowledge. I felt that I am just a bridge between two cultures, Indian and African.

I was greatly fascinated by the beautiful country rich in biodiversity, cultural diversity & traditional wisdom.

As an Ayurvedic doctor, I love and respect Ayurveda. But African Traditional Medicine (ATM) attracted me due to its attribute as a treasure of knowledge with spiritual basis.

South African healing tradition is also ancient one, like Ayurveda. The history of use of plants as a medicine can go back till the time of the San people, very first inhabitants of African Continent. Unique ways to interpret this ancient old knowledge also makes it look like a mystery to us.
I was curious to know how ATM can guide me in my quest about holistic healing methods. That was the moment when I started reading about South Africa and ATM of South Africa.

We visited many places and almost all botanical gardens there. My experience I shared with you initially was the first visit to botanical garden. Though I learnt the discipline about not touching or plucking leaves, flowers and fruits without permission, my curiosity never stopped me from doing that mischief.

We took photos of plants in various seasons and I used to note down my observations about the morphology and possible Panchabhautik qualities of those plants.

We visited some indigenous forests in Limpopo and Mpumalanga and also some nurseries. Mr. Di Di Hoffman, Owner of herbal garden “Bouquet Garni” helped me to understand the herbs.

We also visited some pharmaceutical institutions. Mr. John Morris, Director of “Syringa BioScience (Pty) Ltd” kindly allowed us to have a look to his research laboratory and we were impressed to see his interest in Ayurveda.

In the process of studying ATM, we visited cultural villages and Mutishop.s. Mr. Thabo, Head of Lesedi cultural village, who made it easy to understand about Traditional healers and fascinating cultural versatility of South Africa.

A very friendly experience was in Thembisa Township. Rajiv requested Mr. Moloko Michael Mpolobosho, a leader in that township to help us in collecting information. Michael and his friends took an interview first and once they were satisfied, they invited us there.

African Healers there organized a special ceremony for us. There was a traditional welcome dance with Drums and Imphepho Incense Sticks. It was mesmerizing experience for us. They also allowed us to take photos. It was first time, when we saw divination that is not usually allowed to be done in front of strangers.

Ms Rosy, a Sangoma and owner of Mutishop in Pretoria, also allowed us to see her treatments. Mr. Nmvoyo, an educated young man who is learning Sangoma practice from his Auntie, also shared his knowledge with me.

But it was not always that we were welcomed wholeheartedly. Some people mostly people who were protective towards their traditional wisdom. Though we understood their attitude towards us, sometimes we were really scared.

In this process, there was a conflict that got converted in to a good friendship. One day, when I was in Pretoria University for a guest lecture, a lady came to see me. She was seriously disturbed to know that I am collecting information about African Traditional Medicine. She was Ms. Phephsile Maseko, Health Activist and National Co-ordinator of South Africa’s largest association for Traditional Healers, Traditional Healers’ Organization in Johannesburg.

I told her that I am using published documents as I want reliable references about African
Medicine and I am interpreting that knowledge in view of Ayurveda. She was impressed to know this and was curious about Ayurveda. She asked for every word I wrote about this thesis. I was unhappy but I gave her a copy. After a week, I got a call from her and she invited me to THO. That was the first time when I visited THO and over the period that place became a second home to me.

I was appointed as Ayurveda Facilitator and in that position I attended many conferences and events of African Healers.

I gave lectures about Ayurveda and THO appointed two translators for me, a Zulu and a Xhosa person. They specially arranged transport and vegetarian food for me. I used to take my children with me and my healer friends always welcomed us lovingly.

That was life changing experience for me. The openness, trust and love showed by African people touched my heart. They not only learnt Ayurvedic theories from me but also included my Thesis in their curriculum. Some part of this thesis was also included in the syllabus of Natural Medicine in Wits University.

Ms. Phephsile took this friendship another step ahead. While I was busy in groundwork of my dream project, The Ayurveda Foundation of South Africa (TAFSA), she played a pivotal role. She attended our meetings with Indian Consulate and also helped to make a team. In history of Ayurveda, TAFSA was the first Ayurveda Foundation in African Continent that included an African Healer in board and Ms. Phephsile became Director of Traditional Medicine. She always calls Ayurveda as ‘Sister Medicine of ATM’. For my book ‘Traditional African Medicine – In view of Ayurveda’, she has written forewords and expressed her feelings and thoughts about Ayurveda. I am eternally grateful to her.

For reference collection, I used to visit libraries of Unisa University and Pretoria University, Pretoria. After few years, I got many friends there and one of those, Prof. Namrita Lal, HoD of Botany Dept, invited me to give lectures on Ayurveda for PhD students of Phytomedicine Department. It was another learning experience.

I was a bit nervous in my first lecture as I was not sure how I am going to introduce Ayurveda to these people who might haven’t heard about this Indian Science ever before. But as I started my lecture, their focus and their curiosity touched my heart. They already read about Ayurveda before the lecture and discussion session later was flooded with many questions about Ayurveda’s aspect towards modern diseases, current infections and also about AIDS and Tuberculosis. I was very happy that day and also felt proud again to be an Ayurvedic Doctor.

I think of myself as a very fortunate person who is a part of the new generation of students, practitioners & researchers working in Ayurveda.

We got opportunity to study Ayurveda which is one of the most ancient old ‘Medicinal Sciences’ & we also are witnesses of success of Ayurveda in this ‘Research Era’.

We can proudly say that we have seen the new powerful face of Ayurveda which is not faded
or have become ‘boring’ with time, but has become attractive with help of modern research techniques. We are fortunate that we also got opportunity to test these ancient old theories with latest research technologies.

Every Ayurvedic student gets impressed by Ayurvedic ways of treating people & also to see how effective it is till date. At the same time rebellious mind of every student thinks why I should believe something told almost 4000 to 5000 yrs back. Every Student mind comes up with lots of queries.

I have also thought in the same way in initial years of my graduation. After some years we loose that curious nature & we blindly start practicing Ayurveda.

Still a corner of our mind is always curious to test these theories in many ways.

E.g. Ayurvedic students interested in Dravya Guna Vidnyan might be curious about link between chemical compositions of a plant & Rasa -Veerya-Vipak or somebody might be curious to know Guna and Karma of an alien plant or plants introduced in India from the other country. Even somebody may be suspicious to use some particular plant on a person from different climatic conditions. Same thing happened with me, when I came to South Africa.

I was curious about African Traditional Medicine & also about medicinal plants of South Africa. When I read books about South African Medicinal plants, I wanted to understand their Guna and Karma according to Dravya Guna Vidnyan. I thought if I can get ‘Dravya Guna Vidnyan’ of South African Medicinal Plants I can use them more confidently.

I wanted to interpret Guna and Karma of these plants according to Ayurveda, so I can use them in Practice more conveniently. But for a person like me with a very less knowledge & experience this was like ‘mission impossible’. With the expert guidance & kind support of Dr.P.H.Kulkarni, I dared to take this project, Ayurvedic Interpretation of Medicinal Plants of Southern & Eastern Africa.

Ayurveda has attracted attention worldwide. When people consult Ayurvedic practitioners in a country other than India, it becomes a bit problem to decide a perfect Dravya or ‘Maatra’ of a particular ‘Kalpa’. Sometimes availability of a particular Dravya especially if it is required fresh or if it is uniquely indigenous plant, then we have to compromise with some other Dravya or a Kalpa in which it is used. This concerns more to a person who is specifically interested in Dravya Guna Vidnyan. He faces lots of questions about Rasa, Veerya, Vipak, Desh & BhumiDnyaan of that particular plant.

However, we manage to treat a patient as Ayurveda has given many invaluable theories which make it applicable anywhere & anytime.

As Ayurvedic practitioners working abroad, we know how difficult it is to decide a proper Dravya for a patient who is living in different country with different or sometimes exactly opposite weather pattern. E.g. When we need to decide a ‘Kalpa’ or ‘Dravya’ which has Sheeta Veerya for a patient who is Canadian by birth & lived in Canada, it makes us a little bit
cautious that what if it will cause Kaphaprakop or Vataprakop which is not exactly expected.

My book, “Think! Before you drink water…” is addressed to all those my patients who were skeptical at first to know that water is something to be ingested thoughtfully and later were surprised to see the results of their treatment where I used to give them advice about water consumption in discretion.

Every Ayurvedic practitioner or student who has worked in countries other than India must have thought that it will be better if we can grow Ayurvedic Plants here where we work. Some people might have thought of using local herbs instead of Dravya recommended in Ayurvedic Texts.

We always need Ayurvedic medicines & plants there in which country we are living, abroad. This is not always easy to make available all Dravya there where we live or sometimes we have to think about Desh & BhumiDnyaan while using these plants.

After my study, I can say that we can use Indigenous medicinal plants of the country where we live, instead of Ayurvedic Dravya.

Medicinal plants play an important role in Traditional Medicinal System of South Africa. Almost 3000 species are used as medicinal plants while 350 species are commonly used.

Methods of using these plants are somewhat different but most of medicinal uses seem to be relevant to principles similar to Ayurvedic Principles.

I have studied indigenous medicinal plants of South Africa & interpreted them in Ayurvedic perspective; i.e. I have tried to explain Panchbhautikatva & Rasa-Veerya-Vipak of these plants.

I studied almost 40 medicinal plants of Southern & Eastern Africa in this way. Some of them are indigenous & some are exotic but naturalized in that land. I have studied 17 plants used for mental health in Southern Africa, also plants used as ‘Rakshoghna Dravya ’ or ‘Charms’ which is an integral part of African Culture and around 200 medicinal plants used for Women Health in Southern & Eastern Africa.

Steps of the Study:

1. Collection of information about history, geography, cultures & current events in South Africa.

2. Study of ATM in general and in Ayurvedic perspective –

   As an Ayurvedic Doctor the traditional healing practices and different manner of using herbs attracted my attention more. I started collecting data from books & people I met that I have mentioned before. I found so many interesting points while studying ATM of South Africa. Some points like selection of particular plant, harvesting methods of medicinal plants & some rituals related to Traditional methods of healing like Initiation ceremony &
sacrificial ceremonies, are points which compel anybody to think about it.

3. Comparative study of Ayurveda and ATM -
   All my encounters with ATM left me surprised to see the striking resemblance between two systems. This study also led me towards the peculiarities of ATM. This was the moment, when I started comparing every aspect of these two ancient medicinal systems.

4. Comparative study of medicinal plants used in Ayurveda and ATM of South Africa those having same genus –
   Whenever I used to read about medicinal plants in South Africa, I couldn’t help of thinking about Ayurvedic Dravya. Some plants were same plants used in India & they were showing similar uses. Sometimes exactly same plant seems to be working in quite different manner from plant in India. But there were lots of other plants of different species which were working in different interesting ways. It was like a treasure of medicinal plants.

5. Study of medicinal plants of South Africa in Ayurvedic perspective -
   As first step in this study, I started collecting thorough information about these plants. Initially my intention was to collect information about medicinal uses of indigenous plants in South Africa. But I came to know that many exotic plants are also used in Traditional medicines which got introduced in South Africa & became naturalized. I found information about some plants which were not Indigenous to South Africa but were exotic plants from other countries of Africa continent like Eastern African countries, Southern African countries & also from other continents. Some plants were garden plants which were indigenous & exotic as well. I was not able to see all the plants I got information about. But I tried to understand ‘Swaroop’ or morphological information of these plants from botanical texts, books on indigenous South African plants & photographic guides.

Whenever I used to read information about these medicinal plants in South Africa, I was trying to understand these uses in terms told by Dravya -Guna -Rasa -Shastra. I started thinking about these plants according to Dravya -Guna -Rasa -Shastra. I started interpreting medicinal uses of plants in South Africa according to Ayurvedic principles mentioned in Dravya -Guna -Rasa -Shastra. Surprisingly, all plants of same genii show at least some of uses similar. They were showing some variations in morphological structures but exactly similar actions described in Ayurvedic texts. Some plants having different species but same genii as Indian medicinal plants sometimes show exactly similar uses told as per Ayurvedic texts. Some plants were used for same indication but in different manner.

According to Ayurveda, ‘Dravya ’ works due to Rasa, Veerya, Vipak , Prabhav & Guna. I thought that if I know about Karma of a particular plant, I can predict about Rasa, Veerya, Vipak, Prabhav & Guna .

As most of these plants were poisonous or potentially harmful, I couldn’t dare to taste or take Pratyaksha Dnyaan of Rasa for all of them. I was able to tell about Vipak & Veerya as per principles referring to Dravya -Guna -Rasa -Shashtra. I started working to find out about Rasa, Veerya & Vipak of these plants by applying the principles mentioned in previous chapter.
I know that these plants may have some different Rasa, Veerya, Vipak & I might go wrong in some places. That is why I have also tried to mention about Panchbhautikatva of these plants on the basis of occurrence or ‘Bhumidnyaan’, morphological structures or ‘swaroop of Dravya’ & known medicinal uses or ‘Karma’. I hope that this may help researchers in future to predict more accurately about Rasa, Vipak & Veerya of these plants.

South Africa is well known for her geological treasure. It is full of mines of different precious stones, metals & elements. Soil in South Africa, which is rich in minerals, definitely has influence on chemical composition of plants & also on human body. Ayurveda mentions about ‘BhumiDnyaan’ before ‘Dravya Sangraha’. Traditional Healers of South Africa also consider specific site, slopes of mountains while collection of herbs.

I thought that I can use this ancient old knowledge about effect of geographical position of plant and pattern of soil on pharmacological actions of plant. I collected information about occurrence of these medicinal plants, that gave me information about geographical & geological references of those plants.

With this information, I was able to predict about Panchbhautic composition of that particular plant & also comparative aspect of the plant with same genus that is used in India. This collection of geographical & geological information may also help for cultivation of medicinal plants in India.

We can grow Ayurvedic Dravya and Indigenous South African plants of same genus in cross manner, providing similar climate and similar soil pattern i.e. Indian species grown in South Africa and vice versa. Now days, it is not impossible due to advanced agricultural techniques. We can cultivate and study these species to check if they can be used as additional medicinal help for health industries in both countries. This will provide us some new medicines or a new way of thinking about our medicinal plants.

When I got information about medicinal uses of garden plants of South Africa, I thought that we can cultivate these valuable plants in India and check its qualities after changed geographical and geological factors. This thought encouraged me to interpret about Ayurvedic description of garden plants of South Africa, indigenous & exotic as well.

This is a way by which two ancient old cultures with rich traditional medicinal systems can benefit each other by enhancing their strong points & by eliminating weak points.

This study of mine gave me many touching moments and also some of the proudest moments in my life.

I feel proud to be appointed as a very first Ayurveda Facilitator for the largest healers association in South Africa, Traditional Healers Association in Johannesburg, South Africa.

This work not only showered me with various prestigious awards but also got enlisted in ‘A Thousand Inspirations’ - a compilation of Inspirational people of Indian origin in South Africa’. Comparative study of Ayurveda and ATM along-with few concepts of Ayurveda are included in syllabus of ATPHC Program by THO and has taken steps to bridge these ancient wisdoms from two ancient cultures.

That is one of the most prestigious awards for my work!

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Present Status of Ayurvedic Research & Future Course of Action a View Point

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Ayurveda the knowledge gained through observations and experiences (of last 6000 years starting from Samhita to Nighantu period) and the other end the tremendous advancements made during a few decades in all fields of sciences in understanding minutely the principles governing those observations. In between lie the lacunae developed due laps of time. When we start filling those gaps bit by bit and reach even a single destination the achievement is immense.

Ayurveda the top medical science based on all other sciences relating to Dharama, Artha, Kaama and Moksha which deal with body, mind, intellect and soul, the four fold constituents of man. The Ayurvedic Physician / Researcher should therefore be conversant not with his own science of medicine but all other sciences as Acharya Sushrut clearly said:-

A physician well versed in his own technical science and commanding a fair knowledge of other allied branches of study as well, is glorified by his king and the nobles, and is like a banner of victory. An ornament to the state, further said by ACHARYA SHUSURUT :-

A vaidya should therefore be an all round scholar and for that purpose; he is enjoined to study the various sciences under respective teachers who are masters of the particular sciences.

Research of Ayurveda means the search of knowledge given in our texts and practice of Vaidya. In the span of last 50 years of Research our main practice was dependent on the methods laid by Western Researchers and emphasis was given to prove the efficiency of our drugs on parameters of Pharmacopiel research. Our Institutions had screened more than 300 drugs. But researches on the western parameter had not been enlarged our own system i.e, Ras, Guna, Virya, Vipaaka, Prabhav of the drug. Only we had enlarged British Pharmacopeia and exported the raw materials from our country and eventually repurchased by us at a much higher cost about 10 to 20 times of actual cost.

A research for truth will reveal facts, rather astounding. They are summarized in the following points :-

1. Scientific outlook of Ayurveda.
3. Tridosh Sidanta.
4. Safety of the drugs & procedures of panchkarma.

5. Adaptability- Elaborate and elastic pharmacopeia of Ayurveda is adaptable to the individual taste and also the customs of different provinces.

6. Instinct for Research- i.e the methods of research can be acquired from ant source on the parameter of Ayurvedic principles.

7. Aids to drugless treatment:- Diet and Panchkarma

8. Good Conduct:- The observation of Sadvartam.

9. Service of Humanity:- Research should not be profit based but for the service of humanity. We should conduct research in Ayurveda in order to make it the best system of treatment in the world. As the word Ayurveda implies it is the science of life. It has no limitation of race, climate or country; its door is open to all true knowledge from any source. The application of modern methods of pharmacological technique conducted in collaboration with experienced Ayurvedic Scholars is sure to result in advancement of both Ayurveda & Modern Medicine. Literary, pharmacological, biochemical, clinical, psychological and philosophical research should all be conducted side by side.

The methods of research in Ayurveda should not be to imitate what is followed in other countries. The research should be based upon the fundamentals assumed by Ayurveda. Ayurveda has good working hypothesis, which has helped the successful practice of Ayurveda through the centuries and it is still a living force today with the Ayurvedic Physician and the patient.

Superiority of Ayurveda lies in studying carefully the factors of constitution, personally and treating the man as a whole i.e the integrated body, mind and soul. As Acharya Charka said:-

The learned physician who is unable to win his way into the patient’s heart by the light of his scientific understanding is not entitled to treat disease.

The man who knows the nature of the disease and its line of treatment is never at a lose concerning the appropriate application. Being unconfused he reaps the rewards which comes after clear understanding.

Vaidiya (he who) practices medicines neither for gain (profit) nor for gratification of the senses, but moved by compassion for creatures surpasses all.
Ayurveda Research My Experience

Prof. Dr. J. K. Barde
(Research Guide, Pune University)

More than fifty years of working as a clinician, Teacher, Research Guid, Administrator and after attending more than hundred conferences and seminars. I happen to be a permenant student of Ayurved.

Fifty years is a long time in a persons life and hence gives a perpective to the happening on a chosen field. As such I one endeavoring to give my experience, observations & reflections on the 'Research in Ayurved.'

(Please note that are not a great reputed research worker but only a research enthusiant)

As I had academic interest in Ayurveda and inclination for research. I joined my alma-mater as a teacher. At that time the research in Ayurveda was at a rudimentary in stage (It is still in its infancy and has a long way to go).

As a student I had a habit of going page by page through the Ayurvedic books. I could not make the head or tail of different 'Quatha's of varieng cornpositions mentioned for the one & the same disease. I also thought some of the remidies as 'Humbug'.

Then I came across a clinical research paper regarding the use of the excreta of doves in metropathi bleeding This totally changed my atitude towards Ayurved.

This peroid was just the begining of the research in Ayurved Government if India has started Establishing the regional research centers. Research in Ayurveda was being conducted at Banaras Hindu University. (A Lecture - demonstration of clasical research done by Prof. Deshpande regarding "the wound healing properties of YASTIMADHU" on all modern parameters is still remembered.)

However Tilak Ayurveda Mahavidyalay my almamater had started postgraduation in Ayurved namely Ayurvidya Parangat long before. The curiculum consisted submission of a desertation. Our institute was very fortunate in having Prof. Mama Gokhale a visionary, Erudite Scholar, a genius. (He is the only person who could understand the anti-infective activity of 'Trifala' and who developed new formulae for quick action with a very small dose by using mercury-sulpher compounds in 1/8 proportion.)

With his efforts a post-graduate course - M.A.Sc. was started at Pune - University. He expected the post-graduates to be research - scientists with this concept there was statistics as one of the subjects for 1st BA. M & S. and medicinal Chemistry as basic subject for M.A.Sc. M.A.Sc. was a course by papers + desertation.

At this juncture government started a post-graduate Institute at Jamnagar. Dr. Gokhale became the first Director of this institute. (We were unfortunate to for go his Leadership due to his...
untimely death).

I joined M.A.Sc. in the subject Dravyagan Vidnyan and selected ‘Ashwagandha’ as my dissertation subject. Nearly at the same time government had stared a scheme of grands for 'Ayurvedic Research'. Dr. Mohan Deshpande then head of the department of 'Dosh-Dhatu-Mal dept and my self formulated a research scheme.

"Effect of Prakruti on disease proneness'  

However owins to the institutional this scheme was taken away from him and submitted by onther person in a distorted manner and the out come never come-out. (This example is given just to signify the illefect of institutional politics and personal rivelaries on the research.)

I also had to abendone my research and M.A.Sc. for the same reason.

During the studies for M.A.Sc. myself & Dr. A. P . Deshpande were attending B.J. Medical College for lectures and practicals in pharmacology under the guidence of Prof. Dr. Balwani. This system was abolished afterwords. I feel that complete knowledge & training modern subjects is utterly essential.

This peroid also saw the speacialistion in other sciences like chemistry etc. Courses in Biochemistry, Microboilogy started expanding further giving rise to cell-biology, Nuclear science etc. This actualy opened Vast horizons for the research in midical sciences. But Ayurved has not taken advantage of this progress. Thisi is beacause of the lack of financial power, Governments Apathy & derth of capable persons.

(Now that 'Ayush' department has started giving grants for research let us hope for better research activity.)

After the abolishen of B.A.M. & S, M.A. Sc (M.A.Sc.) was also stopped.

It took many years afterwords, after the initation of B.A.M.S. Course, that under the endeovur & guidence of then Dean Dr. P. H. Kulkarni, Poona Univercity started M.D. & Ph. D. Courses. M.D. by papers and desertation & Ph. D. by research. (It took me great percivierance and long time to intiate D.Sc. in Pune University through the faculty).

As usual 'The Tilak Ayurveda College' was the first to start these course. The M.D. course has a subject "Methods of Research and statistics". The responsibility fell on me to teach this subject.

Due to the derth of professors in this subject I used to carry crash-courses in these subjects on Saterdays and Sundays at Bombay, Nashik ect. and was Assoicate Professor in colleges at Pune.

The new era of research activity started with these courses.

However proper facilities for research the laboratories the modern instruments, Animal Houses etc. are lacking in the colleges & hence also the research is adtected. Most of the research is of the clinical study nature. However technic of scientific writting and stastical presentation
is much improved these days.

For research we need Motive, Money, Material & Manpower. All these need to be improved a lot. Only money cannot bring about the change. It is imperative that the guides/professors/ Investigator training in modern drug and disease research.

The topics of research are just arbitory picked up. I feel that an institute/research guide should pick up one topic/subject/drug/Area and direct the research on complete and all the aspects of that project (Remember it took many years of research for Dr. Sukhdev to establish the action of guggul on cholesterol, or the research on chestry etc. of Guduchi.)

Modern research needs a collective efforts of different disiplines in a coraborative manner. Research has to be a lifetime endeavor. It needs determination, Devotion, Dedication and disipline. As such you can expect research from Ayurvedic graduates. He is basically a health care person. A special course for the catgory of research worker should be established. Also there is need for proper research institutes which are well equipped and well financed.

A Ph. D. degree is actually an entry in the field of research. But for most of the persons it is the end. For them the degree is like an ornament to be displayed & deposited. The pharmaceutical concerns should contribute to the research. Sponser the research or establish their own research centers at least for their own products. It reminds me of the research project about 'Tamra - Bhasma' sponsered by Ayurveda Rasashala and conducted at Pune Univercity under Dr. Padhye. (Postulating theory about organo - Metalic or - Macro Molecule.)

Another Example is that under the presidentship of Dr. P. H. Kulkarni Ayurved Rasashala many projects which were offered to post graduat students, to different institutes, to other univercities and even to foreiners.

This does not mean tht individuals can not do research on their own. By devising simpler methods clinical research can be carried out even by general pratitiones. Here I sight one such example of Vaidya Pandurangshastri Deshpande who decades ago provd the effect of classical music on the growth of plants.

I sight again the example of Dr. P. H. Kulkarni who had been initiating the 'Ayurvedic Research Conferences' outside the big cities where persons from remote places and rural colleges present their papers.

It is imperative that a research worker keeps his knowledge fresh, is conversant with the advances in the other disiplines, is in contact with other research workers & attents conderences. I find a lack of enthusiasm regarding this aspect. I remeber that at some of the conferences that I attended like conference at Banarus regarding the Literaru Research or the international conference about recent advances in alternative medicine at Kolkatta etc. I was the only perspn attending from Maharashtra. Even at the conference at Bombay about update ayurved very few 'Puniets' are seen.

It also appears that most of the recognised and published researches are by non-ayurvedic persons from modern medicine are taking interest in Ayurvedic Research. Mention must be
made of the persons like late Mrs. Dahanukar, Dr. Vaidya, Dr. Lele from 'Bombay'.

Presently the era of manual work in compilation and chemical tests etc is fading with advent of computers and information technology. Proper advantage of this facility must be taken. The science & technology have undergone a huge change let us keep abreast of it. Let us take the advantage of Governments progressive attitude towards the advancement of Ayurvedic Medicine. There are now sanctions for the extramural research by the retired persons. The central Bio-technology department is sanctioning schemes for institutes. We must take the advantage of all these.

We should also strive to publish the research more important is that the research must be transformed into patient. Pharmaceuticals should pay for the research and financial advantage should be distributed to the institute and the research worker.

For research in Ayurveda we have to formulate specific models. These could be very simple at times (Example is feeding 'Kanda Bhaji' to group A & 'Plain Bhaji' to group B to see the effect of onion on cholesterol). Research should be directed to the current problems.

It should be directed to prove the specialities of Ayurveda like Rasayan.

Nagging Problem of toxicity of metallic preparations should be rigourously death with.

We have not worked upon the absorption, metabolism, excretion and specific mode of action in physiological and pathological conditions. Without this Ayurveda cannot avoid the adjective 'Imperical'.

Ayurveda is promotive - preventive - protective - curative - Reguvinative - supportive. Atttension has to be provided to all its aspects. Let us hope that correrative, centratrated correlated, enthusiastic, scientific efforts at national level lead us to a noble prise like 'Tu you you' got for the traditional remedy artimesin.
Ayurveda, Research, and My Experience

Prof. Dr. Achala B. Kulkarni, Banglore, Karnataka

Research word reminds me of the great Swami Vivekananda. He has given a great definition for the words research and education as follows “The education is the manifestation of the perfection already in a person”. What a person learns is mainly what he discovers by taking the cover of his own soul. This is the infinite library of the cosmos, the centre of the soul. This thought mirrors the depth of the ancient science. This is the Sankhya school of thought on which Ayurveda is also based.

Charaka Samhita is an ocean of the knowledge related to internal medicine. Once I had been to a conference on heart diseases. There, a speaker raised a question about a shloka Charaka has written with respect to the subject “Roga-Marga”. There, he included the heart, brain, kidney, and other vital organs in the same pathological path (Roga-Marga). In practice we see that when one organ of this path is affected, others also follow. If we can search the cause, we can protect the vital organs and the person.

I was very much inspired to work on this subject. I decided to search this path. As I was searching for the answer, I got a clue that Kaphadosha and pitta diseases originate from Amashaya (the upper gastro intestinal path) and Vatadosha diseases originate from Pakwashaya (the lower path which is the main location of Vayu). One subject that attracted me was that normal kapha is the energy and abnormal is the cause of disorders.

Basic energy originates through the normal kapha as “Oja”. Energy is the ability of matter or radiation to do work. “Ojas” is the ability or strength, vigour, or energy generative faculty. Vayu is termed as Ayu or the life which is the bio-chemical flowing living energy. All cells and their functions are the transformations of Panchamahabhuta. They are the prime forces binded as cells and organs. These are the energies of nature as vibrating, unseen forces, of light and heat (Teja), electromagnetism (Vayu, Akasha), binded with Prithvi, the binding force.
According to Sankhya system,

1. Energy can exist in the form of waves-Satva, Raja, and Tama mind. Energy, intellect, tanmatra are the subtle forms of Panchamahabhuta-the sensory and motor organs. They form the molecules, cells, tissues, and organs.

2. Energy is interchanging. The forms and manifests work in dual forms. Life force (chetana) is the important form which is the object of this science. It is termed as Vayu, which is the living force. In this line, healthy sleshma is the energy. It is termed as sleshma for kapha. Sleshma word indicates the sticky property. Increased viscosity of kapha is inverse to fluidity. Such sleshma becomes a waste which can turn toxic and cause diseases.

Healthy kapha is a product which flourishes with water and flows in Rasadhatu with Shabda, Archi, Jala Santana. This indicates the flow of Rasadhatu carrying the nutrition which are the subtle forms of Panchamahabhuta. They are transferred and transformed as the Panchamahabhuta. This nutrition cycle is called as shakhagati. To transfer and move the nutrients in tissues, viscous kapha with increased viscosity cannot support all the energy cycles to form the oja.

Healthy kapha protects the cells and cell membranes to keep them active, permeable, and supports the energy cycle. Kapha exists in the forms of Rasadhatu, Mansadhatu, vasa, medamajja and shukradhatu. Finally as oja supports life and living, the nutrition flows in very fine channels i.e. subtle pathways of nutrition with biochemical actions. These tissues and their cells are protected through the membranes (kala).

The food energy path towards oja may be blocked by the viscous sleshma. The food energy
path to oja in normal condition is called as “ShakhaGati”. Gati means tissues changing the forms and movement. In pathological conditions, it is called “BahyaRoga-Marga”. I was searching for normal sleshma but the path took me towards shakhagati. Now it is important to know the origin of prakrat sleshma and its relation with energy i.e. the Chetana or Vayu.

Ayurveda is a Science of Energy

Basic forms of natural energies that are the origins of Panchamahabhuta are as follows

1. Sound energy (Akasha-Shabda)
2. Electromagnetic forces (Vayu)
3. Thermal and light (Teja)

They all manifest as Apa and Prithvi one by one. These are the basic units of forming a person who is a creation of nature. External signals are connected to the internal ones. Matter and energy are interchangeable as food and energy which in shakhagati changes towards the forms of tissues and organs, and internal energies—“The food is the basic form of natural energy”, mainly the solar force. It can be called as cause effect relationship of food and energy in the living person. The main factor to process the food and convert it into the internal energies depends on digestive and metabolic process.

It is said that Agni is the origin of energy. So the location of kayagni and Agni to understand and treat disorders to stabilize energy and health is “kayachikitsa”. External basic energies are the Sun and the Moon. Vayu exists in the interchangeable forms as matter and energy. They are termed as dosha-vayu, pitta, and kapha. They are spread up in the minute parts but located in their positions. They move towards kostha or gastro intestinal tract, which is their normal “koshtagati”. They come towards intestines and digest the food, separate the Panchamahabhuta of food, and separate the solar energy calorie to energy-oja and all forms of subtle energies.

So, Charaka has said that transformation of food is to form the internal energies. If these energies are not standardized, they become toxic and cause diseases. This is the relation of food matter and internal energies supporting the body and mind and chetana i.e. the vayu. This is the cause and effect, matter and energy relationship. It gives importance for this process and gives the life i.e. Ayu for a person. The importance of energy is in the freshness of mind and body. Effective Agni or doshagati can be perceived by good appetite, proper digestion without problems like acidity and constipation, perfect evacuation of waste, timely discharge of urine. These factors help in knowing the internal doshagati.

Doshas are the constitution energies. They are spread up all over the body and can be identified with Agni and kostha as well as the setup of mind functions. Pakwashaya or the lower part of intestines is the main location of Vayu. Vayu is connected with all subtle and gross matters. Vayu is the self-regulated and pervasive flowing energy. It connects mind and body. The normal evacuation of stools gives freshness. In the 15th chapter of the Charaka Samhita, the transformation of food and energy is explained in a minute, subtle, beautiful way.
MadhyamaRogaMarga

The heart, brain, kidneys are the independent organs but they are included in a single path. These organs are called as “pranayatana” because they are the vital organs. If they are injured it can cause death.

- Speciality of MadhyamaRogaMarga -

These are the principle locations of the vital organs. They store ‘oja’, the energy form of chetana. All subtle forms of Satva Raja and Tama which is the psychointellectual level may affect MadhyamaRogaMarga. Hridaya is an important organ termed as the origin for Pranavah and Rasavahastrotas.

A scientific beauty is in the way Charaka has explained the importance of brain. He says that thousands of Indriyapranavahastrotas just like the sun and his rays are located in his location. Prana, the life force, who has seen it in any laboratory. This science is the science to protect that chetana. It can be desired as the Oja, Teja and Vayu. The basic energy form which works for the vital organs.

Internal medicine depends on kayachikitsa. It is said that Agni is the origin of energy. Normal kapha is the energy in the form of oja, and vayu itself is the energy to health but the specialty of Ayurvedic approach is it gives importance to health and proper energy to the proper formation and timely expulsion of the faeces (pureesh) even though it is an excreta. It plays an important role in health management.

Benefits of proper evacuation of Bowels are:-

1. Feces and urine expelled out - stress is released from portal circulation.
2. Bile is swept out and liver is stimulated.
3. Abdominal circulation is modified.
4. Blood circulates freely through liver and the portal system.
5. Heart and vessels are relieved.
6. Blood pressure can be regulated.
7. Cerebral circulation is regulated stress is released
8. Respiratory movements become easier.
9. Circulation through kidneys is increased.

The physiological effects of bowels give freshness in total mind and body health. Here we can see the relation of the vital organs with the normal evacuation. It is the unique aspect of Ayurveda to treat the vital path. The MadhyamaRoga - Marga through this path. Now I feel that searching “Roga - Marga” in internal path I reached Madhyama - Marga via ShakhaMarga which supplies the healthy kapha as oja for energy. Commonly the unhealthy sleshma blocks the energy path.
Agni: It is the internal spark of solar source.

Charaka the great scientist has shown a path of subtle energies in normal or pathological condition. This knowledge though is in practice, I feel it is not popularized as Doshagati and Roga-Marga.

1. In short-AbhayantaraRooga-Marga is a central location of dosha
2. Dosha move all over in their subtle forms, work for digestion. Solid food is digested. Energy turns in an order. Like -

   Akasha - Vayu - Teja - Jala - Prathu and organizes as matter. Food substances and their conversion towards energy are based on their tastes. Tastes are the physico chemical representatives of PanchaMahabhuta - Here I can only conclude this energy, in the form of tastes organises in Shakha as tissues and organs. This is the basic form of energy.

3. The healthy energy cycle depends on healthy dosha
4. Oja is a form of essence of essence of all dhatu as healthy kapha. Teja is a Transformer Then Vayu is the released impulses of living force a form of oja which supports mind and body. This is the relationship of PanchaMahabhuta - Tridosha and Saptadhatu - and oja
Oja and super fine subtle energies are stored in MadhyamaMarga organs if the energy cycle is blocked with toxic kaphadosha.

The organs which work day and night are the most important organs which depend on Kostagati, Koshatgati, Shakhagati, Oja, and Vayu. If this cycle is disturbed, they fall sick one by one. The energy rotates all over the factors through Rasadhatu carrying nutrients of Kapha (Prithvi and Apa), thermal energies (Pitta), electromagnetic impulses (Vayu), and all the machines work in normal condition which gives a perception of pleasure.

It is health which we feel after normal defecation because the energy is mainly controlled by Vayu. The main location of Vayu is in the Pakwashaya or colon. The constitutional energies manifest as Agni and digestive metabolic excretory systems are influenced with these energies. They are changing according to age, constitution, seasons, and also day and night. So they are to be managed according to the changes mainly through the diet exercise through the digestive system. It is a treasure of Ayurveda the internal medicine (Kayachikitsa) which comes under “Rogamarga” which helps to diagnose the dosha with the location of Agni-kayagni or digestive system.

To express this, Charaka has stated that origin of Kaphadosha is Amashaya (Stomach) and sleshma is the basic cause of diseases. The common cause of diseases is in the vascular belt and cell mucous membranes. The viscous slesma flowing in the minute channels can block the path of Agni or energy.

My Research

According to Charaka, PrakrataKapha with some etiological factors turns viscous and blocks the energy channels and such organs become the victims of diseases. It is a common factor in pathology. At this stage, the Kapha is called Vikrata or Sama. This Kapha is to be treated timely. If it is not managed, that may affect the Agni at digestive, metabolic, or energy levels. Charaka has given much more importance to the tissues and organ involvements. Though he has described the “Rogamarga” in short, he has given more importance to the vital organs and their management according to the organs, tissues, and energy path.

Three chapters to correct the path and four chapters for the energy management are Rasayana, Madhyama, and ShakhaMarga i.e. Kosthagati depend on AbhyantaraMarga. Because the food energy is processed in this path and the basic energy is formed, activated, and motivated towards Shakha and MadhyamaMarga as Ojas, so healthy energy cycle is based on Koshtagati, Shakhagati, and MadhyamaMarga. And the same locations may be affected by the imbalance of dosha. At this stage, they are collectively called as Roga-Marga.

My Experience

Ayurvedic scientists give importance to the nature’s gift of Chetana which organizes in the person as subtle energies and work as mind and body. Though it is a clinical science, Rogamarga concept helps to treat a variety of problems (Refer books on Roga-Marga).

1. In short, AbhyantaraRogamarga is the origin of common disorders.
2. Specialty of this science is to search the diseases through the path of Roga-Marga because the same path helps for management.

3. Etiological factors mainly through the properties of tastes of food select-travel through affinity towards selected organs. Energies choosing the pathological path is “Roga-Marga”.

4. Main Ayurvedic managements depend on the twenty properties divided in six types of therapies (Shatvidhaupakarma).

5. Aim of management is to detoxicate, bring back motivate them through the exits, clean the channels, and improve the energy levels.

6. Rasayana is the strength of management.

7. Improve the mind energy through Pranayama-
   1. Increase the Satvaguna.
   2. This subtle energy is the cause of healing and helps to improve the circulations in the respiratory, digestive, and excretory systems.
What is the future of Ayurveda?

Ayurveda word itself explains the potential it has. It is the science which helps to treat multiple organ disorders. Because I am practicing this science since 50 years, I know that patients come to Ayurvedic practitioners as last resort. Most of them feel that Ayurvedic medicines act slowly and need to be taken for a long time. I have seen that these medicines can do miracles. If the persons are of weak constitution or the nature of disease is incurable, only then they need the medicines for a long time. With Ayurvedic treatment, they can lead a better life and can improve their personality.

Nowadays, the lifestyles are affecting young persons. They suffer from a lot of disorders like hypertension, diabetes, cancers, and so on. For that, they have to take treatments. Many a times, such treatments create a lot of problems. If to avoid them or at least postpone them, Ayurveda can contribute with Rasayana. I have written two books on Roga-Marga. First book guides for diagnosis and the second one is to know how I am treating and selection of my medicines and the results. I am confident that Ayurveda is the global medicine for the future. Ayurvedic success is the skill of the physician.

Because the Satva, Raja, and Tama are the subtle energies spread up in internal systems and are connected to the cosmic signals, Vayu can be called as a channel and the mind is the key. Satvaguna is the light to show the path and to connect. These energies work as mind and body. Kayachikitsa can protect mind, body, and life through protecting Vayu i.e. the energy.
Ayurveda; a Goldmine for drug development-Scopes and challenges.

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Abstract

Traditional systems of medicine are playing a very important role in health care sector of countries like India and China. Indian system of medicine or Ayurveda has mentioned several important compounds which are playing an important role in management of various chronic as well as critical illness. There are various anecdotes which proves the potential of Ayurveda in management of such disorders. Besides this several systematic research has also been carried out on various Ayurvedic compounds so as to validate its efficacy. But in spite of this vast potential and extensive research there are comparatively very less numbers of pharmaceuticals whose origin can be traced to Ayurveda. The present review discuss about the vast potential in segment of Drug development and various challenges and its possible solutions.

Background

Recently we heard about the Noble in medicine being awarded to TuYouyou of China, who won the half of this prestigious award. This Noble was awarded for (re)discovering a powerful antimalarial agent called Artemisinin. (1) Artemisinin has saved countless lives till date. During the Vietnam War, YouyouTu and many other scientists worked for years to isolate and purify the medicinal ingredient which came from a reference to a crude chemical extraction procedure in an ancient Chinese text. This Noble award is a real boost and motivation for practitioner’s scientists and followers of Traditional system of medicine.

Traditional Indian system of medicine or Ayurveda is also rich is various herbs, metals and formulations which are actually turning out to be a panacea for various chronic and critical illness. This is evident from fact that even after more than 5000 years of its origin and in spite of availability of other conventional medical science Ayurveda is considered to be a choice of medical systems by a large proportion of Indian population. Since several decades systematic research is also being conducted in Ayurveda but unfortunately not any major breakthrough has been achieved. Few success stories like isolation of reserpine from Ayurvedic herb sarpgandha do exist. Identification and isolation of reserpine by Col Chopra and his team emerged as a big success story of the beginning of 20th century but eventually this phytochemical was withdrawn from the market as many cases of severe depression were reported by patients consuming this.
Now the question which arises here is where we are going wrong? Why the current research isn’t able to achieve desired outcomes? Why are we not able to explore the potentials of Ayurveda? The main issue which we see here is about the research methodology being adopted for conducting research in Ayurveda. Today we use the modern tools of research methodology for exploring the potentials of Ayurveda. This present day research methodology used in drug development has evolved as an outcome of continuous efforts with an aim to develop safe and efficacious new chemical entities. It has very intelligently adopted techniques to reduce the effect of bias and confounding variables and to reveal the facts and figures. There is no doubt that this research methodology is excellent but still there are certain limitations to it. Even after following the most stringent methodology there are instances when research was not able to explore the facts in totality. Several drugs which were filtered through this methodological screening got withdrawn from market due to issues related to safety and efficacy. And when we use this methodology as it is to explore Ayurveda it fails many a times. Even if it don’t fail to show the efficacy of the compound it fails to transform the research finding in to a successful clinical practice.

The event related to withdrawal of reserpine from market actually proved to be a turning point in research on traditional medicine. The adverse reactions to reserpine were actually not seen in patients receiving sarpagandha. CDRI (1965–1975) also made an attempt to screen more than 2000 medicinal plants for their biological activities. This entire exercise did not lead to any major breakthrough as well. These few examples are an indication that the methodology adopted is not fully suitable for Ayurvedic research. Ayurveda is more than an isolated compound or a herb or even a formulation. Ayurveda is a science which has its own robust fundamentals which explains the pathophysiology of the disease and also plays an important role in deciding the therapy. Thus we can say that Ayurveda needs a whole system testing approach rather than an isolated one. Ranita Aiman, a disciple of Col. Chopra, while delivering the Chopra Memorial Oration at AIIMS (1978), accepted this fact and suggested that perhaps the fundamental principles of Ayurveda have their significant role in defining the pharmacological activities of the plants.

**Conventional drug development and Reverse pharmacology**

The conventional drug development and the methodology used for it is very costly, time consuming and full of uncertainties. Today conventional Drug discovery and development process involves a 10-15 years of research and investments around US $ 1 to 1.5 billion. Many molecules which pass through early phase of drug development fail in later phase when already several years and billions of dollars are invested. Several formulations which have successfully cleared all the stages of drug development are withdrawn from the market due to issues related to toxicity. The conventional drug discovery approach of combinatorial chemistry and high throughput screening also has several limitations.

It is seen that the cost and time required for discovering, developing and launching a new drug is increasing without an expected corresponding increase in the number of newer, safer and better drugs. It is observed that compared to the previous years the numbers of New Chemical
Entities produced per company have considerably declined. Moreover, the number of New drug approvals has steadily declined from 53 in the year 1996 to 17 in 2007(6).

Developing new drugs taking hits from traditional system of medicine like Ayurveda seems to be an effective solution to this problem. This science is called a reverse pharmacology. Reverse pharmacology integrates documented clinical/experiential hits, into leads by transdisciplinary exploratory studies and further develop these into drug candidates by experimental and clinical research. Reverse Pharmacology can successfully reduce three major bottlenecks of costs, time and toxicity. Various pharma giants have adopted this approach and lot of new drug development activities are ongoing based on principles of Reverse pharmacology. It is estimated that over hundred new natural product- based leads are in clinical development. About 60% of anticancer and 75% of anti-infective drugs approved from 1981-2002 could be traced to natural origins(7). These figures highlights the importance of reverse pharmacology in todays new drug development.

**Reverse pharmacology and Ayurveda**

The ayurvedic knowledge database allows drugdeveloper to start his research work from a well-tested and safe compound. Using this approach the normal drug discovery course of ‘laboratories to clinics’ actually becomes from ‘clinics to laboratories’. Ayurveda has proved its potential in reverse pharmacology and several pharmaceutical molecules are being developed using Ayurveda compounds. Ayurveda compounds have several indications and hence Ayurveda not only helps in lead identification but also in developing new indication for an already existing compound developed through Reverse pharmacology approach.

There are several incidences where the old molecules are developed for new indications based on traditional knowledge and clinical observations. For example Antimicrobial berberine alkaloids derived from the Ayurvedic herb Daruharidra, are now being rediscovered as novel cholesterol-lowering compound (8).

**The Scope**

Considering the efficacy and unmatched safety of Ayurvedic system of medicine, innovative approaches inspired by Ayurveda can prove to be very important tool so as to fast forward the discovery and development process. Ayurvedic clinical documentation and experiential database can provide new functional leads to reduce time, money and toxicity - the three main hurdles in the drug development. The stringent documentation of patients reports and observation is particularly valuable for conducting studies and lead identification. These lead significantly reduces various risks associated with drug development as these medicines have been tested for thousands years on patients.

**Hurdles in Reverse Pharmacology through Ayurveda**

Despite of having a vast potential in this field a very few success stories are available as of now. Lot of work has been done in this field but unfortunately most of the work has remained within clinics of traditional practitioners or confined to academic research laboratories and
not taken to the pharmaceutical market. Various hurdles exist in this and one of the prime hurdles is about the generalization of research methodology. Currently various academic organizations are involved in conducting research on various Ayurvedic compounds. But the ongoing research is being conducted in such a way that it blindly uses the same methodology as that used for conventional pharmaceuticals. Such research has only helped to understand few effects of Ayurvedic compounds in modern terminology but it has hardly given any contribution to optimize the efficacy of Ayurveda compounds or rather to explore its potential. Ayurveda requires a pragmatic research approach. Rather than a conventional Randomized controlled clinical trials approach Ayurveda needs a Practice-based clinical trials. Even if a controlled clinical trial is designed a pragmatic approach has to be adopted while designing a research protocol.

Since Ayurveda compounds work on the system a whole system approach needs to be considered. In-Vitro experimentations seems to be of very less importance while conducting research on Ayurvedic compounds. In vitro experimentation can sometimes fail to show the desired therapeutic effect which is seen in patients. The isolation of active ingredient also seems to be harmful for ayurvedic research. Ayurvedic compounds has several ingredients and they work in synergy with each other which offers them excellent safety profile and superior efficacy as well. We cannot call any particular ingredient as a biologically active and others to be having no activity. When developing a compound as a whole there arises several problems related to standardization and characterization. Such problems also acts as a regulatory hurdle to develop an Ayurvedic compound to drug. Other issues related to batch to batch variability also exist as these compounds have natural origin and the ingredients are metabolites of plants which greatly vary depending of various environmental conditions.

To sum up there hurdles like lack of customized research methodology and no proper regulatory consideration about difference in single chemical entity and a whole natural compound.

Conclusion

Reverse pharmacology has a great potential in developing new efficacious and safe pharmaceuticals. Ayurveda can provide a great contribution in this as therapies in Ayurveda have a long history of use proving its safety and efficacy. But to increase the chances of success and optimize efficacy and safety it is very important to consider the fundamental of Ayurveda while designing the experiments. Also there need to be an appropriate change in regulatory policies while considering approval of pharmaceuticals developed through traditional system of medicine like Ayurveda. If all these facts are taken in to consideration then certainly Ayurveda can produce several safe and efficacious blockbusters to combat various critical health issues and unmeet clinical needs.

References


Many research methods of studies are discussed in modern literature available to the scientists. In Ayurveda many types of methodology and ideology exists. From 1900 to 1970 B.C. people had tried to correlate the Ayurvedic terminology with allopathic terminology of research. From and now most of the research is centered to discuss the Ayurvedic fundamentals. Their efficiency, supremacy to other systems by which we could not add anything new to the Ayurvedic literature.

By the whole hearted collaboration between the workers of the two systems, valuable ideas will find impression through experimental methods. The exponents of Indian medicine need little to fear that by adopting modern scientific methods, their system will lost their identity and become extinct. On the contrary the ancient and modern science has things in common. Their application we are sure, will establish Indian Medicine on a firmer knowledge and practice of the world as a whole.

"Rehabilitation of Ayurveda cannot be done simply by singing its glory and denouncing other systems only. Its glorious heritage has to be laid bare or discovered by patient and diligent research." Kaviraj R. C. Chaudhary

The Pakshaghat research will depend upon:-

1. **Causative Factors** :- In Allopathic all the causes of hemiplegia has been summarized in **three** broad heading **A. Cerebral Hemorrhage B. Thrombosis C. Embolism**

But in Ayurvedic text Vrihad Triyae 70 causes had been defined in which “ Vayordhato Kshyat kopo” is to be taken for research.

2. **Pathological Factors** :-

a) In our Ayurvedic texts Pakshaghat has been described as shudh Vataj Roga (Nanatmaj Vaat Vyadhi), practically we find the association of pitta &kapha. So the research should be depending upon the Vatta,Pitta & Kapha vridhi symptom. Sushruta describes as
Pitta Kapha
Daha Shaitya
Santap Shoth
Murcha Gurutva

b) Pakshaghat is not only hemiplegia, but it is the manifestation of few diseases like hemiplegia, paraplegia, poliomyelitis, hypertensive encephalopathy, subarachnoid hemorrhage, progressive muscular atrophy etc. So the term & other marma ghat, and the association with Srotodushti also.

3. Designing of Clinical Trials ::- The planning & conduct of a clinical trial does not involve any different of esoteric intellectual principle. It is mainly a matter of hard work and attention to detail. I shall describe some of the steps that must be gone through in setting up to a trial.

a) What kind of patient will be accepted for trial? ::-
1. Define the major & minor manifestation at least 03 minor manifested symptoms patients may be accepted.
2. Pakshghat is a chronic disease so some potential patients may already have been receiving one or more of the therapies to be tested. Should we take these patients in our study or not?

b) How many patients do we need? ::- Statistical theory tells us that if the new therapy shows 80% improvement, in the long run, the chance of finding it significantly superior in a trial with 200 patients is better than 09 out of ten. If its success rate 75% or 15% better than the standard, the chance of significant results is about 03 out of four, while if it is long run improvements rate is 70%, the chance of significant results is less than 01 out of 02. It may be cleared at this point that there is no hope of completing the trial in a reasonable time in a single institution. If the job is to be done, , the cooperation of several institution must be enlisted.

c) Sample size ::- The sample size in each sub groups must be large enough so that the comparisons in the individuals standard groups will be of satisfactory precision.

d) Measurements ::- Measurements to be used in describing the effects of therapies must be specified.

However the objective measurement that is not relevant should not be preferred to a subjective one that is, with subjective measurement, the principle of blindness becomes essentials.

e) Record Keeping::- Record must be kept legibly and the help of computer may be taken for that.

f) Analysis of Data::- This is a very crucial step in clinical trial. For each type of response
quantitative or qualitative, the first step is to describe the data graphically in tables. The code of treatment can be decoded at this end the results obtained are statistically using appropriate statistical methods.

4. **Drugs for trial:** Drugs should be easily available & can be given in all seasons, best choice is the weeds like Kantkari, Dhatura, Bala, Prashanparni, Shaalparni, Rasna, Ashwagandha, Shatawari, Gokshuru etc.

5. **Panchkarma Therapy for Trials:** Acharaya Charak says Snehana, Swedana and Basti is necessary for Pakshaghata treatment :-

6. **Physiotherapy:** with Panchkarma therapy if we should add physiotherapy then the results will be highly significant. In Ayurvedic text it has been said that :-

   So the different types of exercises will be helpful in treatment.

7. **Research on Diet:** Pathaya and apathaya should be analyzed

**CONCLUSION:**

Research Methodology of Pakshghata should be dependent more on the objective parameters we neither should not hesitate in adopting modern technique of investigations. Research on the etiopathogenesis, treatment by Panchkarma and diet should be done to strengthen the literature of Ayurveda. There should be correlation among the research centers, to avoid duplications of work and to attain the significant results within the stipulated period.

Dr. Dharam Vir. Director, GIAN

**References:**

5. Hutchinson’s Clinical Methods ELBS 1990
Ayurveda Research My Experience

Dr. Sanjay Sakaram Pund
M.D.(Samhita), M.D.(Kayachikitsa) Ph.D. (Ayurved) FIIM Pune H.O.D. & Professor
Samhita, G.S. Gune Ayurved College, Ahmednagar Board of study member MUHS Nashik

I had completed my BAMS in 1988 after that I got admission for M.D. Kayachikitsa in GS Gune Ayurved Mahavidyalaya Ahmednagar. In those days I meet to Dr. A.R. Shitre for discussion for my topic of synopsis of M.D. He told me to see the International Deerghayu magazine for observation. Then we went to see that lot of magazine which was edited by Dr. P.H. Kulkarni. Thought come in my mind to meet Dr. P.H. Kulkarni personally. Then Dr. A.R. Shitre had taken the appointment for meeting. He told me about the work of Russia & Italy conference, after that I was impressed after discussion. He told me to see International conference magazine. I saw & over looked the treasury of the book. I had collected the magazines Xerox copies with me and since those days I had taken the clinical trial on the research paper which I got from Dr. P.H. Kulkarni.

After coming to nagar I had taken clinical trials of arthritis by guduchi, psoriasis by arogyavardhini, kidney stone by gokshuradi yog, urinary track infection by chandraprabhavati, acne vulgaries by manjistha, piles by kankayanvati, diabetes by meshrunji, heart diseases by gokshur, arjun kadha. The clinical trials conducted by me were of Dr. P.H. Kulkarni’s International Deerghayu magazine articles, were satisfactory for the result.

I had attended conference of Dr. P.H. Kulkarni at pune which were International & presented the research papers on arthritis, piles, diabetes etc. He felicitated me for paper presentation. It encouraged my inspiration up till now.

The articles & paper presentation in Deerghayu International magazine were full of knowledge & give the inspiration throughout the life. After treating the patients with the help of journals I came in the path that of good physician. 15 to 18 years later I became the master physician with the help of research papers of Dr. P.H. Kulkarni’s International Deerghayu.

A good magazine or piece of writing should give reading pleasure & at the same time, light a spark to trigger to new lines of thought. International Deerghayu is one of them.

This gives real clinical trials on patients, there statically data, observation, discussion for new invention. I tried with the help of theses magazine on patients & also submitted their reports to Dr. P.H. Kulkarni.

Subtle things elaborated in each article which was useful to us. Like stars in the sky they shine, they origin mystify generations. The scholarly date assigned to range from second generation to up-to-date is of only International Deerghayu.

After overlooking all the journals & magazines edited by Dr. P.H. Kulkarni are most useful for human beings, patients & for good physician. I hope theses experience of my practice will be encourage for Ayurvedic physicians.
Ayurveda Research My Experience

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It is my frank opinion that we should start believing Ayurveda and whatever is written in our all literature.

We need to search and not research. Our old Rishis, Acharyas & Teachers have contributed everything in all main texts, after a long scientific observations & research. Now we have a doubt in our mind so we need to re-search the same things on today’s guide lines to make people digest, the facts of Ayurveda. Its proven, time tested science and down the lines, we are proving it again & again.

In the course of Ayurveda Studies we never come across the ‘Ayurveda research’ subject or even thought. When we enter into post graduation studies then ‘Ayurveda Research’ enters in student’s life.

When I started to think about ‘Ayurveda Research – my experience’, which is the very valid topic selected by our learned teacher Dr. P.H. Kulkarni, I was really thrilled.

Now a day’s every one talk on this and many scholars do work on it, but what we get out of it ?, no one really bother for it. It is good to share our experiences honestly to observe the changes and encourage young scholars.

I wish to share about studentship experiences related to Ayurvedic Research at the post graduate level. To my mind this is more important and what my generation face in late twenties - could throw some light on our status of Ayurvedic research field.

I would rather divide my experiences at different level of PG Studentship like:

· Admission for PG
· Guide for PG
· First year PG & Synopsis preparation
· Working on Project
· Getting in to research field
· Other helping Hands
· Finally done with the PG.
Admission for PG

I did my UG from Podar Ayurvedic Govt College, Worli, Mumbai -57, in the year 1983 and after a gap of 10 years, I joined Post Graduate course in Shalya Tantra i.e. Surgery at my mother institute, Podar Medical Ayurvedic College again, in the year 1993. Mine was the first batch of Post Graduate studies in the Shalya Tantra at Podar Ayurveda Government College. I was really feeling fortunate to be in the first batch.

In those years there was no Common Entrance Test (CET), final year BAMS marks were the main criteria for admission & the desired subject plus total mark percentage were considered for ranking. Luckily, I had good marks in my final BAMS passed in 1982, and very few students were near to my mark so I got the admission on my merit in General open category.

I was very much interested in the surgery since day one of my Medical Education. I did General Practice for almost 10 years, in the biggest Slum of Asia i.e. Dharavi of Mumbai. There I had chance to do lot of surgery related work in my clinic, and many a time I use to send patients to Podar college, where I personally use go to attend them for major operations.

When I joined for Post Graduate Department I started thinking on what subject should I select for my PG dissertation? Mine was the first batch at Podar for Post Graduate Course. Being a Government Institution Teachers Transfer was a big issue.

Guide for PG

1. You are known by your guide in the PG studies. Your guide becomes your identity in the college & university. Surprisingly, I must have been the only student in the history of Podar College, who had three guides in three years of PG course. Dr. Kulkarni was my guide for my first year of PG course. Dr. Padamwar was my guide for second year; he got promoted as Director of Ayurveda of Maharashtra state in my second year of PG studies. Final year I worked under Dr. G.S. Lovekar, who signed my dissertation as my guide.

First year PG & Synopsis preparation

In the very first month only of first year of PG, Dr. Kulkarni told me, Dr. Ramesh select your subject fast for synopsis and get it cleared form University as I am getting transferred soon to Nagpur College. It was first shock to me. I started working hard on it, as he was very co-operative and frank enough with me.

I thought of doing work something different, which will be related to Ayurveda. I picked up Jalaukacharan i.e. Leech therapy as my subject for Synopsis & decided to work on it for future for dissertation.

I never had an idea that it is going to be big challenge in coming years of my studies. I did some trials and I initially wanted to see the safety and efficacy to the Jalukacharan i.e. Leech application.

Since my studentship for under graduation & post Graduation days I was always thinking
that why there are no guide lines for Ayurveda research. I was really feeling alone as there were no guide lines for my selected subject & work. I discuss with many people about safety of Leech therapy i.e. *Jalaukacharan*. No one could give me scientific explanation.

This I am sharing about year 1993-94. In those days AIDS was a hot topic in medical & surgical branch. So bloodletting was a big issue. I got confused. Many co students and teachers discouraged me. I contacted few practicing pathologist and few Zoologist form Wilson College of Science & Arts, Chaupati, Mumbai. I went to Institute of Science at Fort, near Museum. No one could correctly guide me. To me best part was that, many people shared their wives very frankly. Few of them told me to change the topic. I did not change my mind, as I was quite firm with my ideas and looking for proper guidance.

I went to Pune and contacted Director, Ayurved Research Institute, Pune, Dr. P.H. Kulkarni Sir for guidance. He referred me to his research minded assistant Dr. Mandar Akkalkotkar, who was working as Head, Research Unit, at Ayurved Rasashala, Pune. With him I visited National Institute Virology (NIV) where I met one senior Research scientist DR. Devlankar, who explained me about Aids virus and its similar virus-Rota Virus. He agreed to offer me to use electronic microscope if needed for my work. He said if I want to do some work on Aids infected patents then I need to have a NOC form NARI which is the only authorized Government organization to permit research on Aids individuals. I was worried about undiagnosed Aids patients as we may apply Leech to such person and what would be safety majors.

My safety work stuck to virology clearance due to such unexpected hurdles. Now it was a time for me to rethink about my project. I waited for few more days and consulted few of my pathologist friends. Finally I decided to drop virology work as this stage. It would have taken long time and unwanted risk. My projected was not funded neither I was getting any stipend to spend on such costly investigative procedures. I concentrated to work on bacteriology.

· Working on Project

Finally I decided to work on bacteriological safety of leech application. I conducted trials at two of my pathology friend at Girgaum and at Mahim west. Results were quite encouraging.

I started collecting literature on Leech. Very few books were available in Ayurveda about leech. Then I got one book form Wilson college teacher, having good information about leech anatomy. It was used for M.Sc. studies few years back. I was lucky enough to get it.

Now my main problem was to identify the Leech I am using for my work. I contacted Kolkata Science Institute, Chennai (Madras) Science institute, Institute to Science at Mumbai, no one was having any expert for this cause and there were no facilities for dissection of leech and identify the species I am using.

It was advisable to standardize the leech I am using for my project. There are various types of leeches mentioned in the Ayurveda. Poisonous, Nonpoisonous, few were advised to use for animals only and what not. I was again under confusion.
I did the survey with the Doctors using the leeches in their practice. No one was having any identification as per Ayurveda and Zoological system. They simply believe on the vender who supply leech to them. Even I also got the leeches form the one of the Dr. Jalukar family who regularly get number of leeches form the vender of Vadodara city of Gujrat.

· Other helping Hands

If you are firm with your ideology some one will come to help you. This I experienced many a time in all my PG studentship period. One of my nonmedical friend was very much fascinated with my offbeat venture on leeches. He always use to enquire about my work was interested to know what I am doing.

One fine morning he came with a piece of paper form Reader’s digest. There was information of Dr Roy Sawyer, who was working on leeches from his childhood. He has a biggest collection of leeches in his leech museum. He mentioned many facts about leeches & its behavior. One of the facts which impressed me was that, he supplies the leeches to plastic surgeons to treat post surgical blood congestion to improve normal circulation.

I called Reader’s Digest office and asked for address of Roy Sawyer. It was not available off hand. I wrote a letter to editor and within a month I got the reply with all details.

In those days fax was means of fast communication so I faxed a letter to with all my queries about leech. Breading, feeding, safety were among my queries. I informed him about my research topic. I wanted to work on ‘Scientific evaluation of safety and efficacy of Jalaukavacharan( Leech application).’

He was surprised to see my topic. I was using leeches for treating few human body conditions like traumatic swelling (Aghataj Rakta Sanchiti), abscess, skin diseases, Vidhradi, Vicharchika etc. Therapeutic use of leech in treating human diseases was new to Dr. Roy Sawyer. We had lot of communication on fax at that time, almost every month.

Dr. Roy sent me 3 books on Leech Biology and Behavior written by him. I was a student and unable to afford his books so he gifted me all costlier books, as I am the first person, to his knowledge.

One more incidence fascinated him about Jalauka (Leech) when I gave the information about God Dhanvantari holding leech in his right hand and it is a indication of painless blood withdrawal tool being used in Ayurveda since centuries in India.

Dr. Roy Sawyer helped me to identify the leech I used in my research work. I sent 3 leeches to him and he dissected two out of three and sent me total details about its biology and identification details.

Most interesting part of this scientist is that, after two year I received a letter form Dr. Roy Sawyer. In that letter he asked form where I procured the leeches? He found some anatomical changes in that one more leech which he was not able to dissect at that time for some reason. Now I got thrilled. It will never happen in our country. In reply I submitted that those
Leeches were collected from different ponds of different areas. That could be reason. All the leeches were of form medicinal use species only but of some anatomical minute difference Dr. Roy could noted and he reported me the same for his satisfaction.

This is called research mind. Such experiences are rare and they teach us to keep eyes & mind to observe and share all odd & good things you see in any research work. We were in touch for many years. He invited me to visit his museum at London when I went on Europe tour in 2002.

I still see his hand written message on the books he gifted to me as “To Dr. Ramesh, to encourage your research into the role of leech in Ayurvedic Medicine” best wishes Roy Sawyer.

I shared this event because, I had an experience that if we wish we can get person like Dr. Roy Sawyer form the other part of the world to help any project with great respect. I had total satisfaction in my research work, where I was totally bank at the beginning.

· Finally done with the PG.

All such experiences made me very positive towards my research work. In the search of gathering information I met Dr. Sarojini Dahanukar, HOD, Pharmacology, GS Medical College, Parel, Mumbai and discussed about my work. I needed some international references, which could have been possible to get from GS Medical College Library.

Dr. Dahanukar madam permitted me to use college library and internet facility. In those years of 1995-96, very few Medical colleges were having this facility of Internet access. This all was new to me as Ayurvedic PG student. I took the help of few students and librarian and got the print out of 18 pages of international work on Leeches. A page cost me Rs. 20/ per print.

Dr. Dahanukar madam referred me to Dr. Ravindra Bapat, HOD, Dept. of Surgery, Sir G.S. Medical College & KEM Municipal hospital, Parel Mumbai.

He was working on Oxygenated & deoxygenated blood properties of bleed sucked by leech in bleed letting therapy and in the department of Ayurveda at KEM Hospital. I observed Dr. Bapat’s work; it was very scientifically going on. There were lots of facilities and man power available.

I wanted to go ahead with Dr. Ravindra Bapat Sir, but I was a practitioner & after completing my PG studies I wanted to concentrate on my practice again. I was a father of two kids and I need to look after my family form all the angles.

We need to decide the priorities in the life, with right views and at right time. Dr. Bapat was very much impressed with my all work till that time and he wanted me to join him in his work. He advised me to go for Ph.D. on same subject, as I had enough material with me for Ph.D. My mind was in dilemma, but I came to a proper conclusion. I kept on hold the tempting proposal of Ph.D. under co- guidance of Dr. Bapat on leech application and went ahead to complete my research work on priority.
I had a excellent photography session of leech applications in various conditions, with one of our senior teacher Dr. Paranjpe. In those days Good photographic representation was not possible as of today. A person form medical field can catch your desired message in the pictures correctly. I use to do lot of photography but I learned many thing in this photography work too.

I completed my Dissertation on time & started preparations for my final year exam of my PG course. I do not mind to share that some time if you go with owns new ideas; your guide can not help you much. You need to learn many things form all available resources.

Search or Research, it is continuous learning procedure. You keep your all sense organs open and think, think & think. Do not wait for any one. You keep working and you will be loaded with lots new experiences for ever.

I still feel the spirit of finding solutions for problems I faced in my PG studies. Today we look behind and try to value our won work with great satisfaction.

I thank god Dhanvantari for giving me chance to participate in Ayurvedic Research, in a very small way.

I thank Dr. P.H. Kulkarni Sir for motivating me 30 years bank and now also to share my views over my Experiences in Ayurvedic Research.

I hope new generation will find that, they are very lucky and comfortable after reading all the efforts we had taken. I wish them more successful education in Ayurvedic Research.
Therapeutic Value of Mindfulness in Ayurveda

Dr Rekha Jain, M.D Ayurveda, P.H.D, Ex-Professor, HOD, Rogavijnan, Pune University.

Technology is an integral part of everyday life and it has led to better communication and a fast-paced life. Goods and services never before imagined are now available at a price. The populous is running the rat race to earn money and achieve success in this globalized and very materially oriented world. On the other hand, mental stress and other disorders, which are affecting health are on the rise. We see a surge in the number of cases in blood pressure, hyper acidity, diabetes, depression, etc. Modern sciences as well as indigenous sciences have looked to address these disorders. Similarly, Ayurveda, which is one of the oldest sciences in the world, has addressed these ailments in much depth. We will look today at what is Ayurveda, the concept of Universe in Ayurveda, definition of health, concept of mind, soul, body and their balance and the importance of having a wholesome daily regime. We will then look at ‘Satvaavajay Chikitsa, Panchkarma and Rasayan Chikitsa,’ which are Ayurvedic treatments that focus on the mind and increase mental resistance against physical and mental diseases.

What is Ayurveda?

It is important to understand Ayurveda and its philosophy. It is one of the first medical sciences in the world and is found in the oldest Indian literary works of the Vedas. It is called as Upaved of AthrvaVeda and has mention in the Rugveda. In Sanskrit it is said, “Ausaha Vedaha”. Ayu means life and Veda means science. It is the science of life. According to the texts, the origin of the universe is traced to the creator of the universe Brahma.

“Hita hitam sukham dukkham, aystasya hitahitam. Manamcha tatra yatroptam Aurvedaha sauchate”// Ch.Su. 1/41. This Science defines wholesome and unwholesome life in much detail. It goes further and specifies, “Anukula Vedanium Sukha, Pratikual Vedanium dukkham”, which can be broadly translated as sensations that are pleasing make one happy and sensations that are displeasing make one unhappy. Clearly implying that sensations control ones happiness.

“Svasthasya svasthya rakshanam, aturasayavikar prashamana.”// Ch.Su 30/26. The main objective of Ayurveda is maintenance of metabolic equilibrium of a healthy person and treatment of a diseased person. The second objective of Ayurveda Science is, “Dharmartha Kama Mokshanam, Arogyam Mula Muttamam.”// Ch. Su. 1/15. If one wants to achieve, ‘Dharma’ which means, to observe social and moral rules, ‘Artha’ which means earn livelihood, ‘Kama’ which
means fulfill desires and finally attain, ‘Moksha’ which means salvation by breaking the cycle of birth, death and rebirth, one must be in excellent health. Ayurveda points out the importance of having a healthy daily and seasonal regime so that we can meaningfully achieve these objectives.

Concept of Universe

As per Ayurveda there are 5 elements in the universe. Living and Non living elements are necessary for the creation of the universe. Whatever is present in the universe is present within our bodies. Our bodies represent the universe and hence the basic components of man and universe are same. The material elements are, “Pamchamahabhuta; Pruthvi, aapa, teja, vayu and aakash” or primordial substance earth, water, fire, air, space. The non-material or omni substances are three, “Satva, raja and Tama”. ‘Satva’ means consciousness and knowledge, ‘Raja’ means motion or action and the third, which is ‘Tama’ or inertia, resists the other two.

Definition of Health as per Ayurveda

The definition of health in Ayurveda is universal and accepted by WHO. “Sama doshas, samagnishccha, sama dhatu malakriya. Prassana Atmendrya manha, swasthaha iti abhidiyate”//Su.Su.15/41. Meaning a person who has a balance of Dosha (Vata, Pitta, Kapha), Dhatu (Rasa, Rakta, Mansa, Meda, Asthi, Majja, Shukra) Mala (Mala, Mutra Sveda) and Agni which are understood as the 4 pillars of the body in addition to well functioning sense organs and a happy mind and soul is called a healthy person.

The three Doshas (tridosha) mentioned above originate from the 5 elements. The biological combination of Earth and water gives rise to ‘Kapha’, fire and water gives rise to ‘Pitta’ and air and space to ‘Vata’. They constitute the structural and functional units of all living cells, tissues, organs and the body as a whole.

Definition of Mind, Soul and sense organs as per Ayurveda

The mind is the most subtle and considered the 6th sense as per Ayurveda. “Anutvamcha Ekatvamcha” (its subtle and one).//Ch.1/19. Tarka Sangrha defines mind as something that makes us aware of sensations. It is located in the head and the heart and controlled by ‘Pran’ or consciousness. The functions of the mind are, “Chintya, Vicharya, Ohiya, Sankalpa”. Ch.Sha1/20 or comprehending, analysis, logic and decision-making. Philosophically it is said, “Mana eva manshuyanam, bandha, mokshasya karanam”. It is the mind that can lead to bondages or Nirvana.

As mentioned earlier the mind has three main characteristics of being Satvik, Rajas, and Tamas. Here we shall understand the attributes of each of these. While Satvik Gunas stands for right intelligence, courage, knowledge, peace and patience, Rajas gun stands for quickness, restlessness and untamed ambition and Tamas gun stands for laziness, dullness and inertia.

Mental faculties include ‘Dhi’ ability to discriminate and decide about facts and fallacies and arrive at true knowledge, ‘dhruti’ the ability to control or restrain the mind thus avoiding
excesses leading to illness and ‘Smruti’ or the ability to remember and awareness of good and bad acts that lead to illnesses in past thus helping inculcate good habits.

The mind is nourished and functions because of food, breathing and knowledge acquired from the sense organs. Knowledge, imagination, sleep and memory are the 4 mental activities. Emotions such as anger, ego, grief, fear, happiness, depression, jealousy, hatred, intolerance, lust, greed, pride, anxiety, excitement, courage, faith and awareness all exist in the mind. **To keep a balance of all these in mind one must have wisdom, good thoughts, chant mantras and meditate.** There are several treatments to keep this balance. They are, ‘Dinacharya- Ritucharya’, ‘Savavajaya Chikitsa’ and ‘Achar Rasayan’

The soul is eternal, unborn, all knowing, subtle and witness to everything. It is non-participating and carries karma from many past lives. There are 5 sense organs and their 5 action organs along with Satvatma. “Sharir, Indriya Satvatma sayongadhari Jeevitam”. Ch. S1/42. These together form life. Life has three stages of childhood, youth and oldage.

**Dinacharya- Ritucharya:** Ayurveda believes in the saying, “prevention is better than cure”. It therefore lays focus on daily regime that can avoid illness and diseases. One should wake before dawn (Brahmi muhurta). One should then rinse and gargle, followed by exercise, oil massage and bath. One should not force bowel movements and neither should one suppress them. One should then stay with the body reflexes without manipulating them. One should then have breakfast. It is important that the next meal after breakfast should not be before the breakfast is fully digested. One should then engage in work and other activities of the day with breaks for nap and walks to refresh the mind and body. One must get enough sleep at night. Before sleeping one should reflect over one’s day. One should be kind, helpful, loving and at peace with self. Over strain of senses, violence, stealing, material vices, lying, gossip, irrelevant talk, jealousy, destructive tendencies and atheistic behavior in thought, intent and action must be avoided. //A.H.S 2/21 to 25. The day should end with prayer and meditation. This is a general guideline and should be customized based on a person’s constitution, surrounding, region and season. The change of season can cause more toxins to grow which leads to imbalance of ‘doshas’. One must therefore follow the guidelines for the changing seasons. Ayurveda recommends ‘Panchakarma’ for the purification of the body during this time.

**Satvavajaya Chikitsa (SVC):** A physical ailment has an impact on mental health and vice versa. Ch.V6. It is therefore important to treat the mind or improve mental resistance along with physical resistance in any treatment. ‘Satvavajay Chikitsa’ is prescribed to improve the, ‘Satva Gun’ of the mind. We could call this treatment the **therapy of mindfulness.**

Self-knowledge, freedom from desire, life of detachment and meditation are prescribed as a way to increase the, ‘Satva Guan’ of the mind. For mental disease SVC prescribes spiritual knowledge or observation of things as they are (dnayan), practical knowledge of philosophy (Vidnyana), mental tolerance (dhairya) awareness (smruti) and peaceful concentration or meditation(Samadhi). The mind by nature is unsteady. It runs everywhere. To tame the mind and make it steady Ayurveda draws from the Yoga Shastra or Yoga Science. Although Yoga
Shastra is an independent discipline it is an important part of Ayurvedic treatments. Both these sciences find their roots in ancient philosophy and culture of India and were developed around the same time. They therefore impact each other. Yoga Asanas, Pranayam and Meditation are therefore included in many treatments of diseases. They all come under the umbrella of SVC and ensure better resistance of body and mind thus avoiding recurrence of disease. (Apunarbhav chikitsa)

Rasayan Chikitsa (RYC) (Treatment for Rejuvenation): Importance is given to ‘Achar Rasaya’ or established rules of conduct, practices or precepts. Before doing any (RYC) ‘Panchakarma’ is necessary for purifying the body. The 5 panchakarma are ‘Vamana’ vomiting, ‘Virechana’purgation, ‘Basti’ Enema, ‘Nyasa’ or nasal drops, ‘Rakta Moksha’ or letting of blood. ‘Panchakarma’ was used even during the times of The Buddha. He had prescribed ‘Rakta moksha’ or letting of blood to Milind Vatsa and ‘Vamana’ or vomiting to the king Pradyota of Ujjain.

In ‘Basti karma’ they have included ‘Shiro basti, kati basti, netra basti and Anuloman basti’. They are used as per symptoms. ‘Panchakarma’ although an integral part of Ayurveda requires separate study and independent attention.

‘Rasayan Chikitsa’ follows Panchakarma. Rasayan can be defined as creation of ‘Rasa’ (liquid substances to nourish body tissue) and circulating it to each part of the body. It is used to increase youthfulness, longevity, positive thinking, memory, awareness, energy, mental and physical strength and improve the immune system. There are two types of (RYC). The first is called ‘Kuti Praveshik Rasaya’ where one must enter a certain type of a hut, which is specially designed and built for this procedure and stay there for a prescribed duration of time. There are many minute procedures included. It is however not practiced any more. The second type is ‘Vatatapik Rasayan’ which is further divided into four types. The first is Kaamya Rasaayan: To improve health and vigor it prescribes ‘Chavanprash, Ashwagandhaprash Brahmi prash etc.’. The second in these four is called ‘Naimittik Rasayan’ and is used to increase the mental resistance of the diseased person. It may be used as an adjacent to the specific medical treatment prescribed for a disease. ‘Medhya Rasayan’ the third type is important from the mindfulness point of view. The medicinal herbs used in this treatment directly affect the brain and mind. These herbs are ‘Vacha, Brhami, Shankapushpi, Jatamusi jatifala etc.’. The fourth is Acharrasayan again is very close to mindfulness. A code of conduct is prescribed in this treatment. One must speak the truth, the body and mind should be clean, a healthy balance must be maintained between sleep, work, diet and exercise. One must follow the rules of climate and seasons, eat wholesome food, live a non violent life, control anger, jealousy, envy etc and restrain from vices such as alcohol, sexual misconduct and drugs. One must do yoga and meditation for peace. It is similar to Dinacharya-Ritucharya.

For the development of a particular tissue or ‘Rasa Dhatu’ a specific diet is prescribed. For e.g. Milk, buttermilk, oranges, pomegranate, lemons, beetroot, radish, onions, garlic, wheat
are good rejuvenators. For ‘Rakta dhatu’ rejuvenation citrus foods, dates, black raisins, saffron, jaggery are prescribed. Similarly pumpkin, eggplant, banana, mangoes, pulses, dates etc are good rejuvenators for, ‘Mansa dhatu or muscle tissue. Garlic, ginger, dry fruits, curds, jaggery and other fatty foods are good for ‘Medha dhatu’. Asthi dhatu’ is rejuvenated by wheat, black gram, sugar cane, radish, beetroot, etc. ‘Majja dhatu’ is rejuvenated by dry fruits, almonds, cows milk, curd, cream and ghee etc. Shukra dhatu is rejuvenated with all the foods used in ‘Majja dhatu’ plus cardamom, sugarcane, sweet potatoes, oysters and clove. In addition this treatment also works in protecting the areas where the ‘Pran Shakti’ or consciousness exists. This is called ‘Dasha Pranayatan’. They are located at Shir (Head), Kantha (Throat), Hridaya (Heart), Nabhi (Umbelicus), Basti (Bladder), Ooja, Shukra, Rakta/ Maans (Blood/muscles) and Gud (Anus).

Summary
Aurveda has prescribed mindfulness as a treatment for more than 80% of the diseases right from hyper acidity, asthma, heart diseases, diabetes to mental diseases like epilepsy (Apasmad), psychosis (Manovikshepa), illusion (bhrama), hallucinations (Vibhrama), Neuorasthenia (Manusangharsha), depression (Vishad) and even skin diseases. For this purpose Ayurveda has defined mind body and soul and developed specific treatments to bring them in balance like Dinacharay-Ritucharya, Panchakarma, Satvaavajay Chikitsa, Rasayan Chiktsa and protection of the Dashapranayatana.

To calm (Shaman) the vitiated Vata Dosha Ayurveda prescribes external massages and treatments like (Snehan, Shirodhara, Shirobasti, Karnanetra Puran etc). Ayurveda prescribes Meditation, Pranayam and Asanas as an antidote to the unsteady characteristic of Vayu. It can thus be concluded that Mindfulness is an integral part of Aurvedic treatment of diseases.

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(100)
“Study The Efficacy Of Jalauka Avacharan In Achilles Tendinitis.”

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ABSTRACT:
Achilles tendinitis occurs when the tendon that connects the back of your leg to your heel becomes swollen and painful near the bottom of the foot. This tendon is called the Achilles tendon. It allows you to push your foot down. You use your Achilles tendon when walking, running, and jumping. There are two large muscles in the calf. These create the power needed to push off with the foot or go up on the toes. The large Achilles tendon connects these muscles to the heel. Heel pain is most often due to overuse of the foot. Rarely, it is caused by an injury. Tendinitis due to overuse is most common in younger people. It can occur in walkers, runners, or other athletes.

In modern line of treatement there is only, Nonsteroidal anti-inflammatory drugs (NSAIDs), such as aspirin and ibuprofen, can help ease pain or swelling. If these treatments do not improve symptoms, you may need surgery to remove inflamed tissue and abnormal areas of the tendon. If there is a bone spur irritating the tendon, surgery can be used to remove the spur. Extracorporeal shock wave therapy (ESWT) may be an alternative to surgery for people who have not responded to other treatments. This treatment uses low-dose sound waves.

So there is no permanent line of treatment for this disease. So there is good line of treatment mentioned in ayurveda by acharya Sushruta that is JALAUKA AVACHARAN. So here is review study about jalaukaavacharan in achilles tendinitis is presented. (Total number of references 10)

KEYWORD - Achilles tendinitis, E.S.W.T, Jalukacharan,

INTRODUCTION:
In This Condition posteriorly Situated Tendon Of leg is Affected Causing severe pain. Achilles tendinitis occurs when the tendon that connects the back of your leg to your heel becomes swollen and painful near the bottom of the foot. It allows you to push your foot down. we use your Achilles tendon when walking, running, and jumping. Due To This There Is Loss Of Movemants Of ankle. Causes For This Condition Is Abhigaha Injury To Tendons.

In Modern Medical Science Achilles tendinitisl Such A Condition In Which All Above Symptoms Can Be Seen. Prevalence OfAchilles Tendinitis Is 1% To 3% Of Total Population. It Seen In Labourer Community And Athletic Population Especially.
Considerable Number Of Working Days And Medicin Expenses Are Spent By Patients Many Times Due To Conventional Nsaid’s And Repetitive Corticosteroid Injections. Patients Suffer From Many Side Effects Especially Those Who Are Having Diabetes, Hypertension, Metabolic Disorders.

Tendon Is Affected Which Is Kandara According To Ayurved For Kandaradushi, Leech Application Is Advised In Ayurvedsanhita.

Kandara Is Upadhatu Of Rakta.

So By Studying The Literature It Can Be Hoped That Leech Application Will Be A Promising Treatment For Achilles tendinitis.

MATERIALS AND METHODES -

1. Plan Of Work :-

30 Diagnosed Patients Of Achilles tendinitis Will Be Taken From O.P.D And I.P.D Of Shalyatantra Department Of Aryangla hospital. Clinical Trial Will Be Conducted in same hospital.

2. Clinical Study :-

Computer Generated Random Number Table Will Be Used For Clinical Trial. 30 Patients Of ACHILLIES TENDINITIS Will Be Enrolled Under Following Groups Irrespective Of Sex And Religion.

Group A : 50 Patients Will Be Treated By Jalaukaavacharana.

Group B : 50 Patients Will Be Treated By E.S.W.T. Anti-Inflammatory& Analgesics Will Be Given As And When Required. Standardization Of Jalaukaavacharana Will Be Carried Out According To Trividh Karma I.E.Standard Operating Procedure.

Purvakarma : Stage 1

1) Jalaukaavacharan By Procedure Described InSushrutsamhita. (SUSHRUTA SUTRA.13-19)

2) Exclusion Criteria -

Age Group>18 Yrs And<60 Yrs.

Systemic Diseases Involving Joints,E.G. Tuberculosis, Rheumatoidarthritis, Gout, Sle.

Systemic Diseases E.G. Diabetes, Musculoskeletal Diseases, g6pd Deficiency, Blood Dyscrisis.

Obese Patients Wt. >85Kgs.
3. Criteria Of Assessment:

1) Objective Assessment:

A) Laboratory Investigations:
Haemogram, Esr, Bsl(R), Hiv, Urine(R), Ra Factor.

B) Radiological Investigation:
X-Ray Of ankle Joint If Necessary.

2) Subjective Assessment:
Diagnosis Of Achilles Tendinitis Will Be Done By Following Signs & Symptoms.
1) Pain at posterior Aspect Of leg near calcanus bone While walking, running and jumping.
2) Local Inflammation At Achilles Tendinitis.
3) Assessment Of Pain, Loss Of Function, Swelling Will Be Monitored By Scoring System And Questionnaries.

4. Treatment Schedule:

Leeches Will Applied Atachillis tendon at maximum point of tenderness.

In Group B - Will Be Treated With 2 Weeks Course With E.S.W.T Daily For 20 Minutes Duration.
Anti Inflammatory And Analgesics Drugs Will Be Given When Required.

5. Rescue Therapy:
In Clinical Trials, If Any Adverse Or Untoward Effect Is Seen It Will Be Tackled By Proved Ayurvedic Or Modern Therapy.

6. Adverse Reaction Of Therapy:
If Any Adverse Reaction Occurred In Form Of Irritation, Burning Pain, Blood Oozing, And Infection In The Period Of Clinical Trial Will Be Categorized According To Mild, Moderate, And Severe Reactions. These Reactions Will Be Treated Accordingly.

FOLLOW UP:
Patients Will Be Followed Up On 15th Day & 60th Day.

CONCLUSION
Drawn from Statistical Study:
The Patients Will Be Classified By The Scoring Pattern As Well As Percentage Reduction Method. Assessment Will Be Done At End Of The Study By Using Parametric Test Such As, Anova Test, Mean Score, Standard Deviation, Standard Error, % Of Relief, ‘P’ Value And Students ‘T’ Test And Non Parametric Test.

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Sushrutokta Sandhan Karma
(Plastic Surgery) - A Review

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Abstract:
Ayurveda is life science. The ancient Indian medical science can be traced back from the vedic period. Shalyatantra is one of the important branch of Ayurveda, which has great potentiality for research. Shalyatantra is not complete without the name, Acharya Sushruta- A great ancient surgeon. Susruta samhita is legendary of Acharya Sushruta, which includes many type of shalyakarmas including Sandhanka. For his marvelous work in the field of surgery, he known as "The Father of Surgery". We see that todays basic principles of surgery including plastic surgery are same as described by Sushruta at his time with some modifications. Thats why modern plastic surgeon gives credit to Sushruta for his work and accept Sushruta as pioneer of Plastic Surgery (The Father of Plastic Surgery).It was proud thing for Ayurvedic community to say that 1st successful Plastic surgery, complicated surgeries like Rhinoplasty, Auroplasty, surgeries of Cleft Lip are done by Sushruta. This article highlights the basic principles and procedures of Plastic surgeries mentioned in Sushruta Samhita.

Key words : Plastic Surgery, Sushrutas concepts of sandhan karma, Nasasandhan, Karnasandhan and Khandoshta chikista in Ayurveda.

Introduction:
In ancient time trauma to ear and nose was very common due to wars or punishment given by king for sinful activities. It was duty of surgeon to repair the damage and then that time plastic surgery branch was developed. Plastic surgery is one of the prime important super specialty branch in the field of Surgery. Sound understanding of reconstructive surgery is imperative to all practicing general surgeon.

Skin is the largest organ in the body and someone said that skin is the best possible dressing for a raw surface.(1) Reconstructive Plastic Surgery word derieved from Greek term “Plastikos” which means to mold and reshape.(2) Reconstructive plastic surgery involves by using various techniques to restore form and function to the body when tissue have been damaged by injury, cancer or congenital loss .In ancient time at vedic kala we found many references of reconstructive surgeries. We all know about the Ashwinikumaras work in ancient time, like reconstruct head of Yagya,
implantation of head of Dadhichi muni for the purpose of learning Madhu-vidya. Its origin can be traced back to ancient Egypt, to India in sixth century B.C. Where Sushruta described using a forehead flap to reconstruction of a nose.(3) Plastic surgery was well known in Mahabharata and Ramayankala also. These are some examples which explains us extent of knowledge of plastic surgery from very long period back. It was Sushruta who described some of surgeries which resemble plastic surgery being done in present days. Sushruta have mentioned Sandhan Karma (Plastic surgery) in sutrasthana adhyaya no.16-Karnavyadhabandhavidhi like Nasa Sandhan, Karna Sandhan, Osth Sandhan.(4) Modern techniques were developed after the First World War, especially with Sir Harold Grillies work on reconstructing facial injuries. Later in twentieth century, renewed understanding of details soft tissue anatomy led to an explosion of new flaps, which with micro surgical methods, craniofacial surgery and tissue expansion resulted in an entirely new set of techniques, become available for reconstructing parts.(5) The first text book to include comprehensive account of plastic and reconstructive surgical operations was written by French surgery Velpeau in 1839. The fore fathers of modern day plastic surgery emerged out of First World War most famously the New Zealander Grillies. (6)

Basic Principles of plastic surgery:

A) Chhedan karma: Sushruta has mentioned mainly three types of incision according to different sites, like tiryaka, chandraktuti and ardhachandrakrut. (7) Sushruta has clearly mentioned that if these rules of incision are not followed there are chances of damage vital structures and also wound healing may delay (Chirad Vrana sanrho) and formation of keloid (Mamsakandi) may occurs. (8) As per modern view- Skin incision are carefully planned so as to avoid an obvious scar and designed „largers lines for skin incision as per anatomy of skin and underlying structures.

B) Lekhan karma: Sushruta has stated sixty measures in the management of vrana chikitsa (Shashtiupakramas). In this topic Sushruta has described Scrapping (lekhana) as sixteenth upakrama,(9) for the purpose of cleaning and debridement of infected and hypergranulated wounds so as to remove devitalized and contaminated tissue while preserving critical structures. Which is very essential for skin grafting purpose.

C) Sivankarma: Sushruta has described four types of suturing like. Vellitaka, Gofanika, Tunnasevani and Rujugranthi which should be used for different parts of body and some basic principles while suturing.(10)
1) Defects of Ear and Karnasandhana:
Sushruta has mentioned one separate chapter on defects of Ears and there
management as Karnavyadhabandhavidhi Adhyaya in Sustrasthana. Purpose of
puncturing the earlobe is for protection (from evils) and for wearing ornaments.
Here the term „bandhana is used to mean joining together by suturing. Joining the
multilated parts together is known as sandhana and after doing sandhana bandaging
also necessary, so the term karna bandha is stands for both. In this chapter he
described ancient method of karnavyadhan, while piercing the ear Sushruta has
advised to avoid three vessels to be prevented in order to avoid complications and
fifteen types of ear defects and their management in brief. In case of patients having
thick, broad ear lobule one should cut it and attach it upward. In absence of lobule
Sushruta had advised to reconstruct lobule with intact blood supply.

Different types of ear defects and its management:

1) Nemisandhanaka:- Nemi means impression of wheel so it is round circular
sewing. It is done when both the parts of cut ear are thick, broad and even.

2) Utpalabhedyaka:- Is done when both the parts are round, broad and even.

3) Valluraka:- Dried meat. Just as dried meat is turn to many pieces, similarly the
ear is cut into many pieces first and then joining together. Is done when both the
parts are small, round and even.

4) Asangima: - Is sewing a big available portion only at the same place. Is done
when the internal part only long.

5) Gandakarna: - Is cutting a piece of muscle of cheek, maintaining its attachment
and turning it over on the damaged pinna (this is the common method of oroplasty
operation even in present day). Here external part is long.

6) Aharya: - Is fabricating the pinna of ears from flaps of muscle of both the cheeks.
Done when there is very small lobe or absence of lobe on both side.

7) Nirvedhima: - Is making the pinna of by cutting a piece of muscle from the back
of the ear. Done when the ear is well fixed at both side (internal and external) and the
earlobe is thin and adhering loosely.

8) Vyayojima: - Is fabricating the pinna by different kinds of cuttings. Done when the
earlobe is thick or thin, regular or irregular.

9) Kapat Sandhika: - Is joining by different kinds of suturing just like a hinge at the
10) **Ardhakapata sandhi:** Is joining the pinna by suturing in its front. Here external lobe only is long and other (internal) part of the lobe is short.

These ten types are sadhya means repairing of these conditions are going to be successful.

11) **Sanksipta:** Is to be done when pinna of the ear is dry, one part of ear lobe is elevated and the other part is very small.

12) **Hinakarna:** Is to be done when the earlobe is not fixed all around its muscle is lost.

13) **Vallikarna:** Is to be done when the earlobe is thin, irregular and small.

14) **Yastikarna:** Is to be done when the earlobe has nodules of muscles, static/ immovable/ network of veins and the lobe is small/short.

15) **Kakoshtaka:** Is to be done when lobe has no muscle, has constricted tip and little blood supply.

These five types are asadhya means on treatment going to unsuccessful. These even though done well, develop swelling, burning sensation, red colour, ulceration, suppuration, exudative eruptions and so become unsuccessful. (11)

2) **Defects of Nose and nasasandhanakarma :**

Sushruta has described reconstruction of nose defects in detail. Sushruta says one should take a leaf of the exact size of defect, this is placed on the cheek, then the cheek muscle is cut to the same size, raising a flap of it and maintaining the connection with live muscle, the flap is placed quickly on the mutilated nose after scraping it, then suitable bandage, inserting two tubes into nose, then powder of patanga, yastimadhuka and anjana should be sprinkled on the site and white cotton swab placed on it, tila taila should be sprinkled frequently. The patient is made to drink ghee and after its digestion, given oleation therapy followed by purgation, as stipulated. After the union has healed, the flap of muscles should be cut as its half length allowing other is intact. If the repaired nose is short, attempt should be made to augment its growth and if there is excess growth, it should be made even. (12)

Different methods given by modern surgeon for nasal reconstruction are seems to be based on one basic principle stated by Acharya Sushruta.
They are 1) Nasolabial flap 2) VY advancement flap 3) Banner Flap 4) Total reconstruction of nose with Midline forehead flap. Nasolabial flap based on the facial artery can resurface the nasal ala. The paramedian forehead flap, based on supratroclear – supraorbital vessels, provides like tissue such as color texture for larger deficits of tip the dorsum, total nasal units and areas of missing cartilage. (13)

3) Defects of Lips and Oshtasandhana karma:

The procedure for reconstructing a deformed lip is almost identical to that for the nose except for insertion of the two tubes for the nostrils. The physician/surgeon who is proficient in performing these procedures is fit to treat the king. (14)

Discussion:

Sushruta dealt with the plastic reconstruction of ear, nose and lip for defects which were congenital and acquired. Ears and nose were being damaged either completely or partially. It was the work of the surgeon to repair the damage, many times to fabricate the damaged part by taking out flaps of live muscle from nearby area, placed it over mutilated part and make it grow, now a days it known as plastic surgery. Sushruta was the first surgeon of the world who performed this feat and fabricated the ear(oro-plasty), nose(rhino-plasty), and lips(oto-plasty). These stand testimony to the ingenuity and high standard of surgical skill the ancient Indian surgeon possessed. Though it is well established branch in Modern Sciences, In order to achieve more precision and perfection in this branch there are continuous evolution and adding newer techniques. We see that modern methods of plastic surgery is based on same as Stated by Sushruta, many years back. Modern Sciences has also mentioned that the oldest references for Plastic Surgery are found in Sushruta Samhita and accepted Sushruta as “The father of surgery”. The review study explains that some of basic principles described in Sushruta Samhita stated in separate chapter named kamavyadhabandha vidhi in sutrasthana. In this chapter Sushruta mentioned procedure of puncturing the earlobe, ear defects and its management ,related preoperative, operative and post operative procedures, upadrava chikitsa, nose and lip reconstruction surgery.

Conclusion:

The above review study reveals that in Sushrutas era the knowledge of Plastic Surgery is very well established. Considering some of references of Reconstruction of Nose, Ear and Lips in modern plastic surgery branch with some modifications and repeated experiments, we can observe that the methods described in Sushruta
in same manner. Like for reconstruction of nose Sushruta has advised to take graft from frontal area, keeping its blood supply patent. This procedure is followed as it is now a days. Modern surgical science accepted that the Sushruta was pioneer of surgery including plastic surgery and gives honours as the “The father of surgery and The father of plastic surgery”. There is very much scope for more exploration of Sushrutas techniques and if used with development modern sciences there is much to add in the field of Plastic Surgery.

References:


6. Alfred Cuschiery, Pierce Grace, Ara Darzi, Neil Borley, David Rawley; Clinical Surgery; Second Edition; Blackwell PUBLISING; 2003: page 677


The Prospective Functional Study Of Pran & Udan Shwasan Karma With Spirometry In Female Medical Students Between Age Group 20 - 30 years.

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Abstract

Air pollution is the significant risk factor for multiple health conditions including respiratory infections, heart diseases and lung cancer according to WHO. WHO states that 2.4 million people die each year from causes attributable to air pollution with 1.5 million of these deaths attributable to indoor air pollution, e.g. biomass fuels. Spirometry measures air flow and records the amount and the rate of air that one breath in and out over a period of time. In highly polluted city, air slowly metamorphoses our healthy and pink coloured lung tissues into dankened particle of smog, dust and other pollutants, making the lungs more vulnerable to infections. Children are at high risk due to the immaturity of their respiratory organ system. In present research paper, female medical students between age group between 20-30 are selected for the study of their prana&udanashwasana karma with spirometry. When prana and udanavayu are normally functioning, respiration remains normal. A typical rhythm is maintained with rate and depth of inspiration, pause and expiration. From this study SVC, FVC, MVV are measured and found that those can be correlated with prana and udanavayu. The observed values are very close to normal values and to maintain them and to improve the strength and bala of prana&udanavayu we can advise them to follow specific ahara, vihara, pranayama & rasayana so that the disorders of this particular vayus can be prevented.

References -
1) www.emedicine.medscape.com
2) Charaksamhita volume 5 popular edition 1949 ShriGulabkunverba ayurvedic society by Gunvantroacharya page no. 304
4) Human physiology volume 1 August 2006, Dr.C.C.Chattergee .
Keywords – Pranavayu, spirometry, udanavayu.

Introduction

Nowadays, prevalence of general respiratory disease is very high which may due to lifestyle modification, indoor and outdoor air pollution. WHO states that 2.4 million people die each year due to causes attributable to air pollution, with 1.5 million deaths attributable to indoor air pollution. Long-term exposure to air pollution may cause the development of COPD with possibly enhanced susceptibility in people with Diabetes Mellitus and Asthma. Though the asthma runs in families, the environmental factors also contribute to the disease process and can be triggered by a wide range of substances called allergens.

Our healthy and pink colored lung tissues are metamorphosed by these smog, dust, biomass fuels and other health damaging pollutants, making the lungs more vulnerable to infection. The highly sensitive respiratory system can be damaged by a number of ways and children are at high risk due to the immaturity of their respiratory organs. According to Ayurveda, the root place of the Pranavastrotasa is the region enclosing the heart and the central cavity which is the zone of the channels that carry the life breaths. As long as these channels are in healthy condition, so long the whole body is free from disorders. If these root places are attacked by the pollutants and allergens, their vitiation takes place. These passages evince the following characteristic symptoms: the respiration becomes too long, restricted, agitated or becomes shallow or short, or frequently stertorous and painful. The aim of the study is to evaluate the normal or abnormal values of pulmonary functions which includes pranudanshashan karma. For this female medical students of age group between 20-30 yrs data is taken. From this study we can further advice the volunteers to improve their pran and udanavayubalbyspecificaahar, vihar, rasayana and pranayama.

Aims - To study the prana-udanashwasana karma in female medical students between age group 20-30 years with spirometry.

Objectives - To measure SVC, FVC, MVV values with spirometry, in female medical students between age group 20-30 years.

Methodology

The selection of volunteer is randomly done. The medical female students between age group 20-30 yrs without having any systemic disorders are selected. For this study computerized spirometry (spirometer by MedGgraphics with Breezesuit software) is used.
and three values i.e., slow vital capacity (SVC), forced vital capacity (FVC) and mean ventilatory volume (MVV) are observed.

**Review of Literature**

The well regulated respiration has a vital effect on the mental, physical activities of a person. In India, since ancient time people are aware of various forms of respiration and assigned to each phase a particular function. Now a days to measure this air flow, spirometry is used. Spiro means breath and meter means to measure. Spirometer records the amount of air and the rate of air that one breath in and out over a period of time i.e., ventilation. This occurs as a result of pressure difference between the alveolar and oral ends of the airways. The normal values of vital capacity and total lung capacity are 4800ml and 6000ml respectively. It means normal ventilation in an adult is about 6 liter per minute with respiratory rate 12 per minute and tidal volume is 500ml. Air in lung is subdivided at different points into volumes and four different capacities. According to Vagbhata one of the chief function of pranvayu is nishwasa means inhalation of air through nose (pranvayu enters through nose, trachea inside body). Udanyayu leads upwards and functions during exhalation. Lungs as suggested by Sharangdhar are chief organs for udanvayu. Udanyayu in conjunction with pranvayu maintains respiration, one of the vital process of life. When pranvayu and udanvayu are normally functioning, respiration remains normal. A typical rhythm is maintained with rate and depth of inspiration, pause and expiration. Pathology of respiratory system starts with disturbed direction of pranvayu and udanvayu. According to Ayurveda the place where the respiration takes place is called as ‘ura’. Pranvayu and udanvayu along with avalambakkapha abide in ura. If any etiology causes imbalance between pranvayu and udanvayu and avalambakkaphatakes place then respiratory syndrome sets in.

If abundant kapha causes obstruction of respiratory passage, vata does not get enough space to move, so it moves hay way. This event is responsible for genesis of respiratory syndrome. Since udanvayu is exhalation, it should be comfortably mobile. Prana takes airflow in, if kapha obstructs airway inhalation becomes difficult. Both prana and udanaloose their balance of direction, loosing ultimately the normalcy of respiratory rate, depth and rhythm.

The observed parameters for respiration are SVC, FVC and MVV. SVC is the amount of air that can be measured on a slow complete expiration after a maximal inspiration without forced or rapid effort. Normally it should be more than 80% predicted.

FVC is the amount of air that can be expired forcefully in a given time and its normal value is 3.5 – 4.5 liter.

MVV is the volume of air that can be breathed out by giving maximum effort in voluntary hyper ventilation in 1 minute. Its normal value is 100 liter per minute.

**Observations**
<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Volunteer's</th>
<th>Age (years)</th>
<th>Weight (kg)</th>
<th>Height (cm)</th>
<th>BSA (m²)</th>
<th>Actual value</th>
<th>Predicted value</th>
<th>% against predicted value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>V.H.</td>
<td>28</td>
<td>48</td>
<td>151</td>
<td>1.41</td>
<td>1.27</td>
<td>1.98</td>
<td>87</td>
</tr>
<tr>
<td>2</td>
<td>G.V.</td>
<td>27</td>
<td>42</td>
<td>150</td>
<td>1.33</td>
<td>2.08</td>
<td>2.16</td>
<td>65</td>
</tr>
<tr>
<td>3</td>
<td>N.P.</td>
<td>24</td>
<td>43</td>
<td>150</td>
<td>1.34</td>
<td>1.61</td>
<td>1.4</td>
<td>42</td>
</tr>
<tr>
<td>4</td>
<td>S.K.</td>
<td>23</td>
<td>50</td>
<td>155</td>
<td>1.47</td>
<td>2.08</td>
<td>2.1</td>
<td>77</td>
</tr>
<tr>
<td>5</td>
<td>S.N.</td>
<td>28</td>
<td>40</td>
<td>154</td>
<td>1.33</td>
<td>1.27</td>
<td>1.81</td>
<td>74</td>
</tr>
<tr>
<td>6</td>
<td>S.M.</td>
<td>24</td>
<td>57</td>
<td>156</td>
<td>1.56</td>
<td>1.72</td>
<td>1.18</td>
<td>66</td>
</tr>
<tr>
<td>7</td>
<td>A.K.</td>
<td>25</td>
<td>55</td>
<td>154</td>
<td>1.52</td>
<td>1.68</td>
<td>1.95</td>
<td>72</td>
</tr>
<tr>
<td>8</td>
<td>R.P.</td>
<td>26</td>
<td>40</td>
<td>150</td>
<td>1.3</td>
<td>1.09</td>
<td>1.48</td>
<td>85</td>
</tr>
<tr>
<td>9</td>
<td>S.V.</td>
<td>24</td>
<td>51</td>
<td>154</td>
<td>1.47</td>
<td>2.2</td>
<td>1.78</td>
<td>60</td>
</tr>
<tr>
<td>10</td>
<td>P.K.</td>
<td>24</td>
<td>48</td>
<td>150</td>
<td>1.41</td>
<td>2</td>
<td>1.86</td>
<td>76</td>
</tr>
<tr>
<td>11</td>
<td>S.D.</td>
<td>20</td>
<td>48</td>
<td>160</td>
<td>1.48</td>
<td>1.75</td>
<td>2.32</td>
<td>80</td>
</tr>
<tr>
<td>12</td>
<td>P.V.</td>
<td>24</td>
<td>50</td>
<td>149</td>
<td>1.43</td>
<td>2.26</td>
<td>1.67</td>
<td>66</td>
</tr>
<tr>
<td>13</td>
<td>J.K.</td>
<td>30</td>
<td>53</td>
<td>162</td>
<td>1.55</td>
<td>1.71</td>
<td>1.98</td>
<td>63</td>
</tr>
<tr>
<td>14</td>
<td>D.S.</td>
<td>26</td>
<td>55</td>
<td>164</td>
<td>1.59</td>
<td>2.4</td>
<td>2.14</td>
<td>58</td>
</tr>
<tr>
<td>15</td>
<td>S.K.</td>
<td>25</td>
<td>67</td>
<td>155</td>
<td>1.66</td>
<td>1.97</td>
<td>2.75</td>
<td>80</td>
</tr>
<tr>
<td>16</td>
<td>H.P.</td>
<td>25</td>
<td>52</td>
<td>165</td>
<td>1.56</td>
<td>2.24</td>
<td>2.22</td>
<td>88</td>
</tr>
<tr>
<td>17</td>
<td>S.S.</td>
<td>27</td>
<td>60</td>
<td>164</td>
<td>1.65</td>
<td>2.1</td>
<td>2.47</td>
<td>57</td>
</tr>
</tbody>
</table>
Analysis

As per the text, SVC, FVC and MVV values are depend upon age, sex, race, ethnicity, size, height, weight, posture, BMI and BSA. The present study is done in very short randomly selected population from female medical students between age group 20 yrs to 30 yrs without having any major systemic disorder. After analysis the following observations are obtained.

1) Range of actual FVC value, predicted FVC value and % against predicted FVC values are 1.09 to 2.40 liter, 3.13 to 3.91 liter and 35 to 72 are observed respectively.

2) Range of actual SVC value, predicted SVC value and % against predicted values are 1.18 to 2.75 liter, 3.13 to 3.91 liter and 34 to 80 are observed respectively.

3) Range of actual MVV value, predicted MVV value and % against predicted values are 42 to 88 liter per minute, 100 to 114 liter per minute and 41 to 87 are observed respectively.

Discussion

Correlation of SVC and FVC can be correlated with pran and udan. The MVV can be correlated with only udanvayu. For these values; age, sex, race, BSA (body surface area), BMI (body mass index) etc., factors are responsible but with present limited specified data above values are found within normal limits but some values are at borderline. Due to which, further chance of vitiation of pranudan karma is possible. So we can advice those volunteers to improve their pranudanbalawith Aahar, vihar, pranayam and Rasaynadi therapy.

Conclusion

In this study observed findings are very close to normal values. But some values are at borderline which indicates the less pranudanshwasankarm. So to maintain and improve the strength and bala of pranudanyayu we can give advice them to follow specific aahara, vihara, pranayam and Rasayana so that the disorders of these particular vayu can be prevented.

References

1) www.emedicine.medscape.com
2) Charaksamhita volume 5 popular edition 1949 ShriGulabkunverba ayurvedic society by Gunvantraoacharya page no.304
4) Human physiology volume 1 August 2006, Dr. C.C. Chattergee.
Review Of Hiv/aids Positive Patients
In & Around Nanded District
Maharashtra A Six Year Ictc Based Study

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Vinayak T. Navanale, Assot. Professor, Rognidan, Ayurved college, Dharwad, Karnataka, Maharashtra, email cgenepune@live.com

ABSTRACT

AIM- To analyse previous six years data of HIV Positive Patients from 1st January 2007 to 31st December 2013 in and around Nanded district situated in Maharashtra. OBJECT- The study is conducted to aid SACS and NACO to plan and arrange resources for the future scenario.

MATERIALS AND METHODS- The attendees of ICTC, Government Ayurved Hospital were included and variables like Age, Males, Females, Children’s were studied. Records of Patients obtained during 1st January 2007 to 31st December 2013. The data is collected in Government Ayurved Hospital at Nanded. The data is collected by the prior permission of Integrated Counselling and Testing Centre Incharge of the Hospital. The study includes all the attendees of ICTC department coming either voluntarily, or being referred from various departments of the Hospital. Information was retrieved and analysed.

RESULT- There is gradual decrease from 2011 in the number of patients of HIV positive getting tested at ICTC Government Ayurved Hospital, Nanded. Out of 14,649 total patients in six years came for HIV tests 456 were Positive. The number of Male patients were 270. The Number of Female patients were 163. ANC Patients were 23 in number, While the child male patients were 14. The female child patients were 6 in number.

CONCLUSION- The observational study shows that there is decline in the patients of HIV positive since 2011. The data collected in this study may be useful to the Governmental agencies to plan future strategies.

Key words - Review of HIV Positive Patients, 1st January 2007- 31st December 2013, ICTC Centre, Nanded.

INTRODUCTION -

The retrovirus that causes the acquired deficiency syndrome was isolated from patient with the disease. It is called as Human immunodeficiency virus or HIV. In United States and Europe HIV virus is usually transmitted from one person to another by intercourse between men. The recipient in anal course is especially at risk. The transmission during heterosexual intercourse is less common in United States and other western countries from man to women and from women to man. The HIV virus is commonly transmitted through Blood Transfusion, by products prepared from blood such as concentrate of factor 7 used to treat haemophilia and by contaminated needles used by drug addicts, and passed from mother to child in utero.
PROBLEM STATEMENT

The prevalence rate of AIDS/HIV in India in 2013 was 0.27 which is down from 0.41 in 2002. Recognised as an emerging disease only in the early 1980, AIDS has rapidly established throughout the world, and is likely to endure and persist well into the 21st century. AIDS has evolved from the mysterious illness to a global pandemic which has infected tens of millions less than 20 years. Promising development has been in recent years in global efforts to address the AIDS epidemic, including increased access to effective treatment and preventive programmes.

Global summary of the AIDS epidemic as on December 2009

Number of people living with HIV in 2009

<table>
<thead>
<tr>
<th>Total</th>
<th>33.3 millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults</td>
<td>32.8 millions</td>
</tr>
<tr>
<td>Women</td>
<td>22.5 millions</td>
</tr>
<tr>
<td>Children under 15 yrs.</td>
<td>2.5 million</td>
</tr>
</tbody>
</table>

People newly infected with HIV in 2009

<table>
<thead>
<tr>
<th>Total</th>
<th>2.6 million</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults</td>
<td>2.2 million</td>
</tr>
<tr>
<td>Children under 15 years</td>
<td>3,70,000</td>
</tr>
</tbody>
</table>

AIDS deaths in 2009

<table>
<thead>
<tr>
<th>Total</th>
<th>1.8 million</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults</td>
<td>1.5 million</td>
</tr>
<tr>
<td>Children under 15 years</td>
<td>2,60,000</td>
</tr>
</tbody>
</table>

Indian Scenario-Surveillance report of India

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of samples screened</td>
<td>950699</td>
<td>1575950</td>
<td>1898670</td>
</tr>
<tr>
<td>Numbers confirmed by WB test</td>
<td>5588</td>
<td>11330</td>
<td>13254</td>
</tr>
<tr>
<td>Sero-positivity rate (1000)</td>
<td>5.88</td>
<td>7.18</td>
<td>6.98</td>
</tr>
</tbody>
</table>

Number of HIV sentinel surveillance sites for different population groups during the year 2007 to 2008
### Site type | Number of sites 2007 | Number of sites 2008
--- | --- | ---
1. ANC Population | 484 | 498
2. STD Population | 248 | 217
3. Female sex workers | 137 | 194
4. Injecting drug users | 52 | 61
5. Men having sex with men | 40 | 67
6. ANC Rural | 162 | 162

**GENERALISED HIV EPIDEMICS**

In generalised epidemics HIV has firmed established in the general population. On the verge of forth decade of the AIDS epidemic, the world has turned the corner, it has halted and begun to reverse the spread of HIV. In 2009, an estimated 3,70,000 (2,30,000-5,10,000) HIV infections occurred among children under the age of 15 years. The number of children newly infected with HIV in 2009 was roughly 24 percent lower than in the last 5 years, the coverage for services to prevent mother to child HIV transmission rise from 10 percent in 2009. The drop in new HIV infection among children in 2009 suggests that these efforts are saving lives. The number of annual AIDS related deaths worldwide is steadily decreasing from the peak of 2.1 million in 2004 to an estimated 1.8 million in 2009. It is also a result of decreasing incidence of the disease starting in the late 1990. The effect of antiretroviral therapy are specially evident in sub-Saharan Africa, where an estimated 3,20,000 Fewer people died of AIDS related causes in 2009, than in 2004, when antiretroviral therapy began to be dramatically expanded. Globally death among children younger than 15 years of age is also declining. The estimated 2,60,000 children who died from AIDS related illness in 2009 were 19 percent fewer than the estimated 3,20,000 who died in 2004. In 2010, WHO issued revised treatment guidelines recommending earlier initiation of antiretroviral therapy, at a CD4 count of < 350 cells/cu mm. These new criteria increased the total number of people medically eligible for therapy by roughly 50% from 10 million to 15 million. Available evidence on HIV prevalence and future statistical projections shows signs of stabilisation of HIV epidemic in India at National level. The estimates for the year 2008 show that there are 22.7 lakhs people living with HIV prevalence of 0.29 percent. Even the prevalence among pregnant women in the age group of 15-24 years, which is considered proxy for incidence or new infections in general population, is showing a declining trend. Information from persons, testing positive for HIV at the integrated counselling and testing centres across the country during 2009-2010 shows that 87.1% of HIV infections are occurring through heterosexual route of transmission.

**Epidemiology**

Despite being have to the world’s third largest population suffering from HIV/AIDS (with South
Africa and Nigeria having more) the AIDS prevalence rate in India is lower than many other countries. In 2007 the prevalence rate was 0.30%. The "Lancet" in 2006, in the world reported an approximately 30% decline in HIV infections among young women aged 15-24 years. From 2000-2004 the epidemic is thought to be concentrated. The estimated adult HIV prevalence was 0.32% in 2008 and 0.31% in 2009. The states with high prevalence rate is includes Manipur (1.40%) Andhra Pradesh (0.90%) Mizoram (0.81%) Nagaland (0.78%) Karnataka (0.63%) Maharashtra (0.55%) The estimated number of new annual of HIV infections has declined by more than 50% over the past decade. According to more recent national AIDS control organisation data India has demonstrated an overall reduction of 57% in estimated annual new HIV infections from 0.274 million in 2000 to 0.116 million in 2011 and the estimated number of people living with HIV was 2.08 million in 2011.

Key findings of HIV estimations 2012-Press information bureau Govt. of India, Ministry of Health and Family welfare

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2007</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Adult</td>
<td>0.33</td>
<td>0.27</td>
</tr>
<tr>
<td>2. Number of persons living with HIV</td>
<td>27,52,253</td>
<td>20,88,642</td>
</tr>
<tr>
<td>3. Number of Adult New HIV infections</td>
<td>1,23,890</td>
<td>1,16,456</td>
</tr>
<tr>
<td>4. Number of Annual AIDS related Deaths</td>
<td>1,06,671</td>
<td>1,47,729</td>
</tr>
</tbody>
</table>

AIDS in India

1985 - AIDS task force established by the Indian Council of Medical Research (ICMR) in 1985 and screening begun in Pune and Vellore.

1986 - First person in India recognised to be seropositive for Human immune-deficiency Virus (HIV) in Madras.

1986 - First case of AIDS reported in India in Bombay (infected in USA)

1986 – National AIDS committee formed.


1987 – First sero-positive infant detected in India (Tamilnadu)

1988 – First case of AIDS in an Indian infected in India.


1990 – Recognition of a cluster of seropositives among injecting drug users in North-east India.

1990 – Data from surveys in different parts of India shows average HIV sero-prevalence at 1.3% (an increase from 0.2% in 1986)

1991 – National Institute of Cholera and Enteric Diseases (NICED) found 80% 273 intravenous drug users in a town in Manipur to be infected with HIV and estimates 20,000 drug users in Manipur to be infected.

1992 – From October 1985b to October 1992, a cumulative total of 242 clinical AIDS cases had been reported in India, out of which only 14 were foreigners.

1994 – Up to July 1994, a cumulative total of 768 clinically diagnosed AIDS cases have been reported in India.

MATERIALS AND METHODS

Patients having HIV positive tests during 1st January 2007 to 31st December 2013 were retrospectively analysed and variables like age, males, females, children’s, and the patients for antenatal check up were studied. Records of Patients obtained during 1st January 2007 to 31st December 2013. The data is collected in Government Ayurved Hospital at Nanded. The data is collected by the prior permission of Integrated Counselling and Testing Centre In charge of the Hospital. The study includes all the attendees of ICTC department coming either voluntarily, or being referred from various departments of the Hospital. Information was retrieved and analysed. Following the guidelines of NACO, the counsellor of the ICTC interviewed the attendee under strict confidentiality. After pre test counselling and obtaining consent of the attendees, Laboratory Technician in the department of ICTC centre collected their blood samples. As per the strategy and policy prescribed by NACO, tests, were performed on the serum sample. Each HIV positive sample is confirmed thrice. Finally labelled it as a HIV positive. The data is collected, complied, and analysed.

OBSERVATIONS AND RESULTS IN ICTC CENTRE

Table No. 1. HIV Positive patients according to Gender

<table>
<thead>
<tr>
<th>Year</th>
<th>Male</th>
<th>Female</th>
<th>No. of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>19</td>
<td>09</td>
<td>28</td>
</tr>
<tr>
<td>2008</td>
<td>41</td>
<td>20</td>
<td>61</td>
</tr>
<tr>
<td>2009</td>
<td>74</td>
<td>42</td>
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</tr>
<tr>
<td>2010</td>
<td>46</td>
<td>34</td>
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</tr>
<tr>
<td>2011</td>
<td>57</td>
<td>29</td>
<td>86</td>
</tr>
<tr>
<td>2012</td>
<td>25</td>
<td>25</td>
<td>50</td>
</tr>
<tr>
<td>2013</td>
<td>08</td>
<td>04</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>270</td>
<td>163</td>
<td>433</td>
</tr>
</tbody>
</table>
Graph No. 1

Table No. 2 HIV Positive children's according to Gender

<table>
<thead>
<tr>
<th>Year</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2008</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2009</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>2010</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>2011</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2012</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>2013</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>14</td>
<td>6</td>
</tr>
</tbody>
</table>
### Table No. 3 HIV Positive patients according to age group

<table>
<thead>
<tr>
<th>Year</th>
<th>1-15</th>
<th>16-30</th>
<th>31-60</th>
<th>61 and above</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>0</td>
<td>14</td>
<td>14</td>
<td>0</td>
</tr>
<tr>
<td>2008</td>
<td>3</td>
<td>17</td>
<td>40</td>
<td>1</td>
</tr>
<tr>
<td>2009</td>
<td>8</td>
<td>43</td>
<td>63</td>
<td>2</td>
</tr>
<tr>
<td>2010</td>
<td>2</td>
<td>32</td>
<td>43</td>
<td>3</td>
</tr>
<tr>
<td>2011</td>
<td>1</td>
<td>29</td>
<td>53</td>
<td>3</td>
</tr>
<tr>
<td>2012</td>
<td>2</td>
<td>12</td>
<td>33</td>
<td>3</td>
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<tr>
<td>2013</td>
<td>2</td>
<td>2</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
<td>149</td>
<td>254</td>
<td>13</td>
</tr>
</tbody>
</table>

### Graph No. 3

![Graph showing HIV positive patients by age group]

### Table No. 4 Total ANC Patients visit in ICTC Centre and no. of HIV Positive

<table>
<thead>
<tr>
<th>Year</th>
<th>Total no. of patients</th>
<th>HIV Positive patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>770</td>
<td>4</td>
</tr>
<tr>
<td>2008</td>
<td>1077</td>
<td>3</td>
</tr>
<tr>
<td>2009</td>
<td>2322</td>
<td>5</td>
</tr>
<tr>
<td>2010</td>
<td>1596</td>
<td>3</td>
</tr>
<tr>
<td>2011</td>
<td>1743</td>
<td>4</td>
</tr>
<tr>
<td>2012</td>
<td>1120</td>
<td>3</td>
</tr>
<tr>
<td>2013</td>
<td>1011</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>9639</td>
<td>23</td>
</tr>
</tbody>
</table>
Table No. 5 Total general patients visits in ICTC Centre and no. of HIV Positive

<table>
<thead>
<tr>
<th>Year</th>
<th>Total no. of patients</th>
<th>No. of HIV Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>0418</td>
<td>28</td>
</tr>
<tr>
<td>2008</td>
<td>1173</td>
<td>61</td>
</tr>
<tr>
<td>2009</td>
<td>2621</td>
<td>116</td>
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<tr>
<td>2010</td>
<td>2034</td>
<td>80</td>
</tr>
<tr>
<td>2011</td>
<td>3232</td>
<td>86</td>
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<tr>
<td>2012</td>
<td>2593</td>
<td>50</td>
</tr>
<tr>
<td>2013</td>
<td>2578</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>14,649</td>
<td>433</td>
</tr>
</tbody>
</table>
Table No. 6 Total no. of HIV Positive Patients with PPTCT and VCTC

<table>
<thead>
<tr>
<th>Year</th>
<th>Total no. of positive patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>32</td>
</tr>
<tr>
<td>2008</td>
<td>64</td>
</tr>
<tr>
<td>2009</td>
<td>121</td>
</tr>
<tr>
<td>2010</td>
<td>83</td>
</tr>
<tr>
<td>2011</td>
<td>90</td>
</tr>
<tr>
<td>2012</td>
<td>53</td>
</tr>
<tr>
<td>2013</td>
<td>13</td>
</tr>
<tr>
<td>Total</td>
<td>456</td>
</tr>
</tbody>
</table>

RESULT - There is gradual decrease in the number of HIV-Positive patients from 2011 getting tested at ICTC Government Ayurved Hospital, Nanded.

DISCUSSION - There have been many surveys in abroad and India regarding the prevalence of HIV patients in the community. They provide the important information related to the causes and help to the health planners to put strategies to decrease the prevalence of the disease from the country. Evidence based information is important to plan HIV patients care centre and rehabilitation services. Data collected in this study may be useful to the Governmental agencies to plan strategies for rehabilitation and prevention. Rural and Urban patients were not considered separately because we did not have reliable data on the exact domicile of the patients. Early Diagnosis and management of these entities can decrease the prevalence rate in the country. Setting Diagnostic centres and quick remedy (Antiviral drugs) as well as Ayurvedic management, where the facilities for the treatment are available, may prove useful to the patients staying in the remote areas. Arranging periodic check up camps as well as diagnostic camps in remote areas may also serve the purpose. It is not a community survey, but data collected from the Government Hospital, which will not give a true reflection of the distribution of the various causes. Another limitation of this study was no consideration on the aetiology of the disease process in view of the retrospective nature of the study. However it provides some measures to be taken to decrease the prevalence rate in the country. We recommend similar type of study in other parts of the country to find out Geographical differences.

CONCLUSION

There is gradual decrease in the number of HIV-Positive patients from 2011 getting tested at ICTC Government Ayurved Hospital, Nanded. A great deal has been learnt about the biological, behavioural and environmental factors coming either voluntarily, or being referred from various departments of Ayurved Hospital. Epidemiological studies should be carried out in various
settings to understand the role and complex relations of social and demographic factors, which will help, interrupt, and control the transmission of HIV/AIDS.

**REFERENCES**


Review:

Concept of Personalized Medicine based on Prakriti

Dr. Poonam D. Patil P.G (Sch) Swasthavritta and yoga
Guide - Dr. M.M. Godbole Yashwant Ayurveda college kodoli

Abstract

The concept of personalized medicine is since people have been practicing medicine. In 21st century the concept of personalized medicine is all about DNA. It is well established by now that western allopathic medicine is very good in handling acute medical crisis, whereas Ayurveda has an ability to manage chronic diseases, lifestyle disorders with active integration of ‘omics’. Prakriti based medicine can play an important role in changing the state of global health.

Key words-Ayurveda, Prakriti, Ayurgenomics.

Introduction

Medicine today targets therapy to broadest patient population that means ‘one drug fits all’ approach. But the importance of personalized medicine has long been understood in medical profession. Personalized medicine is defined as medical care which is unique for each individual patient. Ayurveda the traditional system of Indian Medicine have well defined systems of constitutional types used in prescribing medicine bearing resemblance to personalized medicine.

According to Ayurveda -

Ayurveda an ancient Indian system of medicine that has been documented and practiced since 1500B.C is a living tradition of healthcare even today. Objective of Ayurveda is promotion of health, prevention and management of disease for a healthy and happy life.

Ayurveda has personalized approach in predictive, preventive and curative aspects of medicine. Selection of a suitable dietary, therapeutic and lifestyle regimen is made on basis of clinical assessment of the individual keeping one’s prakriti in mind.

Every individual is different from another and hence should be considered as a different entity. As many variations are present in universe all are seen in human beings.

Charaka

Ayurveda emphasizes the treatment of disease in highly individualized manner as it believes that every individual is unique having different constitution. Ayurveda classifies all individuals
into different prakriti based on tridosha theory. As personalized medicine aims to design drugs with maximum efficiency and safety for a particular disorder what is required is connection of phenotypic features (Prakriti) with genotype of an individual.

Prakriti -

Ayurveda defines health as a state of physical, psychological, social and spiritual well-being and is based on the theory of Panchamahabhoota (the five basic elements – Space, Air, Fire, Water and Earth) and Tridoshas. The equilibrium of doshas is called health and imbalance (Vikriti) is called disease.

Prakriti is a consequence of the relative proportion of the three entities (Tri-doshas)-Vata, Pitta, kapha. Which not only are genetically determined but also influenced by environment, maternal diet, lifestyle, age of parents. The prakriti of an individual is fixed at the time of birth and remains invariant throughout lifetime. Distinct properties and functions have been described to each dosha. The constitution type and prakriti levels of dosha are considered normal for that individual. There are diseases described in Ayurvedic text which occur mostly in particular dosha pradhan prakriti.

Tools to achieve personalized medicine – Ayurgenomics

Ayurgenomics is the integration of principles of Ayurveda with genomics. The primary challenge of Ayurgenomics is to establish correlation between DNA and Prakriti. Ayurgenomics can play important role in explaining how current drugs can be effectively used by targeting them on patients of particular prakriti.

The potentials of prakriti based medicine lie in-

1) Promotion of health and quality of life and thereby longevity.
2) Prevention of diseases.
3) Personalizing health care by monitoring Ahar, vihar and Aushadhi.
4) Disease management.
5) Reducing trial and error approach of healthcare system.

Conclusion -

It is well established by now that western allopathic medicine is excellent in handling acute medical crisis whereas Ayurveda successfully demonstrated an ability to manage chronic diseases. Ayurveda’s holistic approach and its emphasis on prevention have the potential to improve the health status of world’s population.

A systematic integration along with interdisciplinary approach forming the golden triangle of Ayurveda, Modern science and Modern medicine can give path to personalized medicines and offer remedies to the challenging health issues. Ayurveda not only offers personalized treatment but personalized nutrition and personalized lifestyle by both drug and non-drug
modalities suited to an individual’s prakriti. This attributes of Ayurveda can play a major role in disease prevention and promotion of health towards longevity with better quality of life.

References -

5. Sushruta Samhita (Text with English translation) Chaukhamba visvabharti.
Case Study:

To Study The Efficacy Of Shrungataka Churna (trapa Bispinosa Rox.) & Evaluation Of Its Vrushya Karma With Special Reference To Its Action On Oligospermia.

Dr. Rekha Gaikwad, P. G. Scholar, Dept. of Dravyaguna Vidgyan, Ayurveda Mahavidyalaya, Sion, M-022. HOD & Professor of Dept. Of Dravyaguna vidgyan, Ayurveda Mahavidyalaya, Sion, M-022.

ABSTRACT

Infertility due to Oligospermia is increasing globally at an alarming rate. Charak has mentioned the use of Shrungataka mainly as vrushya drug & balya. Shrungataka fruit is madhur, kashay, madhur vipaki & shita virya. So this drug is being used in Oligospermia as folklore chain. Open uncontrolled study was done on 31 patients of established diagnosis of oligospermia at Seth. R.V.Mahavidyalaya Sion, M-022 for duration of 80 days. 6gm of Shrungataka fruit churna was given twice a day orally with water as anupana & the patients were followed up completely every 15 days up to 80 days. Subjective criteria were assessed based on coital span, coital frequency, semen quantity, semen viscosity. Objective improvement was done on the basis of semen analysis, initially, middle of the treatment & then after end of the treatment. Change in clinical symptoms is subjected to z value is calculated. The trial show encouraging significant changes at p<0.001 level in the semen analytical parameters viz. sperm count, active motility of sperm, sluggish motility of sperm, non motile sperm count. The P>0.1 shows not significant to, Z value for abnormal sperm count. Symptomatic relief to coital span, coital frequency, semen quantity & semen viscosity.

Keywords : Infertility, oligospermia, Shrungataka (Trapa bispinosa Rox.), sperm count.

INTRODUCTION:

Ayurveda an eternal science of healthy living deals with physical, psychological and spiritual wellbeing of the human being and covers all the aspect of human life. It is not a materialistic science but a philosophical and fateful truth, which is enhanced by our great ancient sages, through their experience, logic and power of wisdom. Whole ancient society tried to achieve all four prime goals of life viz. dharma, artha, kama & moksha[1], so they had a smooth, sound, safe, assured steady and healthy life style. On the other hand in rapidly developing countries due to stressful life & illiteracy about sex increase conditions of Oligospermia. The inability to procreate i.e. infertility is seldom, if ever a physical debilitating disease. Oligospermia is the seminal disorder in which sperm count is below 40mil/ml (2,3,4). Sperm count in healthy male ranges widely between 5 million to 170 Million sperm cells/ ml, but datas from 15 publications in men with proven fertility showed a mean value of sperm concentration of 76 = 18.6 and mean normal range of 40-14mil/ml is confirmed(5). So, this
author has also accepted the lower limit of normal sperm count as 40 million/ml, below which it would be considered as Oligospermia.

Oligospermia (Kshinashukra) is a doshabalapravitta, Krichhrsadhya disease of Shukravaha srotas(6), which is manifested clinically as “Na cha Garbham Jayate” (Infertility).(7) Samprapti of Kshinashukra (Oligospermia) is not mentioned in classics separately. But it is mentioned that vitiation of Vata & Pitta dosa are responsible for Manifestation. After review of literature regarding management of Oligospermia with single drug (herb), Shrungataka (Trapa bispinosa Rox.) has been selected. Shrungataka is one of the dravyas described in vajikaran, balya category & used in Vajikaran chikista in Ayurvedic practice. As Shrungatak by its madnur rasa [8], Kashay anurasa, madhur vipaki, & sheeta virya acts as a shukrakar. Many of herbs are already been tried as Vrusya but Shrungataka is said to be Vrusyotam. That’s why Shrungataka selected for evaulation of its action on oligospermia.

MATERIALS AND METHODS:

Type of study
Open uncontrolled study.

Place of study: Ayurved Hospital, Sion, Mumai-22.

CRITERIA FOR SELECTION OF PATIENTS:

Selection of cases
Total 31 candidates fulfilling inclusion criteria will be taken to asses Vrusya karma specially on Oligospermia of Shrungataka.

Inclusion Criteria:

Age : 25 yrs to 50 yrs
Sex : Male
Informed consent signed
Sperm count- 20 or less than 20 Million/ ml.

Exclusion criteria :
Patients having below 5 million/ ml sperm count is excluded.
Patients with major systemic illness eg. Diabetes mellitus, Impaired Renal function, Koch, cardiovascular diseases etc.
Immuno-compromised patients or having Ca, HBsAg infection.
Women and children.
**Study design:** Total no. of subjects : 31

**Duration of study:** 12 weeks

**Drug source:** Churna of Shrungatak fruit.

**Formulation:** Churna

**Mode of administration:** Oral.

**Dosage:** 6 gm twice a day

**Anupana:** water

**Follow up:** Every 15 days after first visit upto 80 days

**Assessment of Efficacy:**

A] **Subjective criteria**

**Criteria used:**
- Remarkable improvement > 500%
- Moderate improvement 100 to 500%
- Mild improvement 100%
- No change 00

General & systematic examination of patients at every 15 days visits up to 80 days. Criteria for semen quantity & Semen Viscosity: in symptomatic relief

<table>
<thead>
<tr>
<th>Gradation</th>
<th>Semen Quantity</th>
<th>Gradation</th>
<th>Semen Viscosity</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>1 to 2 ml</td>
<td>+</td>
<td>Like Watery</td>
</tr>
<tr>
<td>++</td>
<td>2 to 3ml</td>
<td>++</td>
<td>Like Rice Watery</td>
</tr>
<tr>
<td>+++</td>
<td>3 to 4ml</td>
<td>+++</td>
<td>Like Honey</td>
</tr>
<tr>
<td>++++</td>
<td>4 to 5ml</td>
<td>++++</td>
<td>Like Jelly</td>
</tr>
</tbody>
</table>

**STATISTICAL ANALYSIS:**

Change in clinical symptoms is subjected to z value is calculated(9).

**OBSERVATION & RESULT:-**

**TOTAL EFFECT OF THERAPY**

Statistical analysis of Subjective criteria:
VOL. THIRTY TWO - 01 ISSUE NO. 125 Jan.-March - 2016

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Rugnamate Vydhi pariksana</th>
<th>BT</th>
<th>AT</th>
<th>Mean</th>
<th>SD</th>
<th>Difference</th>
<th>Standard Error</th>
<th>Z test</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Coital Time span (in min)</td>
<td>3.7</td>
<td>5.7</td>
<td>2.40</td>
<td>3.07</td>
<td>2</td>
<td>0.67</td>
<td>0.699</td>
<td>2.86</td>
</tr>
<tr>
<td>2</td>
<td>Coital frequency/week</td>
<td>3</td>
<td>3.3</td>
<td>2.22</td>
<td>1.78</td>
<td>0.3</td>
<td>0.44</td>
<td>0.511</td>
<td>0.58</td>
</tr>
<tr>
<td>3</td>
<td>Semen Quantity</td>
<td>1.3</td>
<td>2.6</td>
<td>0.45</td>
<td>0.549</td>
<td>1.3</td>
<td>0.09</td>
<td>0.1277</td>
<td>10.1</td>
</tr>
<tr>
<td>4</td>
<td>Semen Viscosity</td>
<td>1.25</td>
<td>2.1</td>
<td>0.43</td>
<td>0.660</td>
<td>0.85</td>
<td>0.23</td>
<td>0.141</td>
<td>6.02</td>
</tr>
</tbody>
</table>

BT- Before Treatment, AT- After Treatment, SD- Standard Deviation

Statistical analysis of Objective criteria:

<table>
<thead>
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<th>S.A.</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Difference</th>
<th>Standard Error</th>
<th>Z test</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>S.Q</td>
<td>2.5</td>
<td>0.71</td>
<td>0.6</td>
<td>0.31</td>
<td>0.22</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>SC</td>
<td>9.1</td>
<td>14.61</td>
<td>5.7</td>
<td>10.21</td>
<td>5.51</td>
<td>4.51</td>
</tr>
<tr>
<td>3</td>
<td>AMS</td>
<td>19.8</td>
<td>33.06</td>
<td>18.56</td>
<td>21.66</td>
<td>13.26</td>
<td>3.1</td>
</tr>
<tr>
<td>4</td>
<td>SMS</td>
<td>16.0</td>
<td>23.7</td>
<td>12.25</td>
<td>11.68</td>
<td>7.67</td>
<td>0.43</td>
</tr>
<tr>
<td>5</td>
<td>NMS</td>
<td>63.8</td>
<td>36.45</td>
<td>24.62</td>
<td>23.20</td>
<td>27.35</td>
<td>1.42</td>
</tr>
<tr>
<td>6</td>
<td>A Sperm</td>
<td>25.3</td>
<td>22.54</td>
<td>22.78</td>
<td>25.66</td>
<td>2.78</td>
<td>2.88</td>
</tr>
</tbody>
</table>

SQ-Semen Quantity, SC- Semen Count, AMS- Actively motile sperm, SMS- Sluggishly motile sperm, NM- Non motile sperm, A Sperm- Abnormal sperm count

Out of 31 patients ranging from the age group of 25 to 50 years maximum patients 13(41.93%) were between age group of 23 to 30 years. Among 31 patients 30(96.77%) were married. Among 31 patients 5(16.12%) were do heavy excersise at work place. Out of patients 9(29.30%) patients were hina satva. 16(51.61%) patient were madhyam satva & pravar satva patients 6(19.67%) were low in number. The patients of oligospermia 20 paient were of primary oligospermia type(64.5%) 11 patients were of secondary oligospermia type (35.48%).

The effect of Shrungatak churna the cardinal symptoms of 31 patients of Oligospermia are as follows. The P<0.001 shows significant _z vaue for motility of sperm. Non motie sperm count at P<0.001 shows significant decrease in non motile sperm count. It means Shrungataka churna decrease non motile sperm count & increases motile sperm count. The P>0.1 shows
not significant to $z$ value or abnormal sperm count. It means Shrungataka churna do not decrease the abnormal sperm count. But it increases the abnormal sperm count upto some extent simultaneously with the increase in sperm count. The improvement enhanced in further weeks.

Hence it is worthy to confirm the formulation to oligospermia. The trial show encouraging significant changes at $P<0.001$ level in the semen analytical parameters viz. sperm count, active motility of sperm, sluggish motility of sperm, non motile sperm count. But abnormal sperm count show not significant at $P>0.1$ level. Shrungataka show increment in abnormal sperm count upto small extent. Symptomatic relief to coital time span, coital frequency, semen quantity, semen viscosity. So, Tulsi can be used in vicharchika as an effective kushtaghna dravya.

**DISCUSSION** :-

In this study 31 individuals suffering from Oligospermia were taken & Shrungataka (Trapa bispinosa Rox.) evaluation of as shukrakar dravya was done Due to Guru guna, Madhura kashay rasa & shita virya Shrungataka act on rasa dhatu. It supply nutrition to rasa dhatu & supply nutrition to other dhatu. It increases Shukra dhatu & supply nutrition to shukra bija. It causes samanen samana vrudhi. Thus responsible to shukra dhatu vrudhi & bija vrudhi.

Samprati bhanga- Shrungataka- Guru,shita,madhur kashay rasa- Rasa dhatu poshan- Raktadi dhatu poshan-Shkra dhatu poshan-Shukra bija vrudhi.

**CONCLUSION**

The clinical study of standardized Shrungataka churna on Oligospermia shows remarkable symptom relieving properties & significant changes in semen analytical parameter i.e. semen quantity, sperm count, sperm motility, shows decrecent in non motile sperm count but shows increment in abnormal sperm count up some extent. It is noted that then is remarkable improvement in symptoms compare to semen analytical parameter of Oligospermia. Shrungataka is Vat-pitta shamak, kaphakara & vat- pitta plays important role in manifestation of Oligospermia. Shrungataka churna could be safely used to reduce the Oligospermia. As the Oligospermia shows changes by disease like fever, stress, so far betterment of the patient of Oligospermia, it should be continue in their day to day activity & because it is edible fruit it has no side effects. It can be continuing as long as possible for betterment of patient.

**ACKNOWLEDGEMENT** :

We humbly express our gratitude with profound respect towards ZANDU pharmaceutical works ltd. Mumbai for Standardization & Phytochemical Analysis of Shrungataka churna samples. We are also grateful to Anchom Lab. Mulund, Mumbai for TLC & HPTLC of Shrungataka churna sample; Blatter Herbarium, St. Xaviers college, Mumbai for identification of specimen of Shrungataka; Last but not the least we are thankful to Sheth R.V. Ayurved Rugnalaya, Sion, Mumbai-22.
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To Study The Efficacy Of Madhavilata (hiptage Benghalensis  Linn.) And Evaluation Of Its Sutanukaran Karma (slimming Effect) With Special Reference To Sthaulya (obesity)

Pooja Jadhav (P.G. Scholar, Dept. of Dravyaguna, Ayurved Mahavidyalaya, Sion, Mumbai -22)
Dr. Ashok D. Ramteke (Professor and HOD Dept. of Dravyaguna, Ayurved Mahavidyalaya, Sion, Mumbai-22)
poojajadhav13@gmail.com M. : 9664910158

ABSTRACT

Obesity is a health problem of affluence, of worldwide prevalence and is considered as the insidious creeping pandemic which is now engulfing the entire world. Hormones are one factor in causing Obesity. In Ayurveda, Shushruta has mentioned Madhavilata in Surasaadi Gana i.e the drugs helpful in relieving Medo vikara. Madhavilata being Katu-tikta in rasa act as Medohara in the manifestation of disease. Open labelled uncontrolled study was done on 30 patients at Ayurved Mahavidyalaya Sion, Mumbai-22 for duration of 16 weeks. The 30 patients were advised to take Madhavilata churna 1 gm trice a day with warm water and Udavartana with diet and exercise. Monthly assessment was done on the basis of signs and symptoms like Atikshudha, Atipipasa, Kshudraswasa, Atinidra, Atisveda, Daurgandhya, Anutsaha, Daurbalya. Objective improvement was done on the basis of BMI, Waist: Hip ratio at baseline and at the end of study (after 16 weeks). Subjective improvement is shown in percentage. Un paired T test was applied to objective parameters which was highly significant at the level of significance i.e. p< 0.01 in patients taking Madhavilata churna and Udavartana concluding Madhavilata churna definitely has Anti-obesity properties. There was significant improvement in Daurgandhya, Kshudraswas, Atisveda, Atipipasa, Atikshudha symptoms.

Key words : Obesity, Hormones, Madhavilata (Hiptage benghalensis Linn.), Udavartana, Anti-obesity.

Reference no - (11)

INTRODUCTION

Obesity is the most prevalent chronic medical condition in western society; it is directly or indirectly associated with variety of diseases. It is also becoming an important problem among the affluent in our society. Obesity can be defined as excess of body fat that possesses a health risk. Approximately 20% of excess over desirable weight imparts a health risk. Health risk at lower levels of obesity can occur in presence of other risk factors diabetes mellitus, hypertension and ischemic heart disease.

The signs and symptoms of obesity described in Charakasamhita are: Atitrushna (Excessive Thirst), Atiksudha (Excessive Hunger), Atinidra (Excessive Sleepiness), Atisveda (Excessive Sweating), Daurgandhya (Excessive Body Odour), Anutsaha (Laziness), Daurbalya (Tiredness)
Presently commonly used objective methods of estimating obesity are Body mass index and waist to hip ratio. People are considered obese when their BMI a measurement obtained is equal to or more than 25 to 30. The desired waist to hip ratio in women is 0.8 < and < 0.1 in men. It is mostly primary, that is, no obvious cause exists other than an imbalance between energy intake and energy expenditure.

The prevalence of obesity has been studied using body mass index as well as the height standard tables, a prevalence role of 10-12% in the adult population of USA has been reported. Racial and socioeconomic conditions influence the development of obesity.

In modern medical sciences, the classical treatment of obesity is only diet and exercise. If it doesn't work then anti obesity drugs are given which are least effective with drastic side effects. In Ayurveda, Shushruta, Ashtang sangraha, Ashtanga hridaya have mentioned Madhavilata in Surasaadi Gana i.e the drugs helpful in relieving Medo vikara. Madhavilata is a plant having Katu, Tikta, Madhura rasa, Madhura vipaka, Shita virya and Laghu, ruksha guna. Madhavilata being Katu-tikta in rasa act as Medohara in the manifestation of disease.

MATERIALS AND METHODS-

Selection of cases

There was random selection of patient from O.P.D. and I.P.D. of R.V. Ayurvedic hospital, Sion; Mumbai-22. Study was carried out as per Ethical Clearance Number – A.M.S. /03-Dt. 12/07/2005.

Type of study: Open labeled study

Total no of cases: 30

Duration of study - 16 weeks

Inclusive criteria -

· Either sex
· Age between 18-60 years
· BMI: Between 25-40
· Informed consent signed

Exclusive criteria -

· Age less than 18 years and more than 60 years
· Pregnant women and lactating mother.
· Patients with renal and hepatic dysfunction.
· Obesity due to hypothyroidism or Cushing’s syndrome.

(137)
· Secondary obesity
· HIV-AIDS
· On drugs: Insulin dependent, anti-depressant, or steroid dependent patients.
· BMI more than 40

**DRUG SOURCE** - Rhizomes of Madhavilata (Hiptage benghalensis Linn.)

**Formulation**: Churna (powder) of Madhavilata (Hiptage benghalensis Linn.)

Udavartana yathaavashyaka

**Mode of administration**: Oral. Dose : 1 gm TDS

**Anupan**: Koshnodak (Warm water)

**Follow up**: Clinical follow-up was advised before and after the treatment in duration of 30 days.

**Statistical test**

Statistical analysis was done by applying Unpaired t-test to objective parameters: at baseline and at the end of study (after 30 days). Subjective improvement has been shown in percentage.[10]

**Assessment of efficacy**

**Subjective improvement**

Monthly assessment was done with the help of reduction in following symptoms.

· Atitrushna (Excessive Thirst)
· Atiksudha (Excessive Hunger)
· Atinidra (Excessive Sleepiness)
· Atisveda (Excessive Sweating)
· Daurgandhya (Excessive Body Odour)
· Anutsaha (Laziness)
· Daurbalya (Tiredness)
· Kshudraswasa (Breathlessness)

**Objective improvement**

· BMI
· Waist: Hip ratio
Gradation of symptoms

(1) Atitrushna (Excessive Thirst)
0 - thirst can be controlled
1 - thirst can be controlled for some time
2 - thirst is unbearable
3 - thirst is unbearable with dryness in throat and mouth

(2) Atishudha (Excessive Hunger)
0 - Severe Hunger during meal times
1 - Severe hunger between two meal times
2 - Having hunger pangs frequently between meals
3 - Hunger pangs immediately after meals

(3) Atinidra (Excessive sleepiness)
0 - 8 hours sleep
1 - 10 hours sleep
2 - More than 12 hours of sleep
3 - More than above

(4) Atisveda (Excessive Sweating)
0 - Sweating after running
1 - Sweating after walking 500 meters
2 - Sweating after walking 100 meters
3 - Sweating even when stationary

(5) Daurgandhya (Excessive Body Odour)
0 - Realized by patient only
1 - Realized by others around him
2 - Realized by others at a radius of 1 meter
3 - Realized by others at a radius greater than 1 meter

(6) Anutsaha (Laziness)
0 - feels like working and works
1 - Does not feel like working but may work
2 - Does not feel like working
3 - Does not work at all

(7) Daurbalya (Weakness)
0 - Tiredness after climbing 30 stairs
1 - Tiredness after climbing 20 stairs
2 - Tiredness after climbing 10 stairs
3 - Tiredness after walking small distance

(8) Kshudrashwasa (Breathlessness)
0 - Breathlessness after climbing 30 stairs
1 - Breathlessness after climbing 20 stairs
2 - Breathlessness after climbing 10 stairs
3 - Breathlessness after walking small distance

RESULTS

Table 1: Chart showing % Improvement In Symptoms

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>% Improvement in Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excessive thirst</td>
<td>35.9%</td>
</tr>
<tr>
<td>Excessive hunger</td>
<td>31.9%</td>
</tr>
<tr>
<td>Excessive sleep</td>
<td>19.3%</td>
</tr>
<tr>
<td>Excessive sweat</td>
<td>37.7%</td>
</tr>
<tr>
<td>Body odour</td>
<td>43.1%</td>
</tr>
<tr>
<td>Laziness</td>
<td>18.5%</td>
</tr>
<tr>
<td>Tiredness</td>
<td>17.6%</td>
</tr>
<tr>
<td>Breathlessness</td>
<td>41.9%</td>
</tr>
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</table>

Table 2: BMI Analysis

<table>
<thead>
<tr>
<th>% in BMI</th>
<th>Decreased</th>
<th>No change</th>
<th>Increased</th>
</tr>
</thead>
<tbody>
<tr>
<td>73.76 %</td>
<td>20.00%</td>
<td>6.70%</td>
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</table>

Table 3: Statistical analysis for BMI

<table>
<thead>
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<th>Mean</th>
<th>SD</th>
<th>SE</th>
<th>T value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.68</td>
<td>1.29</td>
<td>0.25</td>
<td>2.88</td>
</tr>
</tbody>
</table>
Table 4: Analysis of Waist: hip

<table>
<thead>
<tr>
<th></th>
<th>Decreased</th>
<th>No change</th>
<th>Increased</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>65.67%</td>
<td>6.65%</td>
<td>25.67%</td>
</tr>
</tbody>
</table>

Table 5: Statistical analysis of Waist: hip

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>SE</th>
<th>t value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.02</td>
<td>0.08</td>
<td>0.00</td>
<td>1.48</td>
</tr>
</tbody>
</table>

DISCUSSION

Out of 30 patients 12 [40%] were males and 18 [60%] were females. Religion wise categorisation showed that 27(90%) were Hindu and 3(10%) were Christian. According to job: 17 (56.66%) were students and 13 (43.33%) were doing job. Education status wise distribution shows that 22 (73.33%) were graduate and 8 (26.66%) were post-graduate. Economic status wise distribution shows that 18(60%) were medium and 2(40%) was high. According to dietary habits 22 (73.33%) subjects were mixed while 8 (26.66%) were only veg. Koshta wise distribution shows that 7(23.33%) were having mrudu koshtha, 13 (43.33%) were having madhyam koshtha and 10 (33.33%) was krura koshtha.Agni wise distribution shows that 2(6.66%) were having madagni, 18 (60%) were having vishmangi, 10(33.33%) was tikshaangi. According to prakriti 5 (16.66%) were of kapha-pitta, 12(40%) were vaat-kapha prakriti, 13(43.33%) was kapha-vaata. According to satva 7 (23.33%) were having hina satva, 13(43.33%) were having madhyam satva and 10(23.33%) was pravar satva. According to physical activity 8(26.66%) were doing heavy work, 3 (10%) were doing moderate physical activity and 9(30%) was mixed kind. According to exercise 1(3.33%) was doing heavy work, 3 (10%) were doing medium exercise and 26(86.66%) were not doing any kind of exercise.

Subjective evaluation showed all the 30 patients showed reduction in Breathlessness, body odour and excessive sweating. 35.9% showed decrease in excessive thirst, 31.9% showed decrease in excessive hunger, 19.3% showed decrease in excessive sleepiness, 37.7% showed decrease in excessive sweat and 43.1% showed decrease in body odour. Thus patients showed symptomatic after the treatment. In objective evaluation the BMI of patients was reduced significantly, t value= 2.88 at 1% level of significance i.e. p<0.01. Waist: Hip ratio of patients was reduced significantly, t value=1.48 at 1% level of significance i.e. p< 0.01.

In Ayurveda many drugs are described as Medoghna like Haridra, Daruharidra, Haritki, Musta etc. Madhavilata is one of the drug which show Stanukaran and anti-obesity activity. Musta has Madhura, Tikta, Katu rasa, Madhuravipaka, Shitavirya and Laghu, Rukshaguna. It alleviates Vata and Pitta dosas and vitiates Kaphadosha. Due to Tikta and Katu rasa it repairs altered Jatharagni and Medodhatvagni. Laghu, Ruksha guna absorbs all the water content from Meda and Kapha. Also due to Katu rasa it digests Meda and Kapha. Laghu and ruksha guna vitiates Vatadosha. To avoid that Madhavilata is given with warm water. There were no major adverse events noted with Madhavilata. Further research needs to be done to make Madhavilata more palatable.
CONCLUSION After studying 30 patients for 30 days following points were concluded.

1. Patients taking Madhavilata churna have shown considerable decrease in subjective (signs and symptoms) and objective parameters (BMI and Hip waist ratio) as compared to other group. Musta having Madhura, Tikta, Katu rasa, Madhuravipaka and Laghu Ruksha guna burns and metabolizes fat, improves process of fat metabolism, chelates already present fat and removes it out of the body. Thus Madhavilata definitely has anti-obesity activity.

2. The drug does not showed any toxic effects.

ACKNOWLEDGEMENT It is great pleasure for me to express my gratitude with profound respect to Shree Dhootpapeshwar Ltd. Mumbai for Standardization & Phytochemical Analysis of Musta churna samples. I am also grateful to Anchorm Lab. Mulund, Mumbai for HPTLC of Mustachurna sample. I express my thankfulness to Blatter Herbarium, Dept. of Botany in St. Xavier’s College, Mumbai. Last but not least I am very thankful to Sheth R.V. Ayurved Rugnalaya, Sion, Mumbai-22

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Role of Raktamokshana by Jalaukavacharana in the management of Vicharchika (Eczema)

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Guide : Dr. Jayashri S. Kharolkar(MS Shalyatantra)

Abstract

Out of 11 Kshudrakustha, Vicharchika ranks in the topper striatum. The sign and symptom of Vicharchika as expounded in classical text are almost analogous to dermatitis (eczema). As far as eczema is concerned it is a known – contagious inflammation characterized uniquely by erythema scaling, oedema, vesaculation and oozing.

Raktamokshana is a process by which the blood is let out from the body for eliminating vitiated dosha present in blood as a part of achieving therapeutic effect. This is envisaged to be removing impurities of blood and enhancing the haemopoesis. Though various methods had been in practice, yet Jalaukavacharana is proven to be the apt one for rendering Raktamokshana.

A clinical study has been carried out to ascertain the role of Raktamokshana in the management of Vicharchika. Significant results pertinent to the parameter like Kandu, Pidika, Shyava, Bahusrava etc. were observed. Critical analysis of the result will be presented in the full paper, on the basis of available results on explanation regarding mode of action of Jalaukavacharana in eczema will be also discussed.

Key Words : Vicharchika, Jalaukavacharana, Eczema.

Eczema is most common skin disease which has social impact. The clinical picture of Eczema resembles with Vicharchika—a skin problem mentioned in Ayurvedic literature with Kapha and Pitta morbidity/pathology. In classical text of Ayurveda, Acharyas emphasize the Shodhana therapy as the line of treatment at various places. Among these various Shodhana therapy, Raktamokshan is indicated specially because Rakta is mainly involved as Dushya in Samprapti Ghataka. In the present comparative study, Raktamokshana with two different methods were selected to find out which method is more appropriate for Raktamokshana in Vicharchika. In A group, Jalaukavacharana Karma with Jalauka (Hirudinea medicinalis) and in B group, Siravedhana Karma with Syringe as method of Raktamokshana was selected. Better result was found in A group. So, it is better to manage Vicharchika using Jalaukavacharana as method of Raktamokshana in place of Siravedhana.

Keywords: Eczema, Jalaukavacharana, Raktamokshana, Siravedhana, Vicharchika
Introduction

Any disease that involves skin hampers many functions and gives the person a hideous look. As skin diseases are perceptible to others, they are more painful for the patient and troublesome for the physician. Several skin diseases affect the person’s psychological status and disturb the social life, thus patient have some kind of inferiority complex; eczema is one among them. In Ayurveda, skin diseases are explained under the common terminology “Kushtha” which implies exposed diseases. Eczema is a skin disorder characterized by itching erythema, scaling, edema, vesiculation, and oozing. The involvement of Vata results in dry or blackish lesion of eczema. However, itching in those affected areas is due to Kapha. Modern medical science treats eczema with corticosteroids. But the therapy gives side effects like liver and kidney failure, bone marrow depletion, etc. The texts of Ayurveda consider Rakta Dusti as one of the prime causes of skin diseases; on the other hand, patients may get relief after letting out the vitiated Rakta. Acharya Sushruta propounds practical guidelines for bloodletting and claims it as most effective therapy in half of the body ailments. Among various methods for bloodletting such as Jalaukavacharana Karma, Prachhanna Karma, and Siravedhana Karma, Jalaukaavacharana Karma (Leech therapy) is considered as the ideal method to expel out the vitiated blood safely, quickly, and effectively. So, Jalaukavacharana is considered to evaluate their comparative efficacy in cases of Vicharchika (Eczema).

Aims and Objectives

To assess clinical effect of Jalaukavacharana in the management of “Vicharchika.”

Materials and Methods

Patients attending the O.P.D. and I.P.D. of college: C.A.R.C, Ayurved and sterling hospital, Nigdi, Pune. having classical signs and symptoms of Vicharchika (Eczema) were selected irrespective of religion, sex, occupation, etc. The study was approved by Institutional Ethics Committee. A special Proforma including all the etiological factors of Kushtha with Dushti Lakshana of Dosha, Dushya, Srotas, etc., was prepared for proper assessment.

Inclusion criteria

Patients having signs and symptoms of Vicharchika (Eczema) described in classical Ayurvedic texts as well as in Modern Medical literature; patients above 16 years and below 70 years of age; and chronicity not more than 5 years were included.

Exclusion criteria

The patients less than 16 years and above 70 years of age were excluded. Patients suffering from diseases like anemia, hemorrhagic disorders, diabetes mellitus, cancer, tuberculosis, hemiplegia, convulsions, and other severe complicated systemic disorders were excluded. Wounded, timid, thin patients, pregnancy, and chronicity more than 5 years were also excluded.

Criteria of assessment
Total effect of therapy was assessed considering following criteria:

Cured: 100% relief in the signs and symptoms with plain skin surface. Significant changes in color of the affected skin lesion toward normal was considered as cured. Marked improvement 76 to 99% relief in the signs and symptoms were recorded as complete remission with marked improvement in pigmentation and thickening of the skin. Moderate improvement: 51 to 75% relief in signs and symptoms were considered as moderately improved with moderate improvement in pigmentation and thickening of the skin. Mild improvement: Patients showing improvement in between 26 and 50% in signs and symptoms with slight improvement of pigmentation and thickening of the skin was taken as mild improvement. Unchanged: Below 25% relief in signs and symptoms was considered as unchanged.

All the patients were examined weekly during the treatment. Assessment was done on the basis of relief in the signs and symptoms of the disease Vicharchika. For this purpose, cardinal signs and symptoms were given scores according to their severity before and after the treatment.

Pathological investigation

Routine hematological investigations like hemoglobin, total count, differential count, erythrocyte sedimentation rate (ESR), bleeding time (BT), clotting time (CT), and urine examination were done to rule out any other disease pathology as well as to evaluate safety and efficacy of the trial therapy.

Sampling

Total 30 patients of Vicharchika (eczema) were registered for the present study. Four sittings of Jalaukavacharana Karma were carried out in consecutive four weeks. Number of Jalauka applied was decided on the basis of the size of lesion (example, 1 cm = 1 leech). Out of total 30 patients only 2 patient discontinued course of treatment.

Procedure

Jalaukavacharan karma was done after local abhyanga and swedan on the effected part of the body. But was discontinued on the day before and on the day of Jalaukavacharan There were four sitting of Jalaukavacharana in one month with gap of seven days. Jalauka, three water bowl, cotton, bandage, turmeric powder and paper tap were used for this process.

Pathya-Apathya

Pathya-Apathya was advised to the patient as per classics.

Observations

Maximum numbers of patients, (24.14%), were of the age group 21 to 30 years, 41.38 % were housewives and 86.21% were habituated to vegetarian diet. Maximum numbers of patients, (62.07%), were having regular bowel habit, and 100% were having Madhura and Amla Rasa dominancy in their diet. The 82.76% were having dietary pattern of Visamashana.
and 68.96% were addicted to Tea. Maximum, (51.72%), patients were having Pitta-Kapha Prakriti. Maximum numbers of patients, (100%), were taking Viruddha Ahara (milk + Khichadi, New Annasevana, and excess intake of salt). Chinta (Stress) was reported in maximum, (40.70%), of patients. The 17.24% of patients were having contact irritant with rubber.

In the present study, Kandu was observed in maximum (96.55%) number of patients. Signs and symptoms like Vaivarnya (discoloration), Raji (lichenification), Rakitma (redness), and Rukshata (dryness) were observed in 93.10%, 72.41%, 68.96%, and 58.62% of patients, respectively. Pidika (boil) and Daha(burning) were observed in 65.52% of the patients. Symptoms like Srava (discharge) (37.93%), Shotha(inflammation) (24.14%), and Ruja (pain) (17.24%) were observed in some of the patients. The 93.10% of patients were having gradual onset, while 72.41% of the patients were having chronic course of the disease. The 68.96% of the patients were having Sushka (dry) type of Eczema.

In winter season, aggravation was observed in 24.14% of the patients. The 51.72% of the patients were having lesion size 5 to 10 cm. On maximum, 46.67%, patients, average 11 to 15 number of Jalauka were applied during full course of treatment. During four sittings in 15 patients’ treatment, maximum 47.50% Jalauka sucked the blood for average 30 to 35 minutes. Average sucking time for Jalauka was found to be 20 minutes.

**Results**

Effect of therapy on laboratory parameter is depicted at Table. All the changes were statistically insignificant. Jalaukavacharana showed highly significant increase in CT [Leech saliva contains anticoagulant substance like hirudin, calin, and destabilase, which increase bleeding time and clotting time during course of therap.]

Effect of therapy on chief complaint after Jalaukavacharana Karma: Percentage-wise improvement was observed in signs and symptoms like Kandu (23.26%), Pidika (66.67%), Rakitma (53.23%), and Daha(80%) which was statistically highly significant \( (P<0.001) \). Statistically significant \( (P<0.01) \) improvement was observed in signs and symptoms like Srava (77.78%), Vaivarnya (27.27%), and Rukshata (21.74%). Signs and symptoms like Raji \( (P<0.05) \), Shotha \( (P<0.05) \), and Ruja \( (P<0.10) \) were improved percentage wise (28.57%, 80%, and 33.33%, respectively), but it was statistically insignificant [7]

**Total effect of therapy**

No patient was completely cured, whereas 21.43% and 50% of patients got marked improvement and mild improvement, respectively. Remaining 28.57% patients were having little change in their symptomatology.
Table

<table>
<thead>
<tr>
<th>Overall effect of Leech therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jalkavacharana</td>
</tr>
<tr>
<td>Cured</td>
</tr>
<tr>
<td>Marked Improvement</td>
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<tr>
<td>Moderate Improvement</td>
</tr>
<tr>
<td>Mild Improvement</td>
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<tr>
<td>Unchanged</td>
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</tbody>
</table>

Discussion

Majority of the patients belonged to age group of 21 to 30 years (24.14%). This age of individuals are prone to psychological stress and other exposure, (occupational, environmental, and unwholesome food were more) which are etiological factors for eczema. Maximum number of patients, (41.38%), were housewives, followed by 37.93% patients who were businessmen. This reflects that housewives are more exposed to household appliances, related to dust, and detergents, etc., which are common causative factors for Vicharchika. Servicemen like teachers and engineers who are having job with continuous standing may be prone to stasis to eczema.

The 27.59% of patients were having Chinta. Emotional conflicts are among main etiological factor for skin manifestation. Eczema may become more aggressive in this state.[8] Viruddha Ahara (incompatible diet), (milk + Khichadi, fast food, curd, non-vegetarian diet) and sleep during day time which leads to vitiation of Kapha and Rakta. These vitiated Doshas reach to Dushya like Twaka, etc., and results into Sthana Sanshraya Avastha and then produces symptoms of Vicharchika.

Most of the time, at the biting and during entire Jalkavacharana process, patients did not experience any discomfort, but in rare case, patients felt like pricking pain, itch on the affected lesion, and numbness of lower limb due to long-lasting sitting in one posture. Two patients of 14 reported itching all over body after the completion of leech application. Maximum patients reported feeling of little hardness of skin at the site of Jalauka bite, which subsided after 20 to 25 days without any mark left at that site.

Effect of therapy after Jalkavacharana Karma on chief complaints

Kandu (itching) was relieved in 23.26%. Kandu is caused by vitiated Kapha,[9] Pitta,[10] and Vata.[11] So, here, Tridosha vitiation is responsible for it. Relief in Kandu may be due to expelling out of vitiated morbid Dosha (toxins) from local region. Leech salivary secretions also provide early healing effect by secondary hemorrhage which might have reduced itch impulse.[12]
On **Pidika** (Carbuncle), 66.67% relief was observed. Leeches are antiphlogistic, used for the local obstruction of the blood. Due to this reason, **Pidika** might have subsided. Congested blood is also removed from the local area by leech; so, better relief in **Pidika** might have been provided by Jalauckavacharana.

**Srava** (discharge) was relieved in 77.78%. **Ushna** and **Tikshna Guna** of vitiated **Pitta** are responsible for **Srava**. **Siravedhana** corrects the vitiation of **Pitta** better in comparison with **Jalauckavacharana**, hence reduces the **Srava** on the local lesions level.

**Vaivamyra** (discoloration) was relieved in 27.27%. **Jalaucka** removes impure blood and allows oxygenated blood to enter the wound area, which might have provided better color to skin.

**Raktima** (redness) was relieved up to 53.23%. Leech saliva contains anti-inflammatory substances, eglins and bdellins, which may relieve redness of lesion.

On the **Daha** (burning), 80% relief was observed. Leech saliva contains histamine-like substances and acetylcholine which is vasodilator and removes local inflammation mediators, thus relieve burning sensation of lesion.

The 28.57% relief was observed in **Raji** (lichenification) due to better removal of impure and congested blood by effect of hirudin, calin, destabilase, and Factor Xa inhibitor.

**Shotha** (Edema) was relieved up to 80% due to reduction of local pressure by substance like eglins and bdellins present in leech saliva.

The 33.33% relief was observed in **Ruja** (pain). Leech saliva contains anesthetic substance which helps in pain relief.

Hb decreased by 1.81%. Leech therapy is always associated with a certain degree of blood loss, which is clinically irrelevant in most cases.

CT was increase in 6.27%. Leech saliva contains anticoagulant substance like hirudin, calin, and destabilase, which increase bleeding time and clotting time during course of therapy.

**Conclusion**

**Jalauckavacharana Karma** provides statistically high significance (P<0.001) in the symptoms of **Vicharchika** like **Kandu**, **Pidika**, **Raktima**, and **Daha**. Leech saliva is reported to have many therapeutic contents like hirudin, bdellins, Hyaluronidase, etc.; among them, eglins and bdellins have anti-inflammatory and antifungal property which gives relief in symptoms of **Vicharchika**. In present study, “**Jalauckavacharana Karma**” proved to be effective in the management of **Vicharchika**. **Jalauckavacharana Karma** is safest and scientific method among **Raktamokshana**.

**References**


Journey on Ayurveda Research Path

Prof. P. H. Kulkarni is seniormost Ayurveda scientist in the world. Some milestones of his Research journey.


2) 1961 - 1981 Teaching post graduate students about Research activities.


4) 2005 onwards guiding various research activities.

5) 1978 onwards worked as Editor/author of journals, book series related to Ayurveda research.

6) 1984 onwards founder/Editor of "Deerghayu International" the peer reviewed Ayurveda quarterly journal.

7) 1980 Fonder/Director of 'Institute of Indian Medicine' the recognised Ayurveda Research Institute by University of Pune, Guided Research students of Ph.D. (Ayu) & Fellow.

8) Instrumental to felicitate Research worker with gold medal on behalf of Institute of Indian Medicine, European Ayurveda Academy and Ayurveda Open University.

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